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Knowledge Construction and Multiple Realities: Global Health Collaborations, Development Practices, And Face Masks in The Context of Covid-19

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PHD

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KNOWLEDGE CONSTRUCTION AND MULTIPLE REALITIES: GLOBAL HEALTH COLLABORATIONS, DEVELOPMENT PRACTICES, AND FACE MASKS IN THE CONTEXT OF COVID-19

By

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DOCTOR OF PHILOSOPHY

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Signed Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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Abstract

Linan Zhang

Knowledge Construction and Multiple Realities: Global Health Collaborations, Development Practices, And Face Masks in The Context of Covid-19.

This thesis is inspired by a global health collaborative programme named GRASPIT and by my own desire to do something good which can benefit the people in need as well as reduce suffering. The GRASPIT collaboration intended to improve post-operative outcomes, but the programme failed to deliver the expected result. Preliminary analysis by the GRASPIT team identified issues with knowledge sharing as one of the contributory causes of its failure. This prompted the reflection in this thesis upon apparent asymmetries when knowledge is shared. Quite soon after the research began, the global pandemic COVID-19 revealed the issue of having inconsistent knowledge regarding the public use of face masks, which shed new light on the problem of sharing health-related knowledge. The thesis took the position that both of these cases can be usefully situated in 'development discourse' and the power struggles that come with it. This suggested that these two vaguely connected concerns were both dealing with paradigm conflict during the process of knowledge sharing (and production), and that there existed multiple versions of health reality. As a way forward the thesis builds a theoretical framework that aims to improve the efficiency of knowledge sharing especially when there is no sufficient clinical solution available, drawing on Foucauldian philosophy, Latour and Woolgar's *Laboratory Life* (1979), radical constructivism, and Rorty's liberal ironism to alleviate roadblocks in knowledge sharing. By applying the theoretical framework to real-world problems, the thesis proposes a mindset for everyone to adopt as a means to improve ways in which knowledge generated in different contexts can be shared more effectively.

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Preface: A Personal Journey

The birth of this piece of writing was because of pure contingency – as later argued later in the thesis, the formation of knowledge here was based on contingencies so that it is contextual and circumstantial. It is a gathering of discourses as well as a reflection of my past personal and academic experience, which is exactly what the thesis is arguing regarding the formation of knowledge; the thesis itself is no exception. Before the main body of the thesis, it may be helpful to explain a little more about the contingencies that inspired and shaped the thesis into the way it is.

My young self would never dream that I would have the capability to complete this PhD in the UK, especially considering the textual nature of this research and that English is not my first language. As an ordinary Chinese girl at the age of thirteen, my parents decided to send me abroad for 'a different style of education'. At the time, I failed to see the significant impacts this change could have on me; it was pretty much a decision made for me. Initially, my father was destined to send me to a girl's school in Texas. However, the school needed a TOFEL score in order to consider my application; it was too late to take the test. Nevertheless, a private school from the UK agreed to interview me last minute and mentioned that a test was not necessary – and here I am, still walking on the soil of the UK sixteen years later. This is not where the contingency ends.

As for my academic journey, it was not all sunshine and flowers. Despite the initial excitement of travelling abroad, life in a foreign country for a young teenager was not exactly easy; one of the main factors being my yet-to-be-fluent English language skills. Because of this reason, I preferred subjects that were numerical and avoided the textual-heavy subjects. The same situation carried on to A-Levels; I took double maths and physics and proudly obtained the highest grades. Although I did attempt A-Level Philosophy out of interest, I failed miserably. When the time came to choose a major for my undergraduate degree, it would be a rational decision for me to do a STEM subject. I hesitated; on the one hand, I was good with numbers (at least until that point) and I was highly likely to do well in related fields. But on the other hand, I was scared – what if I was not good

enough for a university-level science education? I began to seek an easier path that I thought would guarantee a good grade for my bachelor's degree. Eventually, I picked Japanese studies, the reason being learning a language that shared similarities with my mother tongue should not be too challenging for my lazy brain. Yet, I totally ignored the fact that it was a cultural studies degree and required many essay-writing skills that I did not possess at the time. Luckily, I managed to gain the skills that were required to write a good essay eventually. Even though I believed that the decision I made was rational at the time, looking back it was hardly the case; it was based more on a personal feeling of fear and insufficient knowledge of the subjects. I thought I would never want to venture into the realm of philosophy again considering my past failure, but I was wrong about that too.

My Master's degree in International Development provided the grounding of the development debates discussed later in Chapter 1; it was pivotal for the thesis as it introduced a version of development which could be used as a means of power for some countries to maintain their leading status, rather than a genuine desire to improve the livelihood of global populations. Seeing development in a different light pushed me to think critically about things and events happening around me. The opportunity to join the Transtechnology Research was also a consequence of fortunate coincidences as was the case study of the GRASPIT programme which inspired the whole thesis. Additionally, the global pandemic COVID-19 provided valuable insight into how conflicting information can be said about one small object. The pandemic was utterly unexpected as it prevailed only since the second year of my PhD journey; nevertheless, it managed to become a crucial part of the thesis discussion in order to shed light on a possible way forward to acknowledge the existence of multiple individual realities as well as to share knowledge more efficiently among different (clinical) realities.

This narrative might be helpful since these events all contributed to the birth of this thesis. Without the occurrences of these events, whether I deemed them to be contingent incidents or 'rational' decisions at the time, the thesis would not take the shape it is now. The same rationale is

used later in Chapter 3 analysing the factors that contributed to the publication of *Laboratory Life* (1979); contingencies and social factors were non-dismissive parts to the gathering of this particular set of discourses which eventually formed this piece of writing – this is precisely one of the key points that this thesis wishes to argue. Even though at times this thesis seems unapologetically theoretical, this thesis is not just for academics but for everyone as it proposes a mindset that everyone can choose to adopt should he or she wish to strengthen the social bonds between individuals as well as to reduce suffering. The thesis unpacks a minor aspect of philosophy with clarity and constructs the argument in a way that aims to be accessible to everyone.

This thesis indeed is a personal journey of mine, and I hope you will enjoy reading it as much as I enjoyed writing it.

Introduction

This thesis is inspired by a global health collaborative programme named GRASPIT and by my own desire to do something good which can benefit the people in need as well as reduce suffering. The thesis aims to build a theoretical framework to improve the efficiency of knowledge sharing by looking for a path forward in the realm of humanity when there is no sufficient scientific solution available.

The acronym GRASPIT stands for "Global Recognition of the Acutely Sick Patient and Initial Treatment" (Future Health Africa, no date). The programme was designed to equip clinicians with a structured systematic approach to the management of acutely ill patients whose symptoms had shown signs of deterioration, meanwhile increasing the confidence level of clinicians in Kenya managing these patients. The curriculum of the course was designed in 2010; despite the programme being led by a team of experts from Torbay Hospital in South Devon, Kenyan health professionals had key roles in introducing the programme into a number of Kenyan institutions as well as delivering it. An important part of the programme was the "Train the Trainer" course in which the newly trained local medical and nursing staff would take over the responsibility to deliver what they learned to their hospital or clinic colleagues (ibid.); the hope was to establish a locally led sustainable training mode and to widely disseminate the course content to benefit more health workers without the necessary involvement of the South Devon health experts.

In 2012, a new round of health collaboration between South Devon Healthcare NHS Foundation Trust and Kenyan Nanyuki District Hospital was established after receiving a partnership grant to enhance the management of trauma patients at Nanyuki District

Hospital (THET 2017). This international collaboration aimed at improving patient safety on the wards by delivering training courses on primary trauma management, orthopaedic surgery, and GRAPIT to local health workers. Despite the initial welcome and success in delivering the courses, a problem was soon revealed to the South Devon team the locally led GRASPIT course did not continue as smoothly as planned. As the improvement and partnership lead Kerri Jones (ibid.) pointed out:

> We trained trainers. We observed them training other staff [during the training visits] … It all went fine; we had no idea it wasn't fine. Then for a long time, I don't think anything happened.

"Train the Trainer" was considered unsuccessful because once the South Devon team finished training the local trainers, the local trainers were incapable of performing further training for their peers and colleagues. Whereas in another Kenyan hospital – Kenyatta National Hospital – where the GRASPIT programme was implemented in the same year, the programme was sustained, and the hospital consequently became the centre of GRASPIT training. By the time of 2017, Kenyatta National Hospital had twenty-two master trainers who had trained more than one thousand health workers across the country.

In the case study report analysing the shortcomings of the South Devon – Nanyuki collaboration, it is mentioned that cultural and practical barriers have stopped the locally-led training courses (THET 2017). For example, the intense work patterns of health workers who participated in "Train the Trainers" made it difficult for them to fit further training on top of their existing schedules, but the health workers were too polite to say no. Additionally, the report points out that the South Devon team made multiple assumptions such as the hierarchy of the local system that did not match the situation at Nanyuki District

Hospital, which contributed to the reduced effectiveness of the GRASPIT programme. “Train the Trainer” was designed based on the assumption that the Kenyan local health workers valued the opportunity to become trainers as highly as the UK NHS staff. In short, the South Devon team overestimated the attitude of Nanyuki staff towards being a trainer, and they underestimated their existing obligations.

For the sake of future global health collaborations, the reason for the reduced effectiveness of the South Devon – Nanyuki collaboration must be investigated, especially considering the successful case of the GRASPIT programme delivered at Kenyatta National Hospital which presumably shared a similar institutional culture. Furthermore, it is crucial to find out the reason the assumptions were made during the collaboration, where they come from, and how to avoid making them. In Kerri Jones’s words (THET 2017), the South Devon team did not check whether their initial plan was realistic in practice due to the assumptions they made. In other words, the South Devon team assumed that their reality must match the reality of staff from Nanyuki District Hospital, that there should be a common sense or understanding shared between them; yet it turned out not to be the case.

Meanwhile, the sudden emergence of the COVID-19 pandemic provided new insight into the research, that there seemed to be multiple pandemic realities. Subsequently, there were a lot of debates and inconsistencies regarding the question of whether face coverings should be worn by the general public, particularly at the early stage of the global pandemic. By the time of April 2020, most health authorities located in America, Europe, and Oceania did not encourage the usage of face masks in public indoor areas; only a small number of regions in East Asia fully supported public masking. Nonetheless, the face coverings policy in England has changed multiple times during the pandemic, from being ambiguous in the

beginning to being explicit that they must be worn in public indoor spaces. Since January 2022, face coverings are no longer required by law in England despite there being millions of new cases worldwide being reported each day at the time (GOV.UK 2022; WHO no date A). The opinions on public masking were equally diversified and expressed in the form of journal articles at the early stage of the pandemic. Those who supported wearing face masks as a means to reduce the virus transmission at the time largely based on the precautionary principle and studies of previous epidemics; those who were against the idea emphasised the potential harm such an action could bring, such as having a false sense of security or not using them correctly. Even though an increasing number of scientific studies were done as time progressed claiming that they obtained the direct evidence to support public masking, they were still incapable of explaining the variation of COVID-19 health regulations around the globe since early 2022.[1]

Many governments and journal articles claimed that their policies or arguments were valid approaches supported by science, but none of them explicitly explained why presumably the same science appeared in contradicting forms of scientific discourses. Such a phenomenon might indicate the possibility that those scientific claims were not the equivalent of the universal truth; instead, they were products of local constructions and influenced by contextual social factors. However, this is not to suggest that the claims were a total fabrication but to argue that distinctive social realities support contradicting truth claims. The same need for reality checks has been revealed from both the international

[1] Since writing this thesis, more information became available regarding former prime minister Boris Johnson's decision-making process in terms of the comments he made in relation to the well-being of U.K. citizens. Boris Johnson was responsible for influencing the direction of health policy during the early stages of COVID-19. Please see: https://www.theguardian.com/uk-news/2023/oct/31/boris-johnson-favoured-older-people-accepting-their-fate-covid-inquiry-hears. The author is aware of this occurrence; however, the argument of the thesis focuses on a higher level of resolution. In other words, the thesis is more concerned with the wider global responses rather than individual incidents.

collaborative GRASPIT programme and a globally scaled health problem, thus it is necessary to construct a theoretical framework in order to account for the inconsistencies and to work on a solution to navigate across different subjective realities to improve the efficiency of knowledge sharing.

Additionally, both the GRASPIT programme and the management of the pandemic had the goals of improving health and equality for all humankind. Global health is important because the pandemic has taught us that the health of one nation can affect others especially when it comes to infectious diseases. Securing the right to be healthy is one of the crucial agendas of the 17 Sustainable Development Goals (SDGs) that were proposed by the largest intergovernmental and arguably the most influential developmental organisation – the United Nations – back in 2015; these development goals represent a shared blueprint for both the people across the planet and the planet itself for the next 15 years since they were announced (UN 2023). In other words, global health is a non-dismissive part of the contemporary development discourse. There are many ways to situate the issues with the GRASPIT programme and the face coverings; this thesis focuses on the power struggle caused by knowledge-sharing which is also apparent in the development discourse to highlight the possibility of having multiple versions of reality that sometimes may be contradictory and get in the way of each other.

The development discourse has not been consistent in the past. Originally, the word ‘development’ referred to a natural phenomenon that happened as time progressed, but the term gradually acquired a transitive meaning that development could only be achieved through human interventions, and nations must make the extra effort to make it happen. When Harry Truman proposed the start of ‘the age of development’ he distinguished ‘the

developed' from 'the underdeveloped'; although abandoning colonialism had a positive effect on the new relations between nations, the invention of 'underdevelopment' was just another subtle form of domination. Critiques pointed out that the 'underdeveloped' countries could not simply replicate the success of 'developed' countries, and development should not be seen as a set route that can be easily replicated from one country to another. To avoid the condescending attitude of early development discourse, later theories focused on improving individual's welfare like the capability approach which inspired the concept of 'human development' adopted by the United Nations. In this sense, there are numerous ways of interpreting development and therefore multiple development realities, and the multiplicity of such a concept translates into diverse ways of actualising development practices. Development should not be an advantageous nation telling others what to do, it should be a mutual learning process based on parity. Yet, is this also to suggest that development is not a set of unified ideas as the discourse is constantly changing and adapting according to new knowledge and local contexts.

Thus, the same theoretical framework is needed to support the idea that reality should be seen as a subjective construction as well as to facilitate knowledge sharing between different realities. In the case of GRASPIT, how was it that the same training programme works well in one hospital reality but not others despite the content of the course being the same? The same logic can be extended to the debate on public masking at the early stage of the COVID-19 pandemic; in both cases, scientific solutions alone fall short of improving the efficiency of knowledge sharing. In the territory of Development research, there is also no one-size-fits-all quick fix. Therefore, the thesis looks into the study of humanity to seek a way forward in parallel with scientific practices in order to alleviate roadblocks in knowledge sharing and improve post-operative outcomes.

To construct a theoretical framework which would fulfil such an aim, the thesis will first introduce aspects of Foucauldian philosophy to shed light on the nature of scientific knowledge. Exploring the connection between the subject, discourse, knowledge, and power in this particular context underpins the understanding that scientific knowledge should not be considered the equivalent of objective truth because knowledge is a formation of discourses that are relevant to historic moments; in other words, it is circumstantial rather than metaphysical. At the same time, by introducing the concept of power, knowledge can also act as an apparatus of power that serves the interests of some but not all. This discussion will then lead to a raised suspicion towards the credibility of our current scientific knowledge – the arbitrary structure of modern scientific knowledge must be admitted prior to the effective sharing of such knowledge.

Adding to the Foucauldian archaeological and genealogical study of history, the ethnographic research of a laboratory presented by Latour and Woolgar in *Laboratory Life: The Construction of Scientific Facts* (1979) is an important addition to the framework by demonstrating how scientific knowledge was socially constructed; it serves as a paradigmatic case study with practical applications supporting the view that scientific knowledge should be seen as a constructed product rather than a faithful reflection of the objective reality – in other words, the epistemological quality of an object is inseparable from social factors. Their study gives voice to smaller hidden social factors that constituted the outcome of the laboratory which conveniently disappeared after the establishment of scientific knowledge. The thesis will also utilise the biography of Latour to prove such a point – that the formation of knowledge cannot escape social factors and contingencies. By claiming scientific knowledge is not a discovery but a construction, the thesis has no intention to undermine science as a viable discipline; instead, the thesis would like to add

reality rather than subtract from it. Suggesting scientific knowledge as a construction implies the possibility of having different versions of knowledge concerning one object or matter which was especially apparent in the case of face coverings under the context of early COVID-19; it further alludes to the possibility of having multiple versions of health realities. Much health-related knowledge was often presented in an absolute form, but the reality was that different social and material factors contributed to the construction of such knowledge. Through the discussion of Foucauldian philosophy and *Laboratory Life* (1979), the thesis will reveal the malleable quality of scientific knowledge and take this feature into account when it comes to activities involving knowledge sharing.

The constructed nature of knowledge also brings forth the possibility that there are multiple versions of reality supported by disparate knowledge. Such a view is assisted by the constructivist epistemology that each individual constructs meaning and knowledge through experience, and therefore a unique and individual version of reality. There are many versions and types of constructivism, and the thesis will unpack radical constructivism as one version and incorporate the concept into the theoretical framework. It has been chosen because this type of constructivism focuses on internal cognition rather than external reality. Subsequently, the inconsistent knowledge regarding face coverings becomes understandable; knowledge can be obtained through social interactions, but it is eventually down to the individual to decide what to believe.

However, having multiple individual realities inevitably undermines the fruits of knowledge sharing – how can we as humans understand where each other is coming from if we do not share the same reality? The sharing of knowledge becomes much more difficult in theory as the social factors that constitute the knowledge are not immediately transferable

across different societies and power structures. To tackle this dilemma, the thesis will introduce Richard Rorty's liberal ironist thinking as a way to proceed. With his neopragmatist mindset, Rorty focuses on the linguistic aspect of truth and suggests that truth cannot be objective because it cannot exist independently from the human creation of languages. Similar to Foucauldian philosophy and *Laboratory Life* (1979), Rorty defends contingency and attacks the idea of knowledge being a faithful reflection or representation of the objective world; therefore, no knowledge is intrinsically superior to others. His liberal ironism focuses on the practical problem of how to critically build and revise human's view of the world; being a liberal means one should care about the pain and suffering of others and being an ironist entails having radical and continuous doubts about the current knowledge. Because there is no metaphysical truth embedded within knowledge from a liberal ironist view, to strengthen human solidarity is to stay attuned to what others have to say, constantly update one's final vocabularies through the act of redescriptions and create a common space for negotiation with others. The thesis will unpack this further and apply this mindset to the three problems raised in the early section; the analysis of the application is going to focus on finding the point of conflict of realities and explaining how adopting this mindset can help reduce friction and suffering.

In short, the contribution to knowledge of the thesis is the particular theoretical framework that it is building. The thesis suggests that knowledge should be seen as a contingent, contextual, and circumstantial being that is constructed rather than found, despite the status of being scientific granted to some forms of statements and knowledge. Therefore, such a phenomenon must be taken into account during any activities that involve the exchange of discourses. The thesis poses three examples of exchanges that were troubling to different extents: a global health collaboration, the discourse of face coverings,

and the idea of development. By applying this theoretical framework, the thesis suggests a direction for moving forward, in which reality checks and redescriptions are necessary for knowledge exchanges. In this sense, preconceptions and assumptions must be identified before the execution of any global health collaborations to reach a mutual understanding. Additionally, individuals should always tune in to the latest discourse available on face coverings before taking a stance to avoid being "cruel," to use Richard Rorty's term, defined as inducing humiliation and suffering. Furthermore, development strategy ought to be considered on a case-by-case basis.

It is worth emphasising that the thesis concentrates on one version of reality built through languages; in other words, it focuses on a particular kind of knowledge exchange involving languages. It does not claim to be an all-encompassing theory, nor to be the best solution to the problems in the sense of being a metaphysical truth. As Chapter 3 will reveal, the product of any 'rational' analysis cannot escape contingency. Similarly, (as illustrated above) the thesis can also be seen as a product of contingency, just as Latour and Woolgar's past experiences led them to the publication of *Laboratory Life* (1979). What the thesis has to offer is not a definitive solution that would solve any problems; instead, it offers a way of thinking that can potentially inspire the readers to negotiate with their contingency as well as to make the world a better place.

Defining Key Terms

To set the scene for the upcoming discussion, it is crucial to clarify the meanings of a couple of terms in relation to the thesis. The thesis is fully aware that the definitions used here are certainly not the only interpretation, especially from a liberal ironist's perspective

which will be introduced later in the thesis. But for the sake of the argument, it is pragmatic to fix the meaning temporarily. The definitions of the concepts of discourse and knowledge are both adopted from Foucauldian philosophy. Discourse is not simply seen as a phenomenon of expression, a statement, although such a definition is not completely lost in this context. The Foucauldian concept of discourse does not originate from the speaker, even though the speaker was the one making the statement; on the contrary, discourse defines the speaker because it is the epistemological field – the *episteme*, which will be further discussed in Chapter 2 – governing the thoughts of individuals that determine the language the subject is speaking. The concept of knowledge is defined in close association with discourse. Instead of viewing knowledge as information or facts of things gained through experiences or education, Foucauldian knowledge is a space where the subject is allowed to speak of an object in discourse under a certain context; in other words, knowledge is a specific formation of discourse that is acknowledged according to the context, and it does not necessarily reflect the objective reality. This interpretation of knowledge is at the core of the thesis, and the whole argument unfolds based on this premise.

The next set of intimately linked phrases is reality and truth. In generalised terms, reality refers to the state of being real or what is considered real. The thesis distinguishes between two types of reality – objective reality and subjective reality. Objective reality refers to the material world that exists independently from the human perspective, the thesis sometimes also refers to it as the ontological or material reality. On the other hand, subjective reality is the individualistic reality, or what each person interprets as being real. This separation is rooted in the constructivist epistemology which the thesis is going to unpack in Chapter 6, that one's reality is the result of one's construction rather than the

reflection or representation of the objective reality. However, this is not to deny the existence of the material world but to suggest that such a world is unperceivable independently of the human mind.

As for the concept of truth, it is understood by the thesis as a quality that can be assigned to statements; it is used comparably to reality as the term has a dual characteristic. This duality can be summarised by two contradictory neo-classical theories of truth in the general sense – the correspondence theory, and the coherence theory. Succinctly speaking, the correspondence theory of truth asserts that what is considered as truth corresponds to the way things actually are. In other words, ontology is at the core of this theory as truth must correspond to existing entities in the world. The entities explain the truth and the nature of truth is metaphysical; without the entity, there is no truth (Glanzberg 2023). On the other hand, the basic idea of the coherence theory of truth is that the essential nature of truth is coherence – "a belief is true if and only if it is part of a coherent system of beliefs" (ibid). In this case, truth is not a matter of propositions mirroring entities, but a matter of how the statements of beliefs are related to one another. The coherence theory indicates a relation of statements of beliefs that echoes the Foucauldian concept of *episteme* and knowledge. As Davidson (1986, p. 307) indicates, truth is a condition of knowledge; if coherence is a test of truth, then there is a direct connection between truth and epistemology. Both characteristics of the term will be mentioned in the later discussion; for the correspondence version of truth, the thesis refers to the concept using terms such as absolute truth, objective truth, metaphysical, or ontological truth. When referencing the coherence version, the thesis adopts terms such as truth claims, the constructivist truth, or the liberal ironist truth which appears frequently in the second last chapter.

Additionally, the brief discussion of the theory of truth touches upon the adjective "metaphysical," which is also a term that has frequent appearances in the thesis and only in the form of an adjective. As van Inwagen, Sullivan, and Bernstein (2023) point out, the noun "metaphysics" is notoriously hard to define without involving contradictions or limitations. In this case, the thesis refers to something being metaphysical things that do not change regardless of the context. Again, the thesis is aware of the much wider debate around this concept such as its purview, but for the sake of argument as well as due to the limited space, the adjective has been simplified to invoke the idea of the real essence of the world beyond particular time and space, such as the essence of the world that the study of science was intended to discover.

Finally, the thesis would like to clarify the usage of the terms face masks and face coverings in later chapters. There are distinctions between the two terms. Rowan and Moral (2021) identify face masks as medical-graded face masks, self-made and commercial non-medical cloth, or barrier masks; in comparison, they categorise face coverings as cloth or textiles that were not standardised and not intended for healthcare settings. However, a document released by Rotherham Doncaster and South Humber NHS Foundation Trust (RDASH 2020) defines face masks and coverings slightly differently from Rowan and Moral; the document states that surgical face masks are medical devices provided by hospitals, whereas face coverings can be cloth or homemade. The thesis uses the two terms in the broader sense that they are almost interchangeable. Under this definition, the face mask category also includes higher-graded respirators on top of surgical masks, whereas the face covering category encompasses everything the face mask denotes as well as textiles and homemade coverings that are not medically graded. The rationale of such a categorisation

complies with how the British government uses the term face coverings after establishing the mandatory masking in place in indoor spaces, which will be remarked on in Chapter 4.

Research Method and Chapter Breakdown

The thesis consists of seven chapters excluding the introduction and conclusion. The overarching research method of this thesis was the analysis of primary and secondary literature from various disciplines depending on the chapter. Chapters 1, 2, 3, and 6 are textual analyses of relevant secondary literature based on the topic of the chapter to emphasise the contextual and circumstantial nature of knowledge. Such an analysis is necessary as it assists the building of the theoretical framework to improve the efficiency of knowledge sharing. Although the analysis is not able to cover every related aspect of the branches of philosophy or literary works discussed in these chapters, the limited scope is sufficient to justify the argument related to this thesis. Chapter 4 reviews various primary literature such as states' health policies and articles adopting scientific discourses concerning face masks. The purpose is not to provide a comprehensive review, but to reveal their collective inconsistency; a section of the chapter also acts as a justification of its methodology. Chapter 5 offers a content analysis of selected literature mentioned in Chapter 4; a hybrid of theoretical and practical analysis is used to account for the inconsistency.

In terms of the content of each chapter, Chapter 1 elaborates on the ever-changing development discourse as an extension of the introduction. It discusses the primitive form of development, the invention of 'underdevelopment', and how the concept of development was used to exert political power. The chapter also reviews a few well-known

frameworks and practices of development to embody the multiplicity of such a concept, as well as the need to establish a framework for collaborations between different development realities. Chapter 2 introduces some aspects of Foucauldian philosophy showing how knowledge including scientific discourses should not be considered as the reflection of objective reality through the interconnectedness of the subject, discourse, knowledge, and power. The discussion acknowledges that knowledge is a contextual and circumstantial being and that knowledge can be used as a means to exert power. Chapter 3 uses arguments from Latour and Woolgar's *Laboratory Life: The Construction of Scientific Facts* (1979) to further demonstrate the contextual nature of scientific knowledge. By analysing the book along with the genesis and the aftermath of the book, the chapter establishes the constructive nature of scientific knowledge and paves the way for the investigation of the face coverings narrative focusing on the early stage of the COVID-19 pandemic. Chapter 4 is a literature review of selected national coronavirus health policies and articles that were written with scientific discourse regarding face coverings. This chapter does not serve as a thorough review of all available information; the purpose was to expose the inconsistent quality of related knowledge released by different authorities, and the case of face coverings is sufficient to reveal such a quality. Chapter 5 helps to understand the real-world implications of theories by conducting an in-depth analysis of selected discourses of face coverings; the chapter further establishes the constructive nature of scientific knowledge and its malleable quality in different social settings, as well as supports having different versions of subjective reality. Chapter 6 introduces the constructivist epistemology and radical constructivism to support the construction of individual realities from a theoretical point of view and suggests that adopting a liberal ironist mindset can facilitate communication between subjective realities by easing the

friction between conflicting discourses. Finally, Chapter 7 functions as an evaluation of how the theoretical framework and liberal ironist mindset can be applied to ease the conflicting scientific discourses on face coverings, to increase the efficiency of the GRASPIT programme, and to reconcile various development realities.

Chapter 1 The Ever-Changing Developmental Discourse

The need for reality checks revealed by the GRASPIT project is also prominent in the context of COVID-19 – a health problem on a global scale. As briefly discussed in the introduction, global health is important because the health of one nation affects others, and it is necessary to keep the population healthy. Having the right to be healthy is one of the crucial agenda of the Sustainable Development Goals (SDGs), which means it is a non-dismissive part of the development discourse. However, the concept of development is not a unified set of ideas; this chapter is going to explore the multiplicity of development to prove such a point. This multiplicity further leads to having multiple realities in development practices; what one thought to be the best solution might not work as expected in another context. Therefore, there is an urgent need to establish a mediation model that is capable of bringing together different development realities to increase the effectiveness of global partnerships.

This chapter unpacks the ever-changing meaning of the term 'development' as well as some of the theoretical frameworks and practices under its name. It argues that there are multiple versions of development instead of just a single definition. Some controversial aspects of the term, such as the modern development paradigm that originated from the mid-20th century, must be abandoned for the sake of establishing successful future partnerships between nations. These dominant discourses posed a colonial attitude and threatened the meaning of contemporary development as well as its related practices. This chapter brings attention to this ever-changing development discourse as many global collaborations, such as the GRASPIT project, conducted their activities under the name of

development. Even with good intentions, the accidental inclusion of problematic discourses will produce undesirable results such as undermining the effectiveness of partnerships or reinforcing subjugations of the less advantaged. Therefore, one must understand the multiplicity of development in reality as well as recognise the power of discourse and knowledge in order to assist others in need in the best way possible. Additionally, the chapter also intends to argue that there is no perfect one-size-fits-all solution or practice that can be applied to all scenarios; there are multiple versions of development reality instead of just one universal truth. When it comes to global collaborations in the name of development with the aim of helping others and reducing suffering, we must seek a way to navigate through diverse realities to achieve mutual understanding.

'Development' and 'Underdevelopment'

'Development' is a widely used term in the socioeconomic context. Rist (2008, p. 73) points out that ideologists such as Marx and Lenin, as well as economists such as Schumpeter and Rosenstein-Rodan all produced written discussions on this topic. However, the way that they saw 'development' was different to our current understanding of the term; 'development' was presented as an "intransitive phenomenon" that simply just happened. In comparison, the term currently takes on a "transitive meaning (an action performed by one agent upon another)". In other words, 'development' no longer only stands for social transformations over time as a passive description; it becomes an idea that can be imposed upon others.

The primitive form of modern development was formed in the nineteenth century. According to Cooper and Packard (1998), European theorists and politicians at the time

debated the need to amend national policies to catch up with industrialisation. On the other side of the globe, Creole elites of Latin America wondered if they should imitate the model of success of the European bourgeoisie, including ideas of national approaches to economic growth such as the laissez-faire economic system which freed transactions from interventions such as regulations and subsidies, as well as abolishing slavery. During this time, those who deemed themselves as the more advanced believed they had the authority over their lesser others, in the matters of determining the process of growth (Cowen and Shenton 1995, p. 28).

From the late 1930s, the idea of development in the transitive sense was born from the doctrine of 'trusteeship' that was central to the historical project of the European empire. The idea brought a range of interventionist policies from the colonisers intending to improve the standard of living in poorer nations through external state administration (Cowen and Shenton 1995). Yet, the policies brought more harm than good, because they provided a means for the imperial power to reconcile themselves with their declining power over colonies by maintaining a deep connection with them using the excuse of helping them to shape a better future. Undoubtedly, the empires were constantly challenged by nationalist movements and increasingly questioned for their rule (Cooper, 1998). This 'trusteeship' is now criticised as Eurocentrism as the subject of development is the imperial state and colonies were merely their objects; the 'trusteeship' had no actual meaning for the colonised (Cooper and Packard 1998, p. 7-8; Cowen and Shenton 1995, p. 28-9). The concept of 'development' existed long before the 19th and 20th centuries, but the term inevitably transformed and encompassed its modern derogatory sense when state policies were involved. Cowen and Shenton (1995, p. 42) believe that the intellectual origins of

'underdevelopment' are fundamentally European, but it was the 33rd president of the US – Harry S. Truman – who made the concept known to the world.

During the immediate post-war period, Europe was recovering from the trauma brought by WWII. The new power at the time, as Rist (2008, p. 69) points out, the United States and the Soviet Union were no longer interested in protecting various colonial empires previously occupied by Europe. Meanwhile, the Nazi's war crime made people realise the horror when one race dominated the others; it thus led to the establishment of a new Universal Declaration of Human Rights. Reconstruction became the priority in the Northern Hemisphere and less attention was paid to the South (ibid.). Former colonies were now involved in a new type of relationship with the US, the USSR, and international organisations as "world nation-states"; the world has since been a place of "sovereign equivalency but enormous de facto inequalities" (Cooper and Packard 1998, p. 8). This is when the term 'underdevelopment' made its worldwide appearance.

The Development Dictionary (Sachs 2010, p. xvi) proposes the official starting date of 'the age of development' to be the 20th of January 1949 – the date when U.S. President Harry Truman declared the Southern Hemisphere as 'underdeveloped areas' in his inauguration speech. Although Cowen and Shenton (1995, p. 29-30) argue that the idea of 'underdevelopment' was well established by the early 20th century, Praxmarer (1984, p. 421) suggests that 1949 was the first time this adjective was used in such a wide circulation scenario. Truman's speech established a new international branding of 'development' being a transformation through active aiding actions, rather than a phenomenon that only occurred naturally during a period of time. In Rist's (2008, p. 73) words, 'development' took

on a ‘transitive’ meaning as an effective principle of social organisation from then, and ‘underdevelopment’ became something that seemingly occurred naturally.

The impact brought by the transformation of ‘development’ was beyond the semantic aspect; the new definition radically changed the way the world was perceived as well as the relations between countries. The new North-South relation matched the old status as the colonisers and the colonised before ‘the age of development’; the coloniser-colonised relationship had to be abandoned obeying the Universal Declaration of Human Rights and the new system of states (Rist 2008, p. 73-4). At first glance, it seemed like a good gesture to eliminate the immanent hierarchical structure, that there no longer existed a dominant-dominated relation. However, the new ‘development’ and ‘underdevelopment’ contrast embodied a ‘continuity of substance’ – the two terms only differed relatively because ‘underdevelopment’ is the incompletion of ‘development’. Unlike the previous unshakable opposition between the coloniser and the colonised, the ‘underdeveloped’ had the potential to become the ‘developed’. In this sense, the distance between states was seemingly reduced, and the states’ governors obtained equal status.

Criticisms on the ‘Age of Development’

Despite the positive effect brought by abandoning colonialism as well as the newly established seemingly equal relation between nations, the world was then under a new rule – the ‘development paradigm’. However, this paradigm had less transparency on whose interest it was serving, which made it problematic.

Firstly, even though the dichotomy of the ‘coloniser’ and the ‘colonised’ no longer existed, a new dichotomy of the ‘developed’ and the ‘underdeveloped’ was born; the

'coloniser' became the 'developed', the 'colonised' became the 'underdeveloped'. There was no crossover between the two groups when the new phrases were put to use. The new classification created an illusion that 'underdeveloped' nations could easily become just like the 'developed' by focusing on their internal development. Yet, the fact that the 'developed' nations granted their success through ignominious means such as wars, colonisations, and slave trades was ignored. The problem was that the path walked by the 'developed' nations, according to the new development paradigm proposed by Truman, could no longer be easily replicated by others; the world nations certainly would not support the idea of having another round of colonial invasions. As Rist (2008, p. 75) points out, the darker side of history was neutralised and isolated from the 'successes of the 'developed' nations. Wealthier nations at the time still held their advantageous position in the new world order, much more advantageous than the nations they used to exploit.

Secondly, Truman was exerting power on the less advantaged nations simply by making the classification of the 'developed' and the 'underdeveloped' happen, representing the decision of the US government at the time. According to Foucault (1982, p. 208), there are three modes of objectification turning human beings into objects of power, and one of them is the 'dividing practice'; through this mode, the human subject is objectified by a social division process, either by oneself or from others. For example, people are always categorised into male or female, young or old, either by themselves or others. These standards allow individuals who fit the criteria to be understood and controllable within a society.[2] In this case, the division was drawn by Truman in the interest of the U.S. government, which allowed them to claim the hegemonic position through differentiation

[2] Further discussion on Foucault's theories is available in the next chapter.

and categorisation. The term ‘underdeveloped’ was later replaced by ‘developing’ as an attempt to reduce the gap between nations, as well as to create the illusion that the one who had fallen behind could eventually catch up. Despite such an effort, the dividing practice suggests that the U.S. had no intention to give up its hegemonic power and its dominant position after WWII; Rist (2008, pp. 75-7) argues that disintegrating the former European colonial empires was an evident interest of the U.S. because such an act allowed them to access new markets. Furthermore, the division between the ‘developed’ and the ‘underdeveloped’ or the ‘developing’ was mainly based on the standard of production, wealth, and prosperity, in which the U.S. was world-leading; the division was not based on ideological debates between capitalism and communism, nor culture and civilisation. Such a standard put the U.S. at the top among the others and secured the nation’s hegemonic position among others. Additionally, the ‘development programme’ proposed an ‘international effort’ to increase production and the efficiency of using natural and human resources, suggesting that the primary goal was sharing; among nations ‘underdeveloped’ countries becoming richer was merely a bonus of ‘the great share-out’. In short, it essentially was in the interest of the U.S. government to promote its ‘development programme’ with the aim to “deploy a new anti-colonial imperialism” (ibid., p. 75).

Thirdly, the behaviour of distinguishing the ‘developed’ from the ‘underdeveloped’ matched what Edward Said (2019, p. 3) partly defined as ‘Orientalism’; such an act was “a Western style for dominating, restructuring, and having authority over the Orient”. Said adopted the Foucauldian understanding of discourse and deployed it to the analysis of the Western representation of the Orient. In his view, the Orient was a European invention – the image of the East that was exotic and mysterious; but most importantly, it was the “deepest and most recurring images of the Other” (ibid., p. 1). Having the concept of the

Orient helped the Occident to construct its own "image, idea, personality, experience" (ibid., p. 2). The Orient was an idea, a creation of the Occident, rather than an objective fact of nature. This idea was then used by the Occident in dealing with the Orient through the making of statements and the creation of knowledge about the Orient. In short, Orientalism is a Western style of domination by restructuring the concept and claiming authority over the 'Other' who is not the West. the Orient is treated not as a free subject of thought or action, but a reflection of what the West refuses to be.

Separating the 'developed' and the 'underdeveloped' is another way of the West creating the 'Other'; Orientalism helps to unpack the underlying motive of the U.S. government establishing this new development paradigm from the mid-20th century. The speech by Truman was considered to be the opening of a new era because a new development reality was established through a discursive transformation; as Rist (2008, p. 78) puts it, "power always belongs to the one who can make himself the master of words." This new paradigm focusing on economic growth and productivity gained popularity in the next couple of years among wealthier countries; development was generally perceived in this way in the 1950s. Below is a document produced by the United Nations at the time depicting the pre-conditions of economic development:

> There is a sense in which rapid economic progress is impossible without painful adjustments. Ancient philosophies have to be scrapped; old social institutions have to disintegrate; bonds of cast, creed and race have to burst; and large numbers of persons who cannot keep up with progress have to have their expectations of a comfortable life frustrated. Very few communities are willing to pay the full price of economic progress.
>
> (UN Department of Social and Economic Affairs 1951, p. 15)

Escobar (2011, pp. 41-2) comments that the report at heart was suggesting a total restructuring of 'underdeveloped' societies – that being about two-thirds of the world – only based on the standard of capital, science, and technology, set by those who claimed to be the 'developed'. Such a statement was highly ethnocentric and hegemonic because it ignored other cultural and anthropological values; "the American dream of peace and abundance" became the seemingly universal solution to a more civilised world with abundance and prosperity (ibid.). This set of developmental discourses allowed the U.S. to define itself as the superior who possessed the knowledge of development so that it had the authority over the 'Other' as well as the right to interfere. Thus, the invention of 'underdevelopment' was typically hegemonic and Orientalist.

Discourse and the Representation of the 'Third World'

Other than Said's *Orientalism*, there are many other works which also discuss the problematic discourses and representations of economically less advantaged nations. For example, Frantz Fanon explored a similar power asymmetry between the Black and the White during the colonising period of history. His debut *Peau Noire Masques Blancs (Black Skin, White Masks)* (1952) expresses Fanon's growing awareness of racism and colonialism in France through his experience in psychiatric training on both black and white psyches (Leitch *et al*. 2018, p. 1351). In this book, Fanon offers his interpretation of the ontology and sociology structures that lock subjectivities into their racial categories (Drabinski 2019):

> The white mean is sealed in his whiteness. The black man in his blackness… There is a fact: White men consider themselves superior to black men. There is another fact: Black men want to prove to white men, at all costs, the richness of their thought, the equal value of

> their intellect… However painful it may be for me to accept this conclusion, I am obliged to state it: For the black man there is only one destiny. And it is white.
>
> (Fanon 1986, p. 11-2)

The creation of 'white men' is precisely based on the discourse of the 'otherness'. Fanon unpacks the connection between languages, racism, and colonialism; he claims that to speak a language is "to participate in a world, to adopt a civilization", and "to speak as the colonized is therefore to participate in one's own oppression" (Drabinski 2019). Fanon's study of languages and discourses embodied aspects of Foucauldiian philosophy – it is in discourse that knowledge and power are joined together.[3] A colonisation is an explicit form of control which also has an implicit result; it not only dominates the material resources of the colonised nations but also turns their people into the subject of power by controlling their minds.

Moreover, Escobar (2011) argues that the development discourse shares the same principle with Homi Bhabha's (1990, p. 75) definition of colonial discourse – "an apparatus that turns on the recognition and disavowal of racial/cultural/historical differences", "its predominant strategic function is the creation of a space for a 'subject peoples' through the production of knowledge in terms of which surveillance is exercised and a complex form of pleasure/unpleased is incited". Both development and colonial discourses are effective apparatus for producing knowledge about the 'Third World' as a means of having authority and power over it – "a space for 'subject peoples' that ensures certain control"; such a space is geopolitical in an imaginary way and has shaped the meaning of development since the start of the age of development (Escobar 2011, p. 45).

[3] Further discussion on Foucault's theories is available in the next chapter.

A similar idea can be found in the work of V. Y. Mudimbe, *The Invention of Africa* (1988), in which he deals with the fundamental discourses of African societies, cultures and peoples. He argues that these discourses did not represent the actual African systems of thought, but instead revealed the forms of knowledge constructed by the West. Mudimbe's work is considered "the Africanist equivalent of Edward Said's Orientalism" (Apter 1991, p. 172). Mazrui (2005, pp. 68-82) suggests that both Mudimbe and Said identified the concept of 'Otherness' through their work; Mudimbe named it 'alterity' and Said identified it as 'Orientalism' (Apter 1991, p. 173). They raised the problem with the making of 'Otherness' and promoted the possibility of having an alternative paradigm – a reinvention of the current image of the 'Other' (Mazrui 2005, p. 80). Escobar (2011) argues that this notion can be extended to all 'underdeveloped' nations under the development discourse, as they have been systematically organised and transformed into a Western constructed representation of the 'Other' – "the heirs of an illustrious genealogy of Western conceptions about those parts of the world" (ibid., p. 43).

Chandra Mohanty's work *Under Western Eyes* (1984) also discusses a similar representational problem. Mohanty questioned the representation of 'Third World women' as a "singular monolithic subject" in Western feminist texts of the time; she argued that the knowledge produced about these women was predominantly a discursive colonisation in the way that certain textual strategies distinguished the West from the Others (ibid., pp. 333-4). By comparing the Western feminist self-image with their created representation of the women in the 'Third World', Mohanty concluded:

> Universal images of 'the third world woman', images constructed from adding the 'third world difference' to 'sexual difference', are predicated upon assumptions about Western

> women as secular, liberated, and having control over their own lives… referring to a discursive self-presentation, not necessarily to material reality… only from the vantage point of the West is it possible to define the 'third world' as underdeveloped and economically dependent. Without the overdetermined discourse that creates the *third* world, there would be no first world.
>
> (Mohanty 1984, 353)

Even though Mohanty's research area was feminist studies, her argument is certainly applicable in development debates as the construction of the 'third world women' image was essentially a power move through the identification of the 'Otherness'.

In the same vein, G. C. Spivak examined how the 'truth' about the 'subaltern' – the postcolonial subjects – was constructed under both political and intellectual positions (Leitch *et al*. 2018, p. 1997). She deconstructed the concept of 'truth' by questioning who had the privilege to be "believed to have the truth", and looked into how truths were produced (Spivak, Landry, and MacLean 1996: 9).[4] In her most well-known essay "Can the Subaltern Speak?" (Spivak 1988) she argues that subjects such as none-Europeans, women, and the poor were harmed by the privileged West because they had no voice under the dominant colonial discourse; she calls it the 'epistemic violence' that was done to these individuals (Leitch *et al*. 2018, p. 1997, 2151). Despite the best intention, giving the silenced 'other' a voice might conversely repeat the silencing act as the true voice was still not heard; needless to mention the harm it could cause when such an act was performed out of political gain. The same logic can be seamlessly applied to development discourse; the voice of the 'underdeveloped' countries could barely be heard.

[4] Further discussion on constructivism is available in chapter 6.

In line with emphasising the need to reconstruct the modern development discourse, Bhabha used the work of Said and Spivak in terms of the investigation of the 'West' and the 'Other' dichotomy, as well as that of Fanon's (Drabinski 2019); one of Bhabha's main arguments is that the original dichotomies proposed were "too reductive because they imply that any national culture is unitary, homogeneous, and defined by 'fixity' or any an essential core", but the reality is much more complex than that (Leitch *et al*. 2018, p. 2151). To replace these one-dimensional 'dichotomies', Bhabha suggested the concept of 'hybridity' which took into consideration other aspects such as languages, cultures, and politics. This 'hybridity' refers to the creation of a 'Third Space', a transcultural space that is the product of crossbreeding two and more cultures, which Bhabha believes can "elude the politics of polarity and emerge as the others of ourselves" (Bhabha 1988, p. 22).

As a summary, this section briefly reviewed some well-established writings on the problematic development discourse from the past and representation of the 'Other', revealing that the concept of development was not all positive in the past. The distinction between the 'developed' versus 'underdeveloped' was essentially an apparatus of the 'West' to maintain authority and control over the 'Other' through the creation of knowledge and representations. The nations who were the subjects of control had also participated in reinforcing the inequality by accepting the new categorisation under this paradigm. Despite the grim origin of the modern development paradigm, the issue was analysed and unpacked by diligent academics. As Escobar (2011, p. 47-9) mentioned, the discursive analysis of development started in the late 1980s and there were a small but coherent number of works critiquing the development discourse; some additional studies include but are not limited to that of James Ferguson's, Adele Mueller's, Irene Gendzier's Kathryn Sikkink's, Chilean Pedro Morandé's, and Kate Manzo's. These works helped to generate the

realisation that the concept of development must be transformed for the greater good and the well-being of all mankind. In other words, the concept is evolving over time, and it carries various meanings in different time periods.

Theoretical Framework and Practices of Development

According to Corbridge (2007), the study of development is founded on the commitment both to a principle of difference and a principle of similarity; the 'Third World' is different to the 'First World', but we will try to make the 'Third World' more like the 'First World'. The concept of development has now acquired a transitive meaning. Purposeful interventions are needed to make development happen; we cannot just simply sit there and wait for it to happen. Nevertheless, who then has the authority to determine what is considered 'developed' and what is not? And what should be a fair criterion to define the status of development?

The claim of 'achieving development' is funded by the idea that there should exist various levels of development among the world nations, predominantly determined by those who are in power. In this sense, the term carries the meaning of making classifications according to a set standard, which in Foucault's eyes is a sign of exercising power. The term along has the characteristic of being arrogant at least, if not being an ill-willing political means to enhance control. One of the earliest development theories – the modernisation theory – embodies the condescending attitude of dominating nations who established a seemingly excellent strategy for 'traditional' societies. The modernisation theory suggests that 'traditional' societies can also achieve a process of positive social change, both economically and sociologically, by simply following the path of more developed societies

(Lerner 1958). A major criticism of this claim is the dependency theory, arguing that 'underdeveloped' countries are not the primitive versions of 'developed' countries because the success of Europe and North America was a result of imperialism and neo-colonial exploitation of raw materials (Frank 1966; Cardoso and Faletto 1979). In other words, development should not be seen as a set path that can be easily replicated from one case to another.

Since the 'age of development' when the wealth and prosperity of nations were emphasised, economic development occupies a non-dismissive part of the development discourse. W. A. Lewis is one of the earliest theorists who applied the classical economic growth theory to the study of development; this subfield is known as development economics (Lewis 1954; Payne and Philips 2010). Scholars such as Rosenstein-Rodan (1943) and Nurkse (1953) contributed to the research of 'the big push' theory and intended to help poorer societies escape the 'vicious circle of poverty'. There were political debates between the neo-liberal economists who trusted the 'invisible hand'[5] (Smith 1776; Krueger 1990), and supporters of state interventions who believed that 'good governance' was the key to economic growth (List 1841; Chang 2002; Grindle 2011). In a more recent debate, foreign aid became the focus of discussions in terms of its actual effectiveness in assisting the growth of another country (Lancaster 2008; Moyo 2010). These studies all concern the development economy debate that constitutes an important part of the development discourse. However, focusing exclusively on improving the economy of a nation is criticised

[5] Rothschild (1994) points out that Adam Smith used the term 'invisible hand' multiple times in his writings. The usage of the term in *The Wealth of Nations* (1776) is probably the most relevant to this discussion. According to the book, Adam Smith uses the term in a chapter on international trade. He argued against restrictions on imports that even if there were no import restrictions, the merchant would still prefer to support domestic industry in the interest of own security as well as the society; the merchant was "led by an invisible hand to promote an end of his intention". It is generally understood nowadays as a term promoting free market economic system.

for being too one-dimensional; what is more to development is that there is a sociological aspect, an "encompassing cultural space" (Escobar 2011, p. 42). Peet and Hartwick (2015, pp. 10-11) argue that numerical figures, such as GDP or GNP, are prejudiced measurements and can only indicate "how closely a country replicates the characteristics of the West"; this argument resonates with the criticisms towards development modernisation theory, as well as the problematic development discourses as discussed in the last section.

Nevertheless, this is not to deny the importance of economic studies; development economics is indeed an essential part of the discourse, but it certainly is not the whole picture. There is an increasing number of scholars engaging with gender equality issues in the context of development studies; they realised that economic growth did not necessarily improve the positions of women in societies. Ester Boserup's *Women's Role in Economic Development* (2007) is one of the pioneering studies which investigate women's role in the process of economic and social growth in developing societies; the book criticises that development economics and policies had the tendency to exclude women and devalue women's contribution. The question of how to pursue equality, inclusion, and empowerment of women in development agenda provoked discussion around topics of health, environment, economy, employment, education, technology, social structures, and gender relations (Batliwala 1994; Kabeer 1994; Crewe and Harrison 1998; Momsen 2009; Jackson and Pearson 2005; Deere and Doss 2006; Peet and Hartwick 2015). As previously discussed, postcolonial feminists such as Mohanty (1984) made a great contribution to unpacking the problematic representation of the 'Third World' women; Mohanty suggests that empowerment must come from an indigenous cultural context, rather than being brutally imposed on by a paradigm with Western origin. As Donna Haraway (1988, p. 582) argues some knowledge from the West was 'situated knowledge' that derived from unique

experiences and particular circumstances with a “false vision promising transcendence” into something metaphysical. The study of development is no longer just about improving the material aspect of a nation; it is elevated to become an epistemological debate.

Theories after the infamous modernisation theory are less focused on becoming ‘developed’ and more concentrated on the welfare of individuals. One way of interpreting development is to fulfil the ‘basic needs’ of people; such an approach targets the micro aspect of improving life qualities rather than concerning the macro development of the country as a whole, which allows it the appearance of being less condescending (Stewart 1985). The basic needs approach was popular when the 5th president of the World Bank Group R. S. McNamara urged governments to meet the “basic human needs” of their people (The World Bank no date). However, it was difficult to identify a universally accepted standard on what aspects of human life should be categorised as ‘basic needs’. There was a wide spectrum of elements ranging from the requirements of human survival such as food, water, and shelter, to non-material needs such as psychological well-being and being treated with respect. It was impossible to reach an agreement and to establish a universal standard for how nutritious the food and water were, or how safe and permanent the shelter should be. In Stewart’s (1985, p. 352-356) words:

> Does fulfilment of basic needs mean providing some specific level of goods and services to everyone or does it mean achieving conditions which lead to a minimally defined satisfactory life which we shall call, for shorthand, the ‘full life’?... How is a ‘full life’ to be defined, measured, and monitored?

Due to this reason, it was difficult to translate the theory into concrete plans as well as to identify appropriate measures. Furthermore, there was also the problem of universality –

"are standards of basic needs fulfilment to be the same for all countries or relative to the level of development of each society" (ibid., p. 356)? If a universal standard was set the same for one and all, the approach would become an extension of Bhabha's definition of colonial discourse. If the standard was relative, then it raised the question of how to adapt the standard to each society and whether it could undermine the result due to its uncertainty (Overseas Development Institute 1978; Stewart 1985). The basic needs approach reflects the feature of development studies that it is extremely difficult to come up with a one-size-fits-all solution.

A more recently established approach to development is the capability approach. As summarised by Robeyns and Byskov (2023):

> The capability approach is a theoretical framework that entails two normative claims: first, the claim that the freedom to achieve well-being is of primary moral importance and, second, that well-being should be understood in terms of people's capabilities and functionings.

The capability of individuals is interpreted as being able to achieve something if they choose to, such as being well-nourished, getting married, being educated, or travelling. The term "functioning" stands for "capabilities that have been realized"; it refers to the ability of individuals to convert resources and public goods into functionings depending on certain personal, sociopolitical, and environmental conditions (ibid.). Additionally, the capability approach is also closely associated with the concept of freedom. Amartya Sen is one of the main contributors to the development of this approach; his book *Development as Freedom* (1999) argues that development should advance the real freedoms that people enjoy rather than just solely focusing on economic performance:

> [T]he removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as over-activity of repressive states.
>
> (Sen 1999, p. 3)

Whilst the post-war view of the division between 'developed' and 'underdeveloped' was mainly based on wealth (Rist 2008, p. 75), Sen's freedom-based capability approach claims that wealth is only part of the whole picture; it is useful only for what it enables people to do. In contrast, poverty is seen as a deprivation of capabilities along with many other factors that contribute to the unfreedom of human beings. Thus, Sen argues that the world nations should not prioritise economic development over other aspects. Economic growth is not an 'end' as well as civil and political freedom in the sense that they are not the actual aims of development; instead, they should be seen as 'means' that help "enhancing the lives we lead and the freedoms we enjoy" (Sen 1999, p. 14). The capability approach seems to surpass its precursors in the sense that it grants individuals with agencies to define their own versions of development – the freedom they would like to possess rather than one fixed standard of what development should be. In this sense, there should exist multiple development realities as well as multiple ways to achieve development. Sen's idea was one of the inspirations for the concept of 'human development' proposed by the United Nations Development Programme (UNDP) that development should primarily concern the people rather than prioritising any government needs:

> The idea of 'human development' focuses directly on progress of human lives and well-being. Since well-being includes living with substantial freedoms, human development is also integrally connected with enhancing certain capabilities – the range of things a person can

> do and be in leading a life. We value the freedom of being able to live as we would like and even the opportunity to choose out own fate.
>
> (UNDP 2000, p. 19)

Additionally, human rights are also an important part of the 'development as freedom' paradigm. One of the earliest mentions of development as a human right, according to Piron (2002, p. 9), is believed to be by a Senegalese jurist, Keba M'Baye, in 1972; it was then given recognition in the 1981 African Charter on Human and People's Rights and incorporated into the global human rights framework through the Declaration on the Right to Development by the United Nations General Assembly. The Human Development Report also wrote:

> The basic idea of human development… has much in common with the concerns expressed by declarations of human rights. The promotion of human development and the fulfilment of human rights share, in many ways, a common motivation, and reflect a fundamental commitment to promoting the freedom, well-being and dignity of individuals in all societies.
>
> (UNDP 2000, p. 19)

However, not everyone agreed with the positive impact that promoting individual rights could potentially bring to development; some economists felt the need to discuss whether prioritising economic growth over democracy or individual freedoms can achieve better results (Kohli 2004; Lin and Chang 2009; Moyo 2010; Whitfield *et al*. 2015). Lee Kuan Yew, who was a former leader of Singapore and contributed significantly to the country's success, had a clear vision of development that was deemed to be controversial; he thought that economic growth and state planning should take absolute priority in practice:

> I am often accused of interfering in the private lives of citizens. Yes, if I did not, had I not done that, we wouldn't be here today. And I say without the slightest remorse, that we

> wouldn't be here, we would not have made economic progress, if we had not intervened on very personal matters - who your neighbour is, how you live, the noise you make, how you spit, or what language you use. We decide what is right.
>
> (BBC 2015)

According to Lee, "the West" provided useful guidance for a "backward economy with a backward society" for nations like the old Singapore, but as an independent nation they did not want "all of the West". He admitted that not everything he did was absolutely right, but everything he did was for an honourable purpose that he believed was the best for his nation (ibid.). Despite Singapore being one of the Asian miracles when it comes to its progress in development, it is still constantly criticised for the matter that its citizens do not possess enough freedom due to the dominating position of the ruling party and its rejection of liberal democratic values. Such a position contradicts the core idea of 'development as freedom', yet the growth of Singapore has seemingly confirmed Lee's view.[6]

This chapter does not intend to discuss whether Sen's approach is more advanced than Lee's; instead, it suggests that there are multiple ways to interpret 'development', and that developmental practices are not simply replicable from one nation to another. The success of the colonisers cannot be replicated because the imperial past is in history, and the previously colonised are very unlikely to obtain the same position in contemporary international relations. Conversely, Lee's approach is less likely to be adopted by democratic countries in which the citizens are less restricted in comparison. As Corbridge (2007) points

[6] *Singapore: A Case Study in Rapid Development* (1995) edited by Kenneth Bercuson and his team provides a comprehensive review on the economic development of the country.

out, development studies cannot be reduced to a singular ideology, a unitary set of theories, or policy-making practices.

The Multiplicity of Development

Thus far, this chapter unpacked several meanings of the term 'development' as well as some of the theoretical frameworks and practices under its name. It became clear that such a concept has multiple layers of meaning depending on how one interprets the term. It is vastly difficult to come up with a one-size-fits-all solution for all nations; even if it is possible, such an action is better avoided considering the unpleasant past association with colonial discourse. Yet, what seems to be contradicting is that the UNDP managed to propose sets of universal goals – Millennium Development Goals (MDGs) in the past and the ongoing Sustainable Development Goals (SDGs) – to promote human development. According to Jahan (2017):

> [E]very human being counts and every human life is equally valuable. That universalism is at the core of the human development concept and is the driving force behind the 2030 Agenda for Sustainable Development, which asserts that *no one should be left behind* in the human development journey. Human development is all about human freedoms, freedom to realize the full potential of every human life, not just for a few, nor for the most, but of all lives in every corner of the world – now and in the future. *Human development is for everyone*.

Representing UNDP, Jahan conveys their core value that "every human life is equally valuable" and the development goals are built to actualise such a statement. However, the statement lacks certain clarity such as to what degree an individual is counted as free; frankly, the same can be said about the development goals.

Pogge and Sengupta (2016, p. 15) point out that the concept of a goal implies "some definite individual or collective agent whose goal it is", along with "a reasonably clear idea about the steps it will take to achieve the goal" and "both the commitment and the means necessary to take these steps" which the MDGs and SDGs have no mention of. Without such criteria, all nations are free to adopt various strategies to actualise the goals through their own interpretations. However, because of the lack of specification of what and how the implementation strategies should be, UNDP's role as an effective development agent could be undermined. The progress of achieving the goals can be delayed due to a lack of instructions, which means leaving more people in desperate need suffering longer. Additionally, some governments might be less capable of following the goals due to political inadequacy or instability; yet they cannot be held accountable for not doing well enough and nobody will be penalised for not achieving the target. In Pogge and Sengupta's (ibid., p. 6-7) words:

> [T]o have a common goal, this group must have a shared understanding of who is to do what toward implementation. As no such shared understanding emerged around the MDGs, it would be more appropriate to refer to them as the Millennium Development Wishes… If no division of labour is specified for achieving the SDGs, there is a real danger, then, that any failures will be blamed on the poorest countries.

Nevertheless, one must not ignore the problem brought by one-size-fits-all solutions. When only one standard is used as a benchmark for all, it could be problematic because it simply denies all other possibilities to seek better solutions. The post-war development discourse clearly created a power asymmetry when everything has to be measured against the standard that was set by the 'Global North'; the question becomes how to avoid setting another set of problematic criteria with post-colonialist tendencies. Perhaps, respecting the

locals and admitting that there can be multiple approaches to development in the eyes of different individuals and nations is the better option compared to adopting a set of unified strategies; following this logic, the goals might have been designed this way with an honourable reason after all. The concept of development has become more contingent, responsive to different contexts, and requiring a certain degree of localisation; in this way, the tension brought by the asymmetrical power between the 'West' and the 'Others' was reduced.

Furthermore, why cannot the concept of development be a good wish after all? The earlier analysis established the multiplicity of the term and there is nothing wrong with adding another layer to its meaning. Sachs (2010, p. xix) humorously describes the development as "an amoeba-like concept" because it is "shapeless but ineradicable"; "its contours are so blurred that it denotes nothing – while it spread everywhere because it connotes the best of intention". Rist (2008, p. 19) offers a provocative comparison between defining development with defining Christianity; to many, Christianity is "essentially a religion based upon love of one's neighbour" and establishing peace and justice among men. Even though such a definition lacks theological profundity and fails to base itself on distinctive practices, it contains "unverifiable feelings that come under the heading of spiritual experience" as well as "widespread allegiance among the believers". Rist (ibid., pp. 21-4) argues that the same principle applies to the believers of development as the term symbolises "an element in the religion of modernity" in the sense that there exists a shared common belief of a better world followed by a series of practices despite the contradictions between them, reflecting the logic of the societies undergoing globalisation. Perhaps, good faith is all we need as the foundation of the contemporary concept of development:

> Though development has no content, it does possess one function: it allows any intervention to be sanctified in the name of a higher goal. Therefore even enemies feel united under the same banner. The term creates a common ground, a ground on which right and left, elites and grassroots, fight their battles.
>
> (Sachs 2010, p. xix)

Thus far, this chapter explored the concept of development in a global context and argued that the meaning of 'development' is ever-changing; such a nature of the term would affect the practices conducted under its name. The term was initially used to describe a natural social transformation over time, but it then carried a transitive meaning and became something that could be practically planned or controlled. The chapter illustrated the evolution of the term since the 19th century and criticised that the later invention of 'underdevelopment' was hegemonic and shared common features with former colonial discourses. The problematic representations of the 'Third World' were used as an apparatus for maintaining authority and control by the 'West'. Furthermore, a few development theories and practices were discussed, including the infamous modernisation theory, development economics, basic needs, gender, capabilities approach, and development goals. This chapter set up a critique of 'development' as a generalised term; there should be multiple versions of 'development' instead of just one so that the space for developmental debates is not dominated by only a single set of discourses. This position is crucial in evaluating knowledge sharing as a common activity under global collaborations, in which each partner seems to believe in a different version of reality. The GRASPIT project revealed that from a practical perspective, it was possible what one thought to be realistic turned out to be unrealistic for others; the same logic applies to the discourses and theories in the field of development. In both cases, a reality check is necessary on a case-to-case base.

Therefore, a less condescending way to interpret development seems to be that one should resist creating a firm set of discourses defining development, in the way that the concept is open to be reconstructed or challenged by those who are concerned with this matter. Although having multiple definitions might undermine the significance of some organisations or practices as they no longer have a universal appearance, such an act sheds away the power-grabbing past of the concept and opens up a free space for developmental debate. The notion of development is no longer limiting. World nations must be aware that the progress of development cannot simply be replicated; blindly adopting the same practices is not the best way forward. The notion has become more liberating by encouraging the generation of new ideas; allowing different voices to be heard to secure a space for free discussion as well as to ease asymmetrical political power relations.

Yet, the multiplicity of development does not allow it to be immediately transferable in the field as a single and unified idea, that there exist multiple development realities. Because of its versatility, the discourse around the concept is ever-changing and open to multiple interpretations. The theories need to be translated into practices in order to become useful, but different interpretations of development can lead to various expectations and practices. In other words, this multiplicity concerns the ways of conducting development activities and partnerships and therefore must be factored in during the planning process. It then raises the question of how to strategize practices if there are multiple versions of development; how does one make a decision of action knowing that it is only one of the options and there isn't a set answer? Particularly, if there isn't a set of satisfactory developmental practices that are universally accepted, what then are the criteria that one should base on when making such a decision? This conceptual and philosophical dilemma can become particularly problematic under a global collaboration

context for the well-being of mankind; when the participants are from distinctive backgrounds, it is very likely that their interpretations of 'development', or the outcome of collaborations, differ significantly. The work of development might have to take the form of constant negotiations with the changing ground.

The GRASPIT example taught us to avoid making assumptions in a partnership, the same can be said regarding development realities. The rest of the thesis aims to establish a theoretical framework to increase the effectiveness of global partnerships; this will be achieved by creating a model of thinking without the subjugation of the less advantaged, as well as the avoidance of constructing the 'otherness'. From the next chapter, the thesis begins to build such a framework by formally introducing the power of discourse from a Foucauldian perspective as well as the construction of scientific knowledge. The thesis will explore a local solution from an individual's perspective by denying that the metaphysical truth is obtainable, thus it is more practical to pursue solidarity and liberty to reduce the suffering of individuals.

Chapter 2 Foucault: The Subject, Discourses, Knowledge, and Power

The last chapter briefly mentioned how the work of Michel Foucault was relevant to the field of development; it briefly discussed the objectification of human subjects through 'dividing practices' and that there was a strong correlation between discourse, knowledge, and power. It was also mentioned that Edward Said used the Foucauldian discourse analysis in his masterpiece *Orientalism* to understand the image of the Orient as a cluster of discourses that was created by the 'West'. The meanings of terms such as 'Occident' and 'Orient', 'developed' and 'underdeveloped' were highly contestable; development discourse was never an absolute truth, but the implications of the terms used could have a significant impact on practices.

This chapter contributes to building a theoretical framework for the thesis by showing how scientific knowledge should not be considered the equivalent of the objective truth itself despite its seemingly impartial quality. To do this it will explore the connection between the subject, discourse, knowledge, and power from a Foucauldian perspective and argues that knowledge is a formation of discourses that are relative to historical moments; this means that knowledge is circumstantial rather than metaphysical, hence it should not be seen as the truth itself nor the representation of truth. Despite seemingly objective, knowledge can be a form of power. Foucault also argues that modern disciplinary power is a gentle yet pervasive control of the minds and thus the human bodies, and this form of power is apparent in the knowledge of the time. Modern social institutions have utilised this power to create 'docile bodies' that are useful to societies. In this sense, human beings are made into the subjects who think the way we think and act the way we act; the human body

then inevitably becomes a carrier of certain social values that are contextual rather than universally applicable.

This understanding of knowledge as a subjective being and an apparatus of power contributes to the foundation building of the theoretical framework that the thesis is creating. This chapter will highlight the relevant Foucauldian thinking and suggest that this property of knowledge should be considered in any activities that involve knowledge sharing; despite how scientific, impartial, and unbiased the knowledge may seem, it is essentially a cluster of discourses formed under historical contingency that serves the interests of some but not all. The chapter raises the awareness that knowledge should be subjected to changes and open to reinterpretations depending on contexts, thus supporting the multiplicity of terms such as the concept of development as well as establishing a need for a theoretical framework to assist knowledge sharing when a universal common ground does not exist.

The Subject

Although the work of Foucault covers a wide range of historical topics such as madness, the clinic, sexuality, and especially the concept of power, there is one recurring contemporary theme of all his studies being the concept of 'subject'. As he points out:

> I would like to say, first of all, what has been the goal of my work during the last twenty years. It has not been to analyse the phenomena of power, nor to elaborate the foundations of such an analysis.
>
> My objective, instead, has been to create a history of the different modes by which, in our culture, human beings are made subjects.

(Foucault 1982, p.208; Foucault 1994, p. 327)

He then clarifies that throughout his work, there are three modes of objectification generalised that transform human beings into subjects – (i) 'scientific classification', (ii) 'dividing practices', and (iii) 'subjectification'. 'Scientific classification' is the mode of inquiry that objectifies human beings as the subjects of scientific knowledge; particularly, it puts people under the gaze of a scientific discipline and turns them into a part of the discourse. In the field of economics, for instance, human beings are often discussed as labourers; in this sense, human beings are objectified in terms of productivity. Another example is that in *Naissance de la Clinique (The Birth of the Clinic)* (1963), human beings are objectified under the medical gaze of modern doctors as physical compositions of organic matter. In other words, 'scientific classification' uses knowledge from different fields of study and transforms human beings into objects that are continuous with the discourses.

The next part of his work focuses on 'dividing practices', in which the subject is objectified by a social division process; the division can either be self-conducted or done by others. An example of this practice could be the division between the mad and the sane, the criminals and the 'good' (Foucault 1982, p.208; Foucault 1994, p. 327). The practice involves a social standard that is widely accepted by members of society at the time to conduct the division. This method of objectification is mainly featured in *Discipline and Punish: The Birth of the Prison* (1975) in which Foucault discusses the subject formation that operates in modern penal institutions (Gutting and Oksala 2022).

The last mode 'subjectification' indicates the activity of self-formation. In *The History of Sexuality*, Foucault elaborates on how humans came to see themselves through the lens of 'sexuality'. 'Sexuality' is a construction of discourses that differs from time to time;

concepts such as health, desire, morality, and identity cannot be discussed independently from such a construction that is often recognised as the social norm. His account reveals how human beings had to rely on this norm to act, and thus became 'self-scrutinizing' and 'self-forming' subjects under the lens of 'sexuality'. In short, 'subjectification' is "the way that a human being turns him- or herself into a subject" according to the prevailing discourses (Foucault 1982, p.208; Foucault 1994, p. 327; Bentley 2013; Gutting and Oksala 2022).

Having these modes of objectification is Foucault's way to show that the thoughts and consciousness of individuals are operating within a system of limited understanding, which he calls the *episteme*, that sometimes they are not even aware of; the academic journey of Foucault was to define what this limit is. Such a way of thinking is strongly associated with the concept of power which becomes apparent in his later books. Even though the discussion of the subject is pervasive throughout the work of Foucault, the arguments are incomplete without mentioning the concepts of discourse, knowledge, and power in relation to the making of the subject.

Early Influence and the *Episteme*

The philosophical thinking of Foucault can hardly be described as unified from beginning to end. He was fascinated by structuralist linguistic practices in his early academic career, especially works by Ferdinand de Saussure, Jacques Lacan, and Louis Althusser (Jørgensen and Phillips 2002, p. 41; Gutting and Oksala, 2022). He was not only interested in the idea that societies could be analysed using linguistic elements; there was another layer of meaning to 'structuralism' being an approach of exploring beneath the surface

appearance to identify the deeper structure, basic social elements, and social reality (Blackburn 2008, p. 353; Jary & Jary 2005, p. 616-7). Even though Foucault denied being a structuralist, he was often associated with this label because his approaches and vocabulary usage were heavily influenced by the structuralist trend in France in the 1960s when some of his earlier books were written such as *Folie et Déraison: Histoire de la folie à l'âge Classique (Madness and Civilization: A History of Insanity in the Age of Reason)* (1961), *The Birth of the Clinic* (1963), and *Les Mots et les Choses: Une Archéologie des Sciences Humaines (The Order of Things: An Archaeology of the Human Sciences)* (1966); these books in particular display this feature of influence more so than his later works (Dreyfus and Rabinow 1982, p. vii-viii; Jary and Jary 2005, p. 226). For instance, *The Order of Things* (1966) can be interpreted as Foucault's attempt to uncover the "fundamental codes of a culture" by examining the discourses in the linguistic sense of the fields of economics, linguistics, and biology (Foucault 2001, p. xxii). Foucault argues that there was a deep-rooted, underlying "epistemological field, the *episteme*" as the hidden structure that determines the Western way of thought from the Renaissance to the present time (Leitch *et al*. 2018, p. 1389). He sees *episteme* as a set of relations that organises knowledge at the level of discursive regularities that can be discovered at a given period (Foucault 2001, p. 183). In this sense, the *episteme* echoes structuralism in the way that it shapes the way of thinking.[7]

The idea of *episteme* recurs in a later methodological book by Foucault *L'archéologie du Savoir (The Archaeology of Knowledge)* (1969). In this book, he formally established the method he has been using for his previous books and named it the archaeology analysis; the idea is that to reveal the rules that govern the thoughts, one must look away from what had

[7] For in-depth discussion regarding Foucault and structuralism please see *Michel Foucault: Beyond Structuralism and Hermeneutics* (1982) by Hubert L. Dreyfus and Paul Rabinow.

been said by whom and seek for the unthinkable. In Foucault's own words, this book intends to "define a method of historical analysis freed from the anthropological theme" (Foucault 2002, p. 17). The archaeological approach designates to analyse history in a way that does not rely on the consciousness of individual subjects; it exclusively analyses discourses not of individuals but of the overall configuration in each domain or time to determine the general epistemological field (Gutting 2005, pp. 32-42; Gutting and Oksala 2022). Foucault's interpretation of a historical archive is not simply a collection of documents nor a mere reflection of the collective knowledge of a specific time or culture; he sees it as a product of discourses in the linguistic sense that reflects a "general system of the formation and transformation of statements" (Foucault 2002, p. 146) and the archive then becomes invaluable for finding the *episteme* of that period.

The book also illustrates how *episteme* is transforming human beings into the subjects of discourses. Foucault abandoned the idea of viewing discourse simply as a "phenomenon of expression – the verbal translation of a previously established synthesis"; instead, he saw "a field of regularity for various positions of subjectivity" (Foucault 2002, p. 60). In other words, the discourse is not produced by the subject, but the subject is made of discourses:

> Thus conceived, discourse is not the majestically unfolding manifestation of a thinking, knowing, speaking subject, but, on the contrary, a totality, in which the dispersion of the subject and his discontinuity with himself may be determined. (ibid)

When a statement is made, Foucault argues that it did not originate from the speaker and the speaker does not possess the subject position either; on the contrary, the statement defines the enunciator's subject position based on the *episteme*. His essay "What is an

Author?" (1998, pp. 205-222) argues that the concept of 'author' is an organising device that groups certain texts together. Sometimes it is assumed that the 'author' is the source of the text, and the interpretation of the text refers back to the author. However, the archaeological approach shifts away from the author and refocuses on the texts themselves to uncover the "larger systematic social forces" (Leitch et. al 2018, p. 1390).

Nonetheless, this denial of the author's agency suggests the idea of the 'return of language'; at this stage, Foucault saw language as a truth unto itself speaking nothing other than its own meaning. Following this logic, the fundamental truth about society, the *episteme*, should be hidden in the language because of its independent and essential role; therefore, Foucault thought that the *episteme* could be unearthed only by conducting hermeneutic analysis (Gutting and Oksala 2022). Dreyfus and Rabinow (1982, p. xvi) argue that this earlier thinking of Foucault is similar to the 'diachronic' type of structuralist approach; it is deflected from the realm of social practices and almost exclusively focused on the linguistic aspect of discourse. They suggest that Foucault's early studies concentrate too much on language being neutral as well as the organizer of social practices, and conveniently neglected that social practices and other forms of discourse potentially have the same effect on language. Dreyfus and Rabinow criticise this philosophical stance of Foucault as "the illusion of autonomous discourse" (ibid., p. viii).

Foucault did not deny such a shortcoming, and the analysis of his later works in this chapter will show that he utilised the concept of discourse in a broader sense in these works. There are similarities between the structuralist analysis and his archaeological method as the aim of them is both to uncover something that is hidden in society. However, there are subtle differences between the approaches in terms of the statements in the

system, which they refer to as the 'elements'; according to Dreyfus and Rabinow (1982, p. 55), structuralists identify elements in relation to the whole system of differences in which the elements are involved, whereas archaeologists assert that the whole system determines the elements. Another crucial difference is that typical structuralists would aim to reveal "cross-cultural, ahistorical, abstract laws defining the total space of possible permutations of meaningless elements" that is something to be considered as the absolute truth; on the contrary, the archaeological method only claims to find "the local, changing rules which at a given period in a particular discursive formation define what counts as an identical meaningful statement" (ibid.). Foucault cannot agree with the concept of having an unchanging *episteme*; in other words, he denies the possibility of finding a metaphysical truth. He acknowledges that the *episteme* went through significant changes over time; but at this stage, Foucault did not provide a reason for its transformation. Leitch and colleagues (2018, p. 1390) suggest the argument that the author being an organising device of statements is an "antihumanistic deconstruction of the self" is characteristic of French poststructuralism (Leitch *et al*. 2018, p. 1390). The selfhood of the author, the speaker, the enunciator is dispersed in a particular system of discourses (the *episteme*) that is beyond one's control. The subject and the selfhood are both constructed; the autonomous choice of identity is frankly the decision made by internalized rules of relations between certain discourses (Foucault 2002, p. 101).

Up to *The Archaeology of Knowledge* (1969), Foucault has dealt with only the linguistic aspect of the concept of discourse, but his later genealogy studies have broadened this perspective by discussing practices as well as language. The thesis also wishes to pursue the concept of discourse in a broader sense by disagreeing with the 'return of language'. Nevertheless, the earlier works of Foucault remain relevant; the discussion from these

works is consistent with the overarching theme – the construction of the human subject. Although at this stage, he has yet to thematise the concept of power, he has acknowledged that it is the *episteme* that is limiting the way people think, act, and believe, embarked on a journey to "uncover the principles and consequences of an autochthonous transformation that is taking place in the field of historical knowledge" (Foucault 2002, p. 17). The *episteme* itself can be considered a powerful authority paving the way for later arguments. But it is also worth noticing that his "antihumanistic" approach denies the agency of individuals for the autonomous construction of selves.

The next section introduces the relationship between discourse and knowledge from a Foucauldian perspective by illustrating how the knowledge of the body in the Classical Age differs from the modern era. It provides a critique of modern clinical knowledge based on selected content of *The Birth of the Clinic* (1963) to further stress the relevance of the current discussion in the framework building of the thesis. The content investigates the limitation of scientific knowledge through an archaeological study of the *episteme* concerning the interpretation of the human body as well as scientific knowledge at different time periods.

Discursive Formation, Positivity, and Scientific Knowledge

Before diving into the discussion, there are a couple of concepts used by Foucault that need clarifying in relation to the *episteme*. According to Foucault:

> The analysis of discursive formations, of positivities, and knowledge in their relations with epistemological figures and with the sciences is what has been called, to distinguish it from other possible forms of the history of the sciences, the analysis of the *episteme*.

(Foucault 2002, p. 211)

The first concept that needs clarifying is ‘discursive formation’; Foucault refers to it as “a system of dispersion” in which “one can define a regularity” between objects and statements (ibid., p. 41). More specifically:

> [T]he discursive formation is the general enunciative system that governs a group of verbal performances – a system that is not alone in governing it, since it also obeys, and in accordance with its other dimensions, logical, linguistic, and psychological systems. What has been called 'discursive formation' divides up the general plane of things said at the specific level of statements. (ibid., p. 130)

A discursive formation can be interpreted as a general term referring to when certain statements are made frequently under circumstances; it then gives a reason to investigate the constant appearance of such statements and that would be the analysis of discursive formation.

The second term ‘positivity’ is the condition or the set of rules that determines the relations between discourses, combining in a way that makes sense and can be classified as actual elements within this system:

> To analyse a discursive formation therefore is to deal with a group of verbal performances at the level of the statements and of the form of positivity that characterizes them; or, more briefly, it is to define the type of positivity of a discourse. (ibid., p. 141)

It is worth noticing that ‘positivity’ is always subjected to changes because Foucault believes any group of statements is never a “closed, plethoric totality of a meaning,” but “an incomplete, fragmented figure” (ibid.); ‘positivity of discourse’ determines what can be said and what cannot under different *episteme*.

As for 'knowledge', Foucault defines this concept as "the space in which the subject may take up a position and speak of the objects with which he deals in his discourse", "which one can speak in a discursive practice" (Foucault 2002, p. 201); in other words, the knowledge is the outcome, the final product which individuals communicate. It is indicated that knowledge is a specific formation of selected discourses, not from the subject but from the deeper structure – the *episteme*. The archaeological method regards this concept as not having a closed meaning; it can be identified as a stable element in a particular *episteme*, but the positivity, the rule of *episteme*, changes over time. According to Foucault's theory, all knowledge is subjected to changes, including those kinds which claim to be objective and scientific.

In *The Birth of the Clinic* (1963), Foucault explains how two simple questions reflected the change of *episteme* from two separate times in history in the domain of medical knowledge – "what's the matter with you?" and "Where does it hurt" (Foucault 2003, p. xxi). The similarity between them is that both questions were asked by a doctor to find out what has been troubling the patient in terms of medical conditions. However, the first question was asked in the 18th century, and the second one was from the 19th century. The 18th-century question addressed the bodily feeling of the patient; it was vague, emotional, and was not something concrete that can be measured by medical apparatus. Through the gaze of an 18th-century doctor, there was the following description of a sick patient:

> [M]embranous tissues like pieces of damp parchment… peel away with some slight discomfort, and these were passed daily with the urine; the right ureter also peeled away and came out whole in the same way… and the patient had rejected different pieces either by vomiting or expectoration.

(Foucault 2003, p. ix)

In comparison, the 19th-century query precisely addressed the body parts of that patient. The statements had lost their original fuzziness and the sickness was defined by biological terms to become visible to the eyes of the doctor from inside the human body. The body went through what Foucault later defined as the 'scientific classification' and became the object for the study of science. Here is how a 19th-century doctor would use the language:

> Their outer surface, which is next to the arachnoidian layer of the dura mater, adheres to this layer, sometimes very lightly, when they can be separated easily, sometimes very firmly and tightly, in which case is can be very difficult to detach them… The organization of the false membranes also displays a great many differences: the thin ones are buffy, like the albuminous skins of eggs, and have no distinctive structure of their own. Others, on one of their sides, often display traces of blood vessels crossing over one another in different directions and injected.
>
> (Foucault 2003, p. x)

In Foucault's interpretation (2003, p. x), the 18th-century doctor's description lacked a concrete perceptual base and spoke to us in the "language of fantasy", whereas the language used by the 19th-century doctor was high in precision; each tiny part of the organism was given a name that is not familiarised by many, and each was described individually as well as in relation with other body parts. What has changed is "the silent configuration in which languages find support: the relation of situation and attitude to what is speaking and what is spoken about" (ibid., p. xi), which is preciously the *episteme*. This

“mutation in discourse” (ibid., p. xii) represents changes in discursive formation, positivity, and thus medical knowledge:

> It is nothing more than a syntactical reorganization of disease in which the limits of the visible and invisible follow a new pattern; the abyss beneath illness, which was the illness itself, has emerged into the light of language. (ibid., p. 242)

In the Classical Age, the prevalence of classificatory medicine as a type of knowledge undermined the relationship between diseases and organisms because it was believed that the “presence in an organ is never absolutely necessary to define a disease” (Foucault 2003, p. 10). At the time, the disease was known as something unperceivable at the surface or inside the human body, and the patient was thought to be an accident and even a barrier to discovering the “pure nosological essence”, the “essence of the disease” (ibid., p. 7, 8):

> [T]he patient adds, in the form of so many disturbances, his predispositions, his age, his way of life, and a whole series of events that, in relation to the essential nucleus, appear as accidents. In order to know the truth of the pathological fact, the doctor must abstract the patient. (ibid., p. 7)

To identify the metaphysical knowledge of the ‘essence’, anything “accidental and fortuitous” must be removed during the diagnosing process such as the age or the temperament of the patient (ibid.). The quality of such an ‘essence’ was known to be vague and invisible to the doctor’s gaze; diseases’ embodiment in the human body was thought to be unnecessary for an understanding of the disease itself. In contrast, the question “where does it hurt” created a verbal relation connecting the physical organs inside the body and the concept of disease, which brought the disease to the light under the doctor's gaze. The knowledge of the disease was transformed from a vague description to being precise:

> [I]n clinical medicine, *to be seen* and *to be spoken* immediately communicate in the manifest truth of the disease of which it is precisely the whole *being*. There is disease only in the element of the visible and therefore statable.
>
> (Foucault 2003, p. 116)

As Bynum (1994, p. 30) points out, 18th-century medicine was primarily focused on symptoms but not lesions, on patients but not their organs. What was fundamentally believed to be invisible, covered by the skin of human flesh, now came to the light of medical gaze in the 19th century; it was preciously the language, the re-organisation of discourse, the shifting positivity of discursive formation that helped to achieve this knowledge revolution.

Ackerknecht (1967, p. 15) suggests that this important transformation of clinical knowledge happened during the late decades of the 18th century and continued to the 19th century, particularly in the Parisian hospitals that were considered "the workshops of the new medicine". Due to the French Revolution, the needs of the military encouraged the reform of the medical educational system enhancing practitioners' ability to treat wounds, thus equalised the position of the surgeon and physicians by establishing the Law of 1794; medicine and surgery were finally seen as "two branches of the same science" (Bynum 1994, p. 28). The restructuring of the medical system strengthened the position of surgeons, which consequently encouraged the study of anatomy as well as gave hospitals a larger role in medical education. The new medical school started to teach both medicine and surgery to all students which hugely benefitted the army as they needed doctors who were equally good at treating fevers and dealing with wounds; consequently, Parisian hospitals became convenient places for this type of new clinical teaching. Ackerknecht believes that only in

the hospital could the three pillars of the new medicine – "physical examination, autopsy, and statistics" – be developed (ibid., p. 15, 19). Strengthening the position of surgeons in the hierarchy not only made surgery a highly active discipline but also gave the lesion medical significance being a pathological change induced by the disease (Ackerknecht 1967, p. 19; Bynum 2008, p. 46). These factors resulted in a change in the discursive construction of the concept of a surgeon, and the disease finally became known as visible and tangible.

Meanwhile, the relationship between the doctor and the patient as subjects under clinical discourse had also experienced a dramatic transformation. "What's the matter with you" is a question addressed directly towards the patients themselves, whereas "where does it hurt" addresses only the problematic bodily parts; this difference indicates that the doctor-patient relationship has changed to a more professional level being scrutinised under the medical gaze. New doctor and patient subjects were constructed; the doctor acquired a more authoritative role that allowed them to engage with specific parts of the patient's body, whereas the patient was objectified as a physical presence under the medical gaze. According to Bynum (1994, pp. 33-4), modern doctors were known to primarily use hands, eyes, and ears with occasional assistance by the senses of smell and taste during diagnosing. But before the 19th century, direct examination of patients' bodies was restricted by the notions of class, delicacy, and modesty which were all constructed under the same *episteme*; ordering patients to undress so that the physical manifestation of the disease could be revealed was certainly not part of the diagnosing process. In contrast, physical examination later became a part of the 19th-century Parisian hospitals' routine because most of the patients were poor and uneducated, and hence were powerless to complain about the way they were treated (Bynum 2008, pp. 46-7). Not only did this act further encourage the doctors to look for visible signs, but also it established a new intimacy

between doctors and patients embodying a shift of status. In the 18th century, the conversation and the knowledge of diagnosis reflected a relation between two equal social beings that obeyed the custom at the time; the sacred body was not contaminated by the touch of a stranger. But in the 19th century, the doctor encountered the patient's body through the medical gaze, stripping away the humanism, and objectified the patient through clinical discourse as a medical being that was anonymous and isolated from society. The difference was also shown in the general knowledge of seeing a doctor; the doctor used to pay visits to the home of the patient, but in the new century the patient generally went to the hospital where the doctor is based. It was apparent that the relationship between them had changed significantly, with the doctor taking the more authoritative position.

This shift of clinical knowledge, the understanding of medicine and the human body, as well as the doctor-patient relation, is the reflection of two *epistemes* from different periods; the two *epistemes* were not fully constituted by unrelated discourses, it was the positivity that differed one discursive formation to another – "relations that characterized for this discursive practice the formation of its statement", what could or could not be said (Foucault 2002 p. 197). For example, the discursive construction of a 'surgeon' existed in the *episteme* of both centuries. However, the formation of the 18th century 'surgeon' was distinguishable from that of the 19th century because the 18th-century 'surgeon' was linked with 'low status' as surgery was considered primarily as "the art of treating wounds" (Ackerknecht 1967, p. 144); yet, the 19th century 'surgeon' shared 'equal status' with physicians. This transformation of discursive formation indicates that there was a change of positivity. The discursive concept of 'statuses had always existed in the position in a hierarchy, but because of the change of positivity it was associated differently with other concepts like the 'physician'.

For this reason, Foucault has never considered knowledge constructed through discursive formation as an absolute truth beyond the limitation of time, including the concept of science. He argues that if science reflects a metaphysical truth, then clinical medicine should not be recognised as a scientific field; not only because clinical medicine does not comply with formal criteria, not to the rigorous level of chemistry and physics at least, but also due to the questionable organisation of the sheer number of empirical observations, uncontrolled experiments, and disunified institutional regulations (Foucault 2002, pp. 199). Therefore, Foucault considers science not as establishing an "ideality proper," but as what "must have been said" in the sense that the discourse exists to comply with the "criteria of scientificity" for the time being (ibid., p. 201). The book *Laboratory Life: The Social Construction of Scientific Facts* (1979) offers insightful supporting arguments on this topic, which the thesis wishes to discuss in the next chapter.

The Foucauldian interpretation of scientific knowledge is never absolute. The point of archaeological analysis is not because discursive practices constitute the building of the objective reality that is independent of the human consciousness; the positivity can only show us how science functions in society in the form of knowledge. Knowledge is what "one can speak in a discursive practice" in the "field of coordination and subordination of statements" that one "may take up a position and speak of the subjects"; it is "defined by the possibilities of use and appropriation offered by discourse" (Foucault 2002, pp. 201-5). Although seemingly the subject has an important influence on the formation of knowledge, Foucault sees the subject as situated and dependent by proposing the "scientific classification" of creating human subjects. He is not trying to discover the truth about science by analysing the discursive formation.

What then is Foucault trying to reveal if not the scientific truth itself? The answer is to study the domain of knowledge by describing it as a set of relations of discourses, as well as to reveal the limitations to the ways of thinking through analysing discursive construction. Before Foucault, the conventional view was that the 19th-century doctor broke away from the 'fantasy' language and 'superstition' by finally coming to objective truth about the relationship between the body, the lesion, and the disease. However, Foucault ruthlessly points out that those 'fantasy' descriptions were at one time treated seriously as an objective account; he provides us with the critique that modern medical science is not converging on the objective truth as people have believed, it is instead a mere restructuring of discourses (Dreyfus and Rabinow 1982, pp. 12-3). Despite the criticism of the "autonomous discourse" (ibid., p. viii), the archaeological method also appears fruitful:

> Once we treat the language and practices of a discipline from another age as mere meaningless objects, we can gain access to a level of description which shows that what remains incomprehensible is not without its own systematic order… And once we see that the organization of medical knowledge in the Classical Age had a comprehensive formal structure, we can see that what we regard as the meaningful truth claims of modern medicine can likewise be treated as governed by similar arbitrary structures. (ibid., p. 13)

For a new clinical experience to be established as new knowledge, it needs a reorganisation of the hospital field, a new definition of the status of the patient, and a new relationship between public assistance and medical experience; all these elements are usually not recognised by the scientific domain, but all are non-dismissible in a discursive formation (Foucault 2003, p. 242). It is crucial to recognise the contribution of these elements because the knowledge formed is constantly epistemologised, and only by questioning knowledge

allows the reveal of the positivity at the time that acts as the governing rule of knowledge formation.

In short, clinical knowledge is not the equivalent of ahistorical scientific facts as often perceived; rather, it is circumstantial. Foucault unpacks this knowledge as a formation of discourses that is constructed by the time-related *episteme* and is subjected to changes. The application of the archaeological method allows for the distancing of the investigator from the superficial interpretation of the meaning of the language; it then becomes possible to perceive how discourses are organised into knowledge and admit the arbitrary structure of modern scientific knowledge (Dreyfus and Rabinow 1982, pp. 12-5). Furthermore, the analysis of doctor-patient relations as well as the influence of the French Revolution on Parisian hospitals reveals to us there exists a relationship between discursive formation and the power structure in social institutions. The transformation of the relationship between the doctor and the patient, the physician, and the surgeon, as a result of the changing questions also indicates a major power shift shaped by the *episteme* through a new discursive construction. Under the new *episteme*, the doctor becomes the authority who has the power to examine the patient's body disregarding social conventions, the surgeon becomes equally respected as the physician. The change of discourses has a profound social effect beyond linguistic practices. Although at this stage, Foucault had yet to formally investigate the concept of power in his early works, he soon realised this inadequacy and expanded on the concept in his later works on prisons and sexuality.

From Archaeology to Genealogy

The Foucauldian archaeology of history investigates discourses in the linguistic sense, featuring that language is not merely an instrument for self-expression but a system that determines the way of speaking. Thus, the archaeological approach does not rest on the primacy of the individual's consciousness to uncover the *episteme* that governs the formation of discourses at a given time. However, such a method concentrates too much on the language itself and neglects the effect of social practices on language (Dreyfus and Rabinow 1982, p. viii, 99, 102). The method is also constraining in the sense that it fails to explain the transition of thoughts and knowledge, or the cause of the transforming *episteme* (Gutting and Oksala 2022), which Foucault noted himself in *The Order of Things*:

> It seemed to me that it would not be prudent for the moment to force a solution I felt incapable, I admit, of offering: the traditional explanations – spirit of the time, technological or social changes, influences of various kinds – struck me for the most part as being more magical than effective. In this work, then, I left the problem of causes to one side; I chose instead to confine myself to describing the transformations themselves, thinking that this would be an indispensable step if, one day, a theory of scientific change and epistemological causality was to be constructed.
>
> (Foucault 2001, p. xiii-xiv)

Despite the archaeological method being capable of describing the conceptual system (the *episteme*) that determines a practice, it is unsuitable for accounting for the effect of that practice or explaining the changes from one system to another (Gutting 2005, p. 45).

Therefore, Foucault developed a new genealogical approach to history in his later works as a remedy for the deficiency, under the influence of Nietzsche's genealogy of

morals (Davidson 1997, p. 181; Sluga 2006, p. 210). There are differences between their analyses; Nietzsche operated with psychological causes, whereas Foucault focused on the history of the body. Nevertheless, their intent with this tool was similar; instead of believing in divine interventions or rational inevitability, both of them used the method of genealogy to account for contingency in terms of small causes that drove history. Adopting this new method was Foucault's attempt to justify the transforming *episteme* by avoiding vague and generalised explanations such as technology innovations or social influences (Gutting 2005, p. 47-9). Genealogical analysis revealed some of the crucial arguments of the Foucauldian philosophy; it suggested that the change of thoughts was not the product of thought and denied the system of thought being the product of "rationally inevitable trends". The analysis indicated that the changing process was not the product of human rationality but of historical contingency (ibid., p. 46; Davidson 1997, p. 230; Gutting and Oksala 2022). Contingency was referred to as many independent little causes that have a gradually wide range of social, political, and economic effects and form a new *episteme* (Gutting 2005, p. 50)

Whilst the genealogical approach shares similarities with the archaeology of history, the major difference is that the analysis is applied to social practices for the first time in addition to linguistic expressions. The Foucauldian genealogy is complementary to the former archaeology because the genealogy is adequate for causal explanations (Dreyfus & Rabinow 1982, p. 103; Davidson 1997, p. 93-4, p. 181; Gutting 2005, p. 45-6). As previously discussed, archaeology aims to establish the underlying time-sensitive *episteme* and does not claim to find a cross-cultural, ahistorical law governing discourses. Genealogy does not believe in "fixed essences" or "metaphysical finalities" either; it is devoted to recording the

“surface of events,” “small details,” and “subtle contours” to overthrow the “primacy of origins, of unchanging truth” (Dreyfus & Rabinow, p. 106, 108-9).

In his work, Foucault further introduces his revolutionary concept of power as intimately tied to the concept of knowledge. The genealogical approach breaks away from the ‘illusion of autonomous discourse’ and thematises the concept of power:

> But what was lacking here (Foucault’s early works) was this problem of the 'discursive regime', of the effects of power peculiar to the play of statements. I confused this too much with systematicity, theoretical form, or something like a paradigm.
>
> (Foucault 1980, p. 113)

He suggests that there are social forces beyond language that can change the thoughts of individuals, and that power in the form of knowledge transforms the *episteme*; due to this reason, knowledge cannot possibly be the objective truth considering it is an apparatus of power. Furthermore, this form of power that drives history operates most explicitly on the human body. (Gutting 2005, p. 47, 50, 52). This approach establishes Foucault’s philosophical stand as a poststructuralist by denying the obtainability of the metaphysical truth; this is not to deny the existence of objective truth but to say that the objective truth is, according to the Foucauldian philosophy, inconceivable (Jary and Jary 2005, p. 479).

Power, Knowledge, and the Body

Foucault’s first genealogical study *Discipline and Punish: The Birth of the Prison* (1975) provides a detailed account of the changes in Western penal systems; it is his first attempt at analysing a modern form of power that operates on the human body from which the punishment derives its bases (Foucault 1991, p. 23). The long-standing tradition of

torturing as a public spectacle was replaced by a modern non-spectacle, painless execution as well as a series of constraints to preserve the order. Punishment became less physically cruel but hidden and pervasive; its effectiveness was not generated from its visibility but from its inevitability (ibid., pp. 7-16). According to Foucault, such transformation allows the penal system to no longer address the superficial aspect of the "body," but the more hidden "soul" (ibid., p. 16):

> Rather than seeing this soul as the reactivated remnants of an ideology, one would see it as the present correlative of a certain technology of power over the body. It would be wrong to say that the soul is an illusion, or an ideological effect. On the contrary, it exists, it has a reality, it is produced permanently around, on, within the body by the functioning of a power that is exercised on those punished… This is the historical reality of this soul, which, unlike the soul represented by Christian theology, is not born in sin and subject to punishment, but is born rather out of methods of punishment, supervision and constraint. This real, non-corporal soul is not a substance; it is the element in which are articulated the effects of a certain type of power and the reference of a certain type of knowledge, the machinery by which the power relations give rise to a possible corpus of knowledge, and knowledge extends and reinforces the effects of this power… A 'soul' inhabits him and bring him to existence, which is itself a factor in the mastery that power exercises over the body. The soul is the effect of the instrument of a political anatomy; the soul is the prison of the body.
>
> (Foucault 1991, p. 29)

In this context, the 'soul' is much more than an abstract religious concept. It is the immaterial aspect of a person encompassing the way of thinking – "psyche, subjectivity, personality, consciousness, etc.; on it have been built scientific techniques and discourses,

and the moral claims of humanism" (ibid.) – in contrast to the material aspect of a body. He argues that the 'soul' is not the representation of personal ideology by any means, because the knowledge that people possess is the result of a form of power exerted on individuals. Meanwhile, these thoughts determine the actions of human bodies, hence the soul is considered the 'prison' of the body as it manipulates the behaviours. In general, this form of power is gentler, subtler, and more pervasive than the corporal punishments of the old penal system; it achieves the aim of control by altering the psychological attitude of the subject to control its bodily behaviour. The subject to punishment is no longer the crime itself but the criminals, the human bodies (ibid., p. 138).

This form of power expands to the series of social institutions that constitute what Foucault named the "carceral archipelago" – the modern system of disciplinary power – that goes beyond the penal system (Foucault 1991 p. 297). Institutions such as schools, hospitals, and factories are all a part of the "carceral archipelago" system because they adopt a similar control technique in which the power shapes the thoughts and has a direct influence on constraining the actions.

> [I]n every society, the body was in the grip of very strict powers, which imposed on its constraints, prohibitions or obligations… These methods, which made possible the meticulous control of the operations of the body, which assured the constant subjection of its forces and imposed upon them a relation of docility-utility, might be called 'disciplines'. (ibid., pp. 136-7)

The notion of "docility" describes the manipulability of the body that can be "subjected, used, transformed and improved" under forces (ibid., p. 136). For example, military training is a series of detailed instructions given to scrutinise specific parts of the body, so that the

body can operate 'correctly' in the sense of being useful given the context; this process of making an eligible soldier is considered the creation of a docile body under the disciplinary power. A medical student needs to pass various examinations and practical trials to become a doctor that fits the social convention; in this way, the docile body will then become a member of a health institution and benefit society by seeing patients.

According to Foucault, the docile body is produced by three primary techniques of control – hierarchical observation, normalizing judgement, and examination. Hierarchical observation is the technique that induces power by making the target clearly visible, thus the target becomes easier to manipulate (Foucault 1991, pp. 170-3); examples would be the surveillance in prisons and Jeremy Bentham's panopticon.[8] Normalizing judgement operates by specifying actions according to general categories, formulating binary opposition of the permitted and the forbidden, and dividing by the power of norm; such as, in many cultures, it is normal for women to wear dresses but not for men (ibid., pp. 183-4). The examination is a highly ritualised normalising gaze, combining the previous two categories, in order to classify, qualify, or punish individuals. This technique is the prime embodiment of disciplinary power because the process normalises certain knowledge as the standard; those who obey will be awarded and those who fail to comply will be punished, achieving the aim of controlling individuals and producing docile bodies (ibid., p. 184; Gutting 2005, p. 84-5). These techniques are deeply connected to one of the modes of objectification – 'dividing

[8] Jeremy Bentham's panopticon is a design of a prison that allows the prison guard to become the 'god'. The design enables all prisoners to be observed from centre of the building; despite the prison guard cannot physically watch every single cell in the prison, the prisoners not knowing whether they are watched compels them to self-regulate. More information available in *Panopticon Writings (Wo Es War)* (1995) by Jeremy Bentham, edited by Miran Bozovic.

practices' – which produces the subject through social divisions; the good and bad, the qualified and unqualified, the successful and unsuccessful.

In comparison to Foucault's earlier works, *Discipline and Punish* (1975) bestows an effect on discursively constructed knowledge as being able to generate a consequence such as transforming the *episteme*; from now on, power and knowledge are two sides of the same coin. The disciplinary power primarily affects the operation of the body, and this modern social control is apparent in the form of knowledge:

> [T]here is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations.
>
> (Foucault 1991, p. 27)

However, this conclusion does not suggest power to be repressive in the conventional sense that it limits thoughts and actions. Instead, it is precisely this power that forms the social structure and gives individuals their identity in society; thus, power is productive. The making of 'docile bodies' through disciplinary power not only allows individuals to be a useful part of society, but it also bestows them their identities as teachers, soldiers, and doctors (ibid., p. 163). This knowledge is produced neither by the subject who knows, nor the objects that are known; this means that it is not the subject of knowledge who produces a corpus of knowledge, but a power-knowledge relation that gives rise to this corpus of knowledge, determining its forms and domains (ibid., pp. 27-8). The argument further indicates that power cannot be held by individuals; power is pervasive and penetrates every corner of society. Such a dispersive understanding of power shares the same logic as *The Archaeology of Knowledge* (1969), in which Foucault asserts that individuals do not possess the statements they made, instead the statements define the subject position based on the

episteme. The overarching power structure is the equivalent of the *episteme* in the sense that they both determine what can and cannot be said or done and they are both relative to the time. The difference is that the power structure considers knowledge not just as a discursive construction but also as the equivalent of power – "power and knowledge directly imply one another" (Foucault 1991, p. 27) – which can have an effect on the minds and bodies as well as the transition of the structure.

L'Histoire de la Sexualité 1: La Volonté de Savoir (The History of Sexuality Vol. 1: The Will to Knowledge) (1976) expands on the theory of modern disciplinary control of social institutions and argues that this power-knowledge relation is also applicable to the modern knowledge of sexuality – the "science of sexuality" (Foucault 1990, p. 13); the human body is now subjugated by being turned into the object of scientific knowledge. Foucault argues against the repressive hypothesis – the view that the truth is opposing the power and therefore is liberating; such a view only sees the power as "constraint, negativity, and coercion" (Dreyfus & Rabinow 1982, p. 127, 129). The Foucauldian concept of power is always productive rather than repressive because of its ability to make docile bodies that benefit society. In this book, the new term 'bio-power' is used referring to this form of power acting on the body, manipulating the action as well as objectifying human beings (ibid., p. 134-5). Unlike *Discipline and Punish* (1975) in which he describes how people were objectified through 'dividing practices', *The History of Sexuality Vol. 1* (1976) discusses the process of self-formation – the mode of 'subjectification' – through the power of knowledge.

More specifically, Foucault considers the discourse of sexuality under the Victorian regime as 'silenced' in the sense that there was a set of sex-specific discourses restricting

the way people talked about sex according to the *episteme*, the complex power relation at the time (Foucault 1990, p. 3):

> It may well be true that adults and children themselves were deprived of a certain way of speaking about sex, a mode that was disallowed as being too direct, crude, or coarse. But this was only the counterpart of other discourses, and perhaps the condition necessary in order for them to function, discourses that were interlocking, hierarchized, and all highly articulated around a cluster of power relations. (ibid., p. 30)

Despite the discourse of modern sexuality after the Victorian regime being more liberated compared to the Victorian, sexuality became a "medical and medicalizable object" and was constrained by the knowledge of scientific disciplines (ibid., p. 44). People no longer confess to priests about their sexual desire, they went to doctors, psychiatrists, or therapists who were considered the authorities of sexual sciences to solve their sex-related problems instead (Gutting 2005, pp. 93-4). What remained unchanged was that in both periods, the sexual nature, or the norm of sex, was defined by authoritative figures representing different institutions at the time – a priest representing the church, or a doctor representing the hospital. This is to suggest that complex power relations were involved in the discursive formation around the concept of sexuality, and the knowledge formed under different *epistemes* was shaping the way people speak about sex as well as behaviours. Although there is a distinction between sexuality as a biological reality and as a social construction, Foucault argues that such a distinction begins to breakdown during the formation of modern knowledge of sexuality under bio-power; the knowledge of the biological reality was still a social construction and should not be considered as the objective truth (ibid., p. 94). As previously discussed, Foucault was not interested in discovering the scientific truth itself; rather, he was fascinated by how human beings spoke the way they spoke and acted

the way they acted by determining the underlying structure, the shifting *episteme*, the power relation that governs the thoughts and behaviours through the social construct of knowledge. The introduction of 'bio-power' further indicates that knowledge can be used as a form of control, and therefore cannot be seen as the equivalent of metaphysical facts.

Meanwhile, such an analysis of sexuality is linked to the central theme of Foucault's studies – the making of the subject. The mode of 'subjectification' suggests that sexuality is a concept constructed by a cluster of discourses that varies from time to time, hence the differences between the Victorian and modern eras for example. Human beings are always affected by this construction and become self-scrutinised under the lens of sexuality by identifying what is ethical and what is inappropriate; this is how human subjects are created. In both of his genealogical works, Foucault conceptualises the body as an essential vessel for the operating of power relations in modern society (Dreyfus & Rabinow 1982, p. 112). In comparison to his earlier works which concern knowledge as discursive practices in relation to the *episteme*, the later books expand the original analytical framework to the inclusion of the concept of power. Nonetheless, discourse still plays a significant role because it produces the objects, including the physical ones, in the form of knowledge; an object does not have any meaning outside of discourse, and it is also in discourse that power and knowledge are joined together (Foucault 1990, p. 100; Hall 1997, pp. 44-5). Discourse to Foucault is often conceived as a series of discontinuous segments that are ununiformed and unstable:

> [W]e must not imagine a world of discourse divided between accepted discourse and excluded discourse, or between the dominant discourse and the dominated one; but as a multiplicity of discursive elements that can come into play in various strategies.

(Foucault 1990, p. 100)

In other words, there is not a metaphysical division of acceptable and unacceptable discourses, there is only what is considered acceptable under certain contexts. Similarly, examining the knowledge is not the same as discovering the truth; instead, it is to define the regularity from a system of dispersion knowing that the positivity is subjected to changes. To investigate the power structure is to analyse why certain discourses were allowed and others were concealed; the analysis intends to reflect the social rather than the metaphysical.

Summary

This chapter discussed aspects of the Foucauldian philosophy, particularly focused on the connection between the subject, discourse, knowledge, and power. The chapter started by introducing the recurring theme of Foucault's work is that "human beings are made subjects" (Foucault 1982, p. 208; Foucault 1994, p. 327). Despite his work covering a range of topics, the analysis focused on one thing in common, that being how individuals were made into subjects who thought the way they thought and acted the way they acted.

After a brief discussion of the early structuralist influence, the chapter identified the concept of *episteme* and elaborated on how it was used in *Birth of the Clinic* (1963) to transform the disease from invisible to visible to the human eyes. Foucault interpreted clinical knowledge as a specific discursive formation at a given period determined by positivity, which was subjected to changes. It then raised suspicion towards the credibility of our current scientific knowledge – in the future, would it look just as barbaric as how the knowledge was conceived in the 18th century? Those descriptions using the 'language of

fantasy' were once treated seriously as objective accounts. Foucault advised to never consider this kind of discursive formation as a science, as a scientific discipline or anything that science would be in the future. Even though objective truth does exist, it is inconceivable at least via the archaeological method. Despite criticisms of autonomous discourse, the archaeology method allows us to distance ourselves from the language to reveal how discourses are organised into knowledge and admit the arbitrary structure of modern scientific knowledge.

The chapter then explained the transformation from archaeology to genealogy. Genealogy is not completely divergent from the original archaeological method, but genealogy extends to the analysis of social practices in addition to pure linguistic expressions. It accounts for the contingent small causes that transform the *episteme* instead of believing in divine intervention or rational inevitability. This further strengthens the critique that modern medical science is potentially not converging on the objective truth as we believed. This knowledge is able to determine the boundary of thoughts and objectify the human body under scientific classification. Similarly, the analysis of the Western penal system in *Discipline and Punish* (1975) suggests that modern punishment is no longer concentrated on the superficial aspect of the body; it is now addressing the psychological aspect of an individual. Although the cruelty of punishment is reduced, this form of control is more pervasive as the mind determines the behaviours.

This argument is then expanded to other social institutions that use this disciplinary power to create 'docile bodies' that are useful to society through hierarchical observations, normalising judgements, and examinations. In this sense, human beings are made into subjects through dividing practices: individuals are labelled either as useful or useless, good,

or criminal, and that part of the label becomes their identity. Foucault introduces a new relation between knowledge and power – power gives rise to a corpus of knowledge and knowledge reinforces the power. Power produces the subjects of knowledge; hence it is productive rather than repressive. In *The History of Sexuality Vol. 1* (1976), this power-knowledge relation is applied to the knowledge of sexuality; it illustrates how self-formation happens through subjectification in which individuals become self-scrutinising subjects according to the social and ethical norm under bio-power – the power that exerts on the human body, a more distinctive term than disciplinary power. Although there is a difference between sexuality being a biological reality and a social construction, Foucault argues that it is only the knowledge produced that is perceivable; to examine the formation of knowledge is not to discover the objective truth, but to uncover what has been limiting the thoughts and actions of human beings and knowing that it is subjected to changes.

As was pointed out, this chapter contributed to building a theoretical framework for the thesis by showing how scientific knowledge should not be considered to be the equivalent of the objective truth itself despite its seemingly impartial quality. As Foucault argued, all knowledge was the product of *episteme*, but *episteme* was always subjected to changes; one *episteme* is specific to one particular time and space. This is to argue that knowledge is contextual and does not possess any universal quality. For example, it is unthinkable to swap the two different questions asked by doctors from two historical periods; features such as the way discourses were organised and the power relation between the doctor and the patient were significantly distant, thus the questions would not make sense under each other's context. Presumably, multiple *epistemes* exist at the same time because there is always conflicting knowledge such as the Western medical science versus traditional Chinese medicine which is still being practised today; despite they both

concern the well-being of humankind, they must be the result of distinctive power relations involving different contingent causes that affected the discursive formation of the subject. Therefore, it is reasonable to view knowledge as a social construction that implicitly carries shared values within a particular social group; it is circumstantial rather than universal and certainly not free from subjective values. Sharing scientific knowledge between social groups should not be seen as sharing the objective truth.

Additionally, the notion that power and knowledge are two sides of the same coin brings up the possibility that sharing knowledge involves exercising power. As previously discussed, *Orientalism* (1978) by Edward Said is one of the prime examples of the application of this power-knowledge association; writers from the West such as Cromer and Balfour producing academic and practical knowledge about Egypt was a form of domination of the Orient by the Occident (Said 2019, pp. 31-49); accepting the produced knowledge was to accept the domination of the West and the subjugation of the East. Having this relation indicates that when knowledge is shared between two social groups, they are also sharing their distinctive social values that were fortified by their unique power relation without prior acknowledgement; such an act may cause an underlying power struggle, create an unequal relationship, and have a negative effect to the collaboration outcome. Any global collaboration with the aim of sharing knowledge, not for personal gains but for the greater good, should consider under what social context the knowledge was produced. Knowing that knowledge is subjective and that it shapes the thoughts of individuals, participants must liberate themselves from the society that constructed them as much as possible, not only to avoid a patronising attitude but also to make the collaboration more effective and benefit the people in need. As Foucault points out:

> The conclusion would be that the political, ethical, social, philosophical problem of our days is not to try to liberate the individual from the state, and from the state's institutions, but to liberate us both from the state and from the type of individualization which is linked to the state. We have to promote new forms of subjectivity through the refusal of this kind of individuality which has been imposed on us for several centuries.
>
> (Foucault 1982, p.216)

Yet, the Foucauldian philosophy denies the agency of individuals as he claimed that they were the product of the *episteme* and the power relation; it left no space for the transformation of the self. The thesis will introduce the concept of liberal ironism in a later chapter to break free from this constraint. Before that, the next chapter will build on top of the discussion of this chapter by looking into the social factors that contribute to the construction of scientific knowledge through the book *Laboratory Life: The Social Construction of Scientific Facts* (1979), in which Latour and Woolgar describe the running of a well-established laboratory and dissect the process into contingent little causes that eventually lead up to the so-called 'scientific discovery'.

Chapter 3 The Construction of Scientific Knowledge from the Perspective of *Laboratory Life* (1979)

The last chapter discussed some aspects of the Foucauldian philosophy that knowledge is a discursive formation that is subjected to changes and that it can also be used as a form of power. Therefore, the concept of knowledge should not be considered the equivalent of the objective truth nor the representation of it, because of its feature being contextual and circumstantial formed under historical contingency. To explore further the quality of scientific knowledge – seemingly rational and objective but inevitably a human construction – this chapter focuses on the discussion of the book *Laboratory Life: The Construction of Scientific Facts* (1979) by Bruno Latour and Steve Woolgar. The book serves as a perfect case study demonstrating how scientific facts were produced and constructed in factory-like laboratories; it argues for the anti-dichotomy that the social realm cannot exist on one side and the scientific realm on the other.

This chapter further constructs the theoretical framework for the thesis on top of the last chapter by showing why scientific knowledge should be treated as a product rather than the objective truth. Foucault examines the philosophical and theoretical construction of knowledge by looking back into historical periods and investigating the discursive formation of various times. In contrast, *Laboratory Life* (1979) does not engage with many historical readings. Instead, it is a paradigmatic study of the 'contemporary' in the sense that it documents a case study of a particular well-established laboratory in the scientific realm at the time; the book was written straight after the observation period ended. Contrasting with Foucault's elegant yet abstract analysis of the *episteme*, *Laboratory Life*

(1979) provides a pragmatic and detailed analysis of practices. Both analyses are well-established frameworks enquiring into the ways knowledge was organised and produced.

Additionally, the book gives voices to the smaller 'hidden' things that constituted the final outcome of the laboratory; yet these small causes could not lead to the larger impact if any of the elements went missing during the process. Similarly, the accumulation of many small causes in Latour and Woolgar's life eventually made the study possible; each of the causes could be associated with the effort leading up to the publication of the book. Following a discussion of what inspired Latour to collaborate with Woolgar for the book, this chapter explains the investigation method adopted by the authors and concentrates on answering two main questions through the case study presented in the book: what social factors were involved in the production of scientific facts, and how these factors, as well as uncertainties, vanished when those facts were established. By using the term 'fact', the authors do not suggest a metaphysical quality to certain statements; rather, the term is used to refer to statements that have lost all temporal qualities and incorporated into a large body of knowledge that is referred to by many (Latour and Woolgar 1986, p. 105). In other words, 'fact' under this context is interchangeable with the concept of 'knowledge'. The finding complements the genealogy approach to history by accounting for the contingency in terms of small causes that have driven the results.

Even though the book was written more than 40 years ago, the debate it generated has not lost its relevance today. It is worth clarifying that asserting scientific knowledge is constructed is not to absurdly deform the fruitful products of scientists just for the sake of being critical, but to challenge the common misconception that scientific knowledge equals the metaphysical truth about the universe; or in Latour's words, to "*emancipate* the public

from prematurely naturalized objectified facts" (Latour 2004, p. 227) and to facilitate knowledge sharing. However, this powerful deconstruction tool is a double-edged sword that can become harmful when it is used to undermine the fruit of science. Therefore, Latour suggests that it should be used to add reality rather than subtract. With the help of the Foucauldian philosophy discussed in the last chapter, this tool is capable of accounting for various truth claims produced by presumably the same science, particularly in the case of face coverings under the context of COVID-19 which is going to be discussed in upcoming chapters.

The Inspiration

To fully understand the scope of Latour's thinking, it is worth revisiting the genesis of his intellectual project. Bruno Latour was born in a family of winemakers in Beaune in Burgundy; in other words, he did not come from an academic background. Latour being an initially 'outsider' to the academic world potentially prompted him to take an unconventional approach to science. Majoring in philosophy at the University of Tours, Latour focused on exegesis in his early study and completed his PhD thesis entitled *Exegesis and Ontology, with Reference to the Resurrection* (Schmidgen 2015, pp. 11-13). [9] He was influenced by the exegesis studies of Charles Péguy which reveal that the nature of inscription is not merely a matter of pen and paper, but an embedded space where encounters between people and things take place (Schmidgen 2012; Schmidgen 2015, p.

[9] According to Chandler and Munday (2011), exegesis is often understood as the study of critical interpretation or explanation of a text; it was traditionally used to analyse religious text. The modern usage of exegesis has expanded its analysing horizon to other genres of literature or writings, encompassing virtually any text.

15). A similar idea is later presented in *Laboratory Life* (1979) that the laboratory activities are all aiming to produce inscriptions as the final outcome.

Despite his initial academic training in philosophy, Latour developed an interest in anthropology during his military service in Côte d'Ivoire after receiving his doctorate. With this opportunity, he undertook research and fieldwork for the French institution ORSTOM (Office of Scientific and Technical Research Overseas). The study focused on the French industrial education used in Abidjan, a part of the investigation was to find out why it was difficult for Black executives to adapt a modern industrial life. Even though multiple pieces of literature on African philosophy and comparative anthropology existed at the time, Latour offered a unique take on the question: instead of attributing the problem to the African "mind," things could be explained easily through social factors. The African students from technical schools were thought to be "unable to see in three dimensions" through technical drawings; however, it turned out that this "deficiency" was caused by the teaching system introducing engineering drawing before the students had a chance to experience practical work on engines in person. The cognitive explanation of the "deficiency" that was favoured in the past became rather "far-fetched" in comparison to the simpler and more evident explanation through social factors (Latour and Woolgar 1986, pp. 273-4; Greshon 2010, p. 161-2; Leitch *et al*. 2018, p. 2112). This experience paved the way for Latour's later anthropological approach to a scientific laboratory.

After completing his military service, Latour found a research opportunity at the Salk Institute. Salk Institute was a place for a broad range of scientific research concerning the health of human beings; the director at the time Jonas Salk spoke of his institute as a

curious place in the process of 'creation'.[10] Roger Guillemin, who was a well-established scientist at the time as well as a member of the Institute for many years, invited Latour to join his laboratory as an observer; Guillemin supported the idea of conducting an epistemological study of his laboratory (Latour and Woolgar 1986, p. 274). This was because Salk Institute promoted the value of building bridges of science with the fields of literature, philosophy, linguistics, and social studies; besides Guillemin's main scientific research, he also pursued a "precise historical account" of the isolation and identification of substances in his laboratory (Schmidgen 2015, p. 27, 29, 32-3).

At the time, reports concerning the experience of laboratory visits had already existed. According to Rocke (2001), chemist Charles Adolphe Wurtz travelled around multiple German-speaking countries since the 1860s to study their existing physiology and chemistry laboratories; Wurtz reported back the findings to the French government and scientific circle in terms of architecture, technical equipment, and organisation. Similarly, American nutritionist Francis Gano Benedict paid a lengthy visit to laboratories in Europe from 1910 to 1930 and collected extensive information with the purpose of optimising his own (Schmidgen 2015, p. 30). However, these accounts were done by actual scientists whose aim was to compare unfamiliar scientific knowledge to their own. It was not until the 1960s that actions and behaviours in laboratories were investigated. Practising psychoanalyst Georges Devereux's book *From Anxiety to Method in the Behavioural Sciences* (1967) takes an anthropological view on scientific matters (Schmidgen 2015, p. 31); the

[10] The main area of research of Salk Institute includes aging, cancer, computational biology, genetics, immunology, infectious disease, metabolism, neuroscience, plant biology, protein interactions, and regeneration. More information can be found at https://www.salk.edu/science/research/. Jonas Salk spoke of his institute as follow: "[t]he Salk Institute is a curious place, not easily understood, and the reason for it is that this is a place in the process of creation. It is being created and is engaged in studies of creation. We cannot be certain what will happen here, but we can be certain it will contribute to the welfare and understanding of man." Please see https://www.salk.edu/about/history-of-salk/.

whole section of 'Part III' focuses on the discussion of "the scientist and his science" and expands the investigation from mere practices to practices and the practitioners. To Devereux (1967), any experiments, psychoanalysis, or even field trips revealed more about the investigators than anything else. Although objectivity in behavioural science research theoretically can be achieved when the investigator becomes objective, it was too much of a utopian view (Devereux 1967; Spiro 1969, pp. 95-7). The lens of investigation began to move away from scientific knowledge and refocused on the scientists and the process of the emergence of new knowledge. Other studies of a similar principle include the work of Thomas Kuhn (1962), Michel de Certeau (1971), Georges Thill (1973), Jean-François Lyotard (1979), and Karin Knorr-Cetina (1981) (Schmidgen 2015, pp. 30-35). According to Pinch (1984, p. 130), the field of sociology of science was very fruitful from the mid-seventies to the mid-eighties in terms of empirical studies suggesting scientific knowledge as a social construction. However, Latour claimed he was completely unaware of those social studies of science due to the language barrier and the lack of knowledge in the scientific discipline at the time; yet it was precisely these reasons that enabled Latour to be in the position of an "ethnographer sent to a completely foreign environment" (Latour and Woolgar 1986, p. 273).

During his time at the Salk Institute, Latour encountered an Italian semiotician Paolo Fabbri who was a visiting scholar attending social gatherings at the institute from time to time. They collaboratively produced an essay titled *La rhétorique de la science: pouvoir et devoir dans un article de science exacte* (1977).[11] The essay focuses heavily on the "deeply textual nature of science," and it encourages the analysis of scientific texts as they were

[11] English translation: *The Rhetoric of Science: Authority and Duty in an Article from the Exact Sciences* (2000).

written; scientific literature is still a part of literature in general, therefore researchers need not feel intimidated by the "apparent impenetrability" of scientific texts (Latour and Fabbri 2000, p. 115-6, 130). Some ideas from *La rhétorique* (1977) are also presented and further discussed in *Laboratory Life* (1979). For example, the essay suggests that the main product of a laboratory constitutes primarily of written articles by researchers with PhD degrees; it also mentions informal communications and knowledge exchanges are valuable sources for analysis, the citation system is capable of transmitting the information through articles, different forms of assertions, as well as the agonistic nature of science (Latour and Fabbri 2000, p. 116, 118-124). However, Guillemin was not amused after reading the collaborative article. He criticised their text fetishism approach for ignoring the factor that nature was an important underlying factor that could not just simply be ignored, and the contents of experiments were also omitted in the analysis (Latour and Fabbri 2000, p. 131-2).[12] Indeed, the report was far from the historical and epistemological account of science that Guillemin initially hoped for; instead, Latour and Fabbri challenged the very root of the modern scientific paradigm that science was the discovery of nature. *La rhétorique* (1977) and *Laboratory Life* (1979) share the same analytical material that being the group of scientists and the products from Guillemin's laboratory; nevertheless, the two differ not only in the obvious aspects of format and length but also in the investigation methods. Latour and Fabbri limited their scope of analysis to the language as the name of the article indicated; it was due to Fabbri's proficiency in semiotics that this research took its shape. In comparison,

[12] The criticisms are presented at the end of the English translation of the article. Although Guillemin's name was not mentioned as the critique, but Schmidgen (2015, p. 39) confirmed that those comments are made by the famous neuroendocrinologist.

Laboratory Life (1979) extends its scope beyond pure textural analysis in order to paint a more comprehensive picture of what was actually happening in Guillemin's laboratory.

Latour spent about two years observing the activities in Guillemin's laboratory (Latour 2020). During his stay, he participated in the first annual meeting of the Society for Social Studies of Science (4S) where he met the British sociologist Steve Woolgar for the first time; they both presented on the topic of scientific discourse analysis (Schmidgen 2015, pp. 41). At the time, Woolgar already published two collaborative papers regarding the study of science. His first paper was a review co-authored with G. N. Gilbert, titled *The Quantitative Study of Science: An Examination of the Literature* (1974). The review discusses available studies at the time that identified patterns for scientific growth through the method of quantitative analysis; the review assesses the knowledge contribution in terms of deepening the understanding of the social processes involved in the growth of science (ibid.). Woolgar's second published paper *Problem Areas and Research Networks in Science* (1975), co-authored with M. J. Mulkay and G. N. Gilbert, discusses the concept of scientific research networks. The paper argues that even though the focus of each researcher is distinctive from others, the researcher is part of a wider community; in this community, all researchers make use of the progress made by others as well as showcasing their results to those who are interested (ibid.). On top of the two co-authored papers exploring the social aspect of science, Woolgar's presentation at the 4S also discussed a related topic – the problems and possibilities of sociological analyses of scientific accounts (Schmidgen 2015, pp. 41).

After the departure of Latour from the Salk Institute in 1977, he met Woolgar again in the same year. Latour became an active member of an interdisciplinary humanities and social sciences research institute named Fondation Maison des Sciences de l'Homme

(FSMH); the institute was linked to a project named PAREX with the intention to promote collaboration in the emerging field of sociology of science, and Woolgar was one of the younger participants of PAREX's meetings (Schmidgen 2015, pp. 40-1). Despite that none of Woolgar's research at the time concerned any empirical study of science nor the objectivity of scientific knowledge, Latour was able to interpret his experience at the laboratory more systematically going beyond the linguistic aspect with the sociological knowledge brought by Woolgar. In other words, the genesis of *Laboratory Life* (1979) involves a complex series of little causes such as the academic backgrounds and previous research experience of both authors; if anything changed in the past, the chances are that the book would not exist, that it would be a different repository of discourses according to the Foucauldian philosophy.

The Purpose of Anthropologists in the Laboratory

In *Laboratory Life* (1979), the authors attempted to bridge the gap of understanding between the scientific realm and the eyes of the general public; as John Salk points out in the Preface:

> One of their main points is that the social world cannot exist on one side and the scientific world on the other because the scientific realm is merely the end result of many other operations that are in the social realm. 'Human affairs' are not different from what the authors call 'scientific production', and the chief accomplishment they claim is to reveal the way in which 'human aspects' are excluded from the final stages of 'fact production'.
>
> (Salk 1986, p. 13)

The book dissects the objective quality of scientific knowledge; even though scientific knowledge was portrayed as a purely objective being since the Age of Enlightenment, Latour

and Woolgar argue that it is shaped under the influence of various social and material factors. It took the effort of multiple people collaborating to make a so-called scientific discovery. Activities in the laboratory were unfree from human and social factors, such as operating apparatus, documenting figures, communicating opinions, and discarding unwanted information; these activities were all essential for the 'discovery' to happen. Once the finding was made public and stood still after the scrutiny of specialists, all traces of social activities were hidden away from the eyes of the public; only the technical side of the knowledge, the presumable rule of nature, and the rationality remained conceivable. The finding was usually accompanied by an anecdote of what led the major scientist to the 'discovery', who naturally took most of the credit and became well-established. In the words of the authors:

> Although our knowledge of the external effects and reception of science has increased, our understanding of the complex activities which constitute the internal workings of scientific activity remains undeveloped… In addition, many of these approaches have too often accepted the products of science and taken them for granted in their subsequent analysis, rather than attempting to account for their initial production.
>
> (Latour and Woolgar 1986, p. 17-8)

To bridge the gap between the scientific and the social, Latour and Woolgar took on the roles of two anthropologists who had no prior knowledge of Guillemin's laboratory. They adopted an ethnographic approach and portrayed the laboratory as a place with a particular 'culture' and 'mythology'. The concept of culture is generally used to refer to human creations, the usage of symbols and artefacts, and the things that constitute the way of life in a particular society, including but not limited to "codes of manners, dress, language, rituals, norms of behaviour and systems of belief" (Jary and Jary 2005, p. 131).

The book defines the term 'culture' as "the set of arguments and beliefs to which there is a constant appeal in daily life and which is the object of all passions, fears, and respect" (Latour and Woolgar 1986, p. 55). By suggesting the laboratory has a culture, the authors are claiming that all laboratories are not merely simple replicas of the others. This claim further alludes to the point that laboratory science is a socially located phenomenon, and knowledge as a product only occurs in a specific context under the influence of social factors such as cultural values, the interests of the discipline and individual scientists (ibid., p. 540).

The term 'mythology' was used to identify the field of 'neuroendocrinology' – the result of a hybridisation between neurology and endocrinology in the 1940s. Such assimilation may seem rather bizarre as the term 'mythology' is ordinarily associated with religious or sacred tales that concern "the origins or creation of the world, gods, a particular people or society" (Jary and Jary 2005, p. 405); things that are far from the definition of modern science. Latour and Woolgar claim that they have no intention of questioning logic nor undermining the validity of scientific knowledge produced inside the laboratory; they adopt the definition of the term from *Mythologies* (1957) by Roland Barthes as "a broad frame of reference within which can be situated the activities and practices of a particular culture" (Latour and Woolgar 1986, p. 54). The authors argue that this new discipline at the time had all the attributes of mythology such as the "precursors," the "mythical founders," and "revolutions" (Meites, Donovan, and McCann 1975; Latour and Woolgar 1986, p. 54). The origin of neuroendocrinology can be traced back to 200AD with Galenus, but it was not until after WWII that the field took its shape.[13] The previously fragmented ideas were

[13] For more information about the history of neuroendocrinology please see 'Chapter 23: History of neuroendocrinology: "the spring of primitive existence"' by Felix Kreier and Dick Swaab in *Handbook of Clinical Neurology* issue 95 (2009).

gathered and suddenly started to make sense; but before this stage, the idea of neuroendocrinology was like a myth. In the words of the authors, "[a]s in many mythological versions of the scientific past, the struggle is now formulated in terms of a fight between abstract entities such as models and ideas" (Latour and Woolgar 1986, p. 54).

From the perspective of anthropologists entering an unfamiliar culture, the authors noticed that once they were introduced and settled in the laboratory, they were no longer told about neuroendocrinology after the first few days; the daily activities of members in this culture rarely mentioned the term. The over-arching mythology was then taken for granted and became noncontroversial, despite the field of neuroendocrinology was only formally established within the past one hundred years; its historical trail, its development and the uncertainly accompanied by the field were all conveniently concealed among the daily activities in the laboratory. Neuroendocrinology was the general mythology that provided scientists from Guillemin's laboratory the "tenet" that they could share with other neuroendocrinologists from other cultural groups. Their activities were culturally specific and organised around the study of one material named "hypothalamus," which they believed to be a "releasing factor" (Latour and Woolgar 1986, p. 56).

To provide a systematically ordered account of their observations, the anthropologists chose literary inscriptions as the principle of organisation. The notion of an inscription is defined in the book as "an operation more basic than writing" that summarises "all traces, spots, points, histograms, recorded numbers, spectra, peals, and so on" (Latour and Woolgar 1986, p. 88); it is all-encompassing of everything in this particular culture that left a literary trace. The configuration of the laboratory was divided into different sections such as the office, the library, and the bench; these sections were equipped with different

apparatuses, books, and even animals, respectively. Each section had a distinctive purpose where only specific actions were allowed. There were deeply puzzling activities performed in the laboratory from an outsider's perspective, such as injecting animals with syringes full of liquids or grinding the brains of rats. Furthermore, the devices were equally difficult to comprehend, like expensive machines taking in substances and producing graphs of some sort. Regardless of how obscene some activities came across, it was possible to make sense of those activities within this culture according to a quite simple principle, which is to obtain inscriptions (ibid., pp. 45-53). Using this feature as a way of organising observations provided the anthropologists with the ability to understand those peculiar activities without relying heavily on the accounts of scientists who inhabited the laboratory.

Additionally, Latour and Woolgar studied several types of statements and their transformation in terms of facticity as a part of the investigation; they realised that statements went through stages of change within the laboratory. Even though the scientists claimed that the laboratory activities were concerned only with 'hard facts', they failed to account for all behind-the-scenes procedures once the result was produced (Latour and Woolgar 1986, p. 70, 76-9). Subsequently, the source of "subjectivity" magically disappeared, and an "object" was created through the "superimposition" of statements; these statements now possessed qualities beyond any subjectivity (ibid., p. 84). The laboratory was a place where the participants constantly performed operations on statements, and the activities were organised with the purpose of persuasion (ibid., p. 86,

88); exchanging discourses is certainly a social behaviour. By focusing on literary inscriptions, the book shows influence from Latour's previous study of exegesis.[14]

Latour and Woolgar specify that having literary inscription as the principle of organisation is not to undermine the importance of the material aspect of the laboratory; conversely, the constructions of the statements, the graphs, and the papers were all dependent on material factors. The over-arching mythology of neuroendocrinology was available to many other laboratories, but the configuration of apparatus that was exclusive to Guillemin's laboratory, the "inscription devices," embodied this laboratory's unique culture as a group and produced results that others could not replicate. Without this particular material arrangement, none of the knowledge as products of experiments would exist; the result of a bioassay test would not exist without the help of a certain piece of device, and a substance would not become known without the test result. The removal of one piece of equipment from the laboratory would affect the general reality in the sense that at least one object would also be removed from the discussion. The experiments were not merely a means of obtaining an "independently given identity" of the substance, they also contributed to "the construction of the substance" (Latour and Woolgar 1986, p. 64):

> It is not simply that phenomena *depend on* certain material instrumentation; rather, the phenomena *are thoroughly constituted* by the material setting of the laboratory. The artificial reality, which participants describe in terms of an objective entity, has in fact been constructed by the use of inscription devices. (ibid.)

[14] Latour and Woolgar (1986, p. 261) wrote that "the basic prototype of scientific activity is not to be found in the realm of mathematics or logic but, as Nietzsche and Spinoza frequently pointed out, in the work of exegesis. Exegesis and hermeneutics are the tools around which the idea of scientific production has historically been forged. We claim that our empirical observations of laboratory activity fully support that audacious point of view; the notion of inscription, for example, is not to be taken lightly."

As one of the earliest attempts to provide a detailed observation of scientists' daily activities from the lens of anthropologists, *Laboratory Life* (1979) offers a new perspective into the mysterious world of science by bringing it down to earth. The accumulation of many little causes resulted in this unconventional study, such as Latour's research background in exegesis, his inexperience in scientific subjects, his military service, Guillemin's invitation, and Woolgar's experience in the social study of science. The book is a construction of contingent discourses, just like the knowledge produced in the laboratory.

Social Factors in the Construction of Scientific Facts and the Vanishing of Temporal Qualities

After clarifying the method of investigation, the anthropologists utilised a case study of a releasing factor named Thyrotropin Releasing Factor (TRF) to illustrate how scientific knowledge was constructed in the laboratory as well as the social factors involved in the process. According to Meites, Donovan, and McCann (1975), a number of hormones were found after the war and there was anticipation for TRF. Yet, the job was considered a risky investment based on uncertainties at the time as the task required considerable expense (Latour and Woolgar 1986, p. 116-8). The authors realised that the criteria set to define TRF were tightened by two major figures in the field – Roger Guillemin and Andrew Schally; the new criteria drastically reshaped the scientific activities around this imaginary releasing factor at the time and subsequently eliminated many competitors. For example, one of the earlier TRF claims was made by Schibuzawa and his colleagues, claiming completion of the isolation of this substance by presenting an amino acid composition. However, the team was unable to provide 'substantial proof' by repeating the experiment in public at the time,

thus the substance they found could not be established as a fact according to the new and stricter criteria (ibid., pp. 119-121):

> Schibuzawa's claims were unacceptable because somebody else entered the field, redefined the subspecialty in terms of a new set of rules, had decided to obtain the structure at all costs, and had been prepared to devote the energy of 'a steam roller' to its solution.
>
> (Latour and Woolgar 1986, p. 120)

What was previously accepted as a valid piece of work could potentially get disqualified later due to a sudden change in criteria. Although the move to tighten the criteria was mainly driven by Guillemin and Schally, other scientists in the field did not propose otherwise. Therefore, the epistemological quality of validity, or whether the claim was considered acceptable, was inseparable from a social decision-making process; whether the truth has been found became irrelevant in this case because it was impossible to prove. Schibuzawa left this field of research as a result of the incident, but he was not the only one (ibid.). The new criteria demanded expensive investment in research equipment to meet the stringency, and not every research group was able to afford the cost. Many competing researchers from Japan, former Czechoslovakia, and England were put out of the race, whereas Guillemin's sufficient funding allowed him to continue with the ordeal (ibid., p. 124).

Furthermore, Latour and Woolgar (1986, p. 136) argue that the logic of deduction is not isolated from its sociological ground. The initial assumption was that TRF had a peptidic nature, but Guillemin questioned this hypothesis as his research group only detected a tiny percentage of amino acids in the purest substance they could obtain; low concentration of amino acids in this context was understood as either the substance was not pure, or it was

not a peptide. Due to Guillemin's reliable reputation, a new hypothesis was established that TRF comprised only a small peptidic component and a large non-peptidic component. Meanwhile, Andrew Schally, a former fellow in Guillemin's laboratory, was leading another research group tackling the same 'myth'; however, their work did not gain as much recognition by Guillemin's group. At the time, Schally already published papers on TRF and even found an amino acid composition for the substance; but when Guillemin claimed that TRF was not a simple polypeptide, Schally accepted it as a fact and invalidated his own finding. Schally believed in Guillemin's work and credibility much more than he believed in his own. Yet, when Guillemin 'independently' found the same amino acids that Schally discovered previously consisted of 80% of the weight of the substance, it proved that Schally was right from the beginning (ibid., pp. 129-135). In an interview, Schally admitted that he doubted his result partly because he believed in Guillemin's paper so firmly that he did not think about challenging it. This case study demonstrates that the seemingly logical deductions are unescapable from the social influences; the book (1986, p. 136) suggests that 'logically' possible alternatives can be deflected by prevalent beliefs.

Subsequently, Latour and Woolgar (1986, p. 152) made a bold claim that TRF was a "thoroughly social construction," because every statement the observed scientists made in the laboratory as a part of their daily activities, entailed intimate aspects of fact construction. There was "a complex web of evaluations" which determined the inscription produced under the culture of the laboratory (ibid., p. 159); such an idea shares similarity to the concept of *episteme* determining the statement outcome. Statement exchanges from both scientific and non-scientific settings had the characteristic of "heterogeneity"; this means that all the exchanges featured several different preoccupations, and any statement

made would contain multiple interests that were subjected to changes (ibid., p. 158-9).[15] The conversations in the laboratory were intertwined with participants' personal interests, which made it difficult for the anthropologists to extract descriptive, technical, and theoretical elements distinctively as the conversations were largely contextual. Participants who participated in statement exchanges were actively engaging in "manipulating their figures, considering possible objections, assessing their interpretation of statements, and evaluating the reliability of different claims"; it was more about *their figures* than pure logic or intellectual deduction. The group discussions attempted to eliminate as many alternatives as possible and force the statement into one particular direction. The authors argue that such behaviour should be categorised as "fact construction" rather than discovery (ibid., p. 166).

Moreover, Latour and Woolgar (1986, p. 194) realise that all activities in the laboratory are related to an extended notion of "credit" despite the term is often associated with monetary usage. This particular concept of credit is not equivalent to a reward or a currency; instead, it indicates an "integrated economic model of the production of facts" (ibid.). In other words, the behaviours of scientists they observed were not too dissimilar to capital investors in the sense that they both needed an accumulation of credibility to join the game. The greater the accumulation, the more substantial the returns of credibility. The returns then joined the pile of pre-existing capital for future reinvestment to gain greater credibility. This was the essential feature of this cycle of economic activities, and there were no other ultimate objectives. However, there was a difference between "credit as a reward" and "credit as credibility"; rewards merely reflected the achievement of the past, whereas

[15] An example of conversation exchange is provided by Latour and Woolgar (1986) at p. 158 along with their analysis.

credibility mirrored the ability of scientists to conduct further research (ibid., pp. 194-8). Scientists strived to have an appealing curriculum vitae that was similar to a firm's annual budget report. They held different hierarchical positions in the field and their "political ability" influenced their research. They made each move in their career trajectories with the initial capital that they earned from previous moves. They were also interested in others' claims because they needed others to increase their own production of credible information, to gain more credibility so that their work would get more recognition in the field (ibid., pp. 211-223). The participating scientists were merely employees of the federal government which means that their findings could not be exchanged directly with monetary capital; hence, they were concerned with their own reputation and recognition in the field. In this cycle of credibility, everything could be explained in terms of economics; information was the most important commodity that had a supply and a demand in this market – as in Foucault's term "the political economics of truth" (Foucault 1977; Latour and Woolgar 1986, p. 229). This force of economics shaped the researcher as both an independent capitalist and an employee so that scientific facts could be extracted under this social phenomenon.

Thus far, this section illustrated how social factors participated in the making of scientific facts from the view of anthropologists in the laboratory. Yet, these social factors somehow disappeared and were replaced by rational explanations when facts were established. The following discussion of this section focuses on how these facts which originated from assumptions and uncertainties, gradually shed away all uncertainties and eventually gained a metaphysical quality that was beyond the scope of historical and sociological explanations.

Latour and Woolgar (1986, p. 126) suggest that it required little effort for scientists to start an initial claim; any signs of repetition or similarity were sufficient to put the claim on the table for further consideration. In the case of TRF, if the curve of a substance produced through bioassay appeared superimposed with the control curve, then a claim could be made about the substance that it potentially had "TRF-like activity" at the early stage of the constructive journey. Although this type of general claim was common in the laboratory, it was usually attributed to a result of the background noise unless it was replicable. If the result repetitively showed similar superimposition, the initial claim would then be given more attention by scientists as the criteria of repetition and similarity substantiate the initial claim (ibid.). The extraction of meaningful repeating signals from bioassays was inseparable from the existence of bioassay machines, the experienced scientists who conducted every procedure within the social context of the laboratory, as well as the purified fraction of the substance itself obtained by the scientists. These conditions paved the way to the final knowledge construction, but there were still a lot of uncertainties accompanying the claim at this stage.

Following the initial claim, the development of such an idea went through a unique thought process shaped by sets of material factors and collective circumstances rather than pure rationality. The book uses the case study of Slovik the scientist and his assay to illustrate how fellow scientists accounted for the process of scientific breakthrough differently than how the event actually happened; the example is as follows:

> Slovik proposed an assay but his assay did not work everywhere; people could not repeat it; some could, some could not. Then one day Slovik got the idea that it could be related to the selenium content in the water: they checked to see where the assay worked; and indeed, Slovik's idea was right, it worked wherever the selenium content of water was high.

(Latour and Woolgar 1986, p. 169)

The anthropologists point out this account failed to mention that Slovik was puzzled by this problem for years until he came across the study by one of his students on selenium in water and its correlation with cancer. Slovik was inspired by the paper and began to consider the possibility that the different level of selenium distribution in water was associated with the replicability of his assay. Eventually, Slovik was able to work out that the result could be reproduced as long as the selenium content in the water was high. This missing bit of information from the account was seen as an "anecdote" rather than a non-dismissible cause that led to the establishment of a new fact. Once the connection was made between selenium and Slovik's assay, attention was no longer paid to the attendant social circumstances (ibid., pp. 169-170). In the words of the anthropologists:

> [T]he teller transforms a localised, heterogeneous, and material set of circumstances (in which social factors are clearly visible) into the sudden occurrence of a personal and abstract idea which bears no trace of its social construction.
>
> (Latour and Woolgar 1986, p. 170)

To understand where the knowledge came from, one must not ignore how the thought process contributed to the generation of such knowledge; this was not to deny the validity of the fact or the knowledge, but to stress the importance of how, where, and why the statements were composed in such ways (Latour and Woolgar 1986, p. 127). The authors challenge the depiction of scientific work as purely logical deductions; the so-called scientists' intuitions were merely products of the complex local circumstances that are contextual-specific. Such a claim complies with the concept of having an overarching system of understanding limiting the way to speak, that the statement produced was determined

by the *episteme* of that specific space and time. Latour and Woolgar also argue that these local circumstances could change very quickly, and all references to them would disappear once the fact is established; the only account left would be a version "eroded of all contingent circumstances" (ibid., p. 174). Even though the anthropologists did not dive into the notion of contingency, they recognised it as a part of the process of knowledge production which resonated with the Foucauldian view of knowledge formation.

As previously discussed, the laboratory functioned as a space in which statements were obtained and transformed; because the logic of deduction was not isolated from its sociological ground, the purpose of these statement-processing activities was partly to eliminate all modalities of certain assertions by communication and persuasion to skew the arguments towards certain directions. Once all members of the laboratory were convinced by a statement, it then appeared in conferences and was sent for publication. If there was no forceful objection to the statements after going public, the statement began to stabilise and was gradually taken for granted; it was being used to reinforce the existence of those facts. According to Latour and Woolgar (1986, p. 176), the statement became a "split entity" once it was stabilised. On the one hand, it was a bunch of words entailing a certain feature about an object; but on the other hand, it corresponded to the object taking on "a life on its own". In other words, the original statement was detached from its history of formation with no signs of the production process to be found; the nature of the statement was transformed from an utterance of subjective human beings to a metaphysical truth itself. More statements were attributed to the objects rather than the laboratory where the statements were formed, thus an "inversion" happened – the object itself became the reason that the statement was formulated in the first place (ibid.).

Once this inversion took place, it was difficult to resist the impression that the fact was found in objective reality and the statement mirrored reality. Whenever the knowledge stabilised, it was introduced into the field and reintroduced into the laboratory in other forms such as a piece of equipment or a set of skills; it became a routine or a programme without the surrounding of temporal qualities (Latour and Woolgar 1986, p. 243). In terms of credibility, the stabilised statement became extremely costly for any scientists to challenge because it was integrated into a larger body of knowledge; challenging the statement became the equivalent of questioning the foundation of the current laboratory in terms of physical equipment, research skills and methods, and the validity of new statements that were built on top of the stabilised statement. In this way, the purpose of the laboratory would be undermined, which would subsequently negatively affect the credibility of every member of related communities.

The Aftermath of *Laboratory Life* (1979)

It was no surprise that the bold claim that 'scientific knowledge was socially constructed in the laboratory' generated great controversies after the book was published. By proposing facts were constructed, Latour and Woolgar (1986, p. 176, 178) had no intention of suggesting that the objective truth did not exist; the book had no intention of serving as a mockery of realists nor intended to promote a sceptical attitude. In the context of scientific studies, realism generally refers to the ontological assertion that a 'real world' exists independently of human conception (Bhaskar 1975; Jary and Jary 2005, p. 512, 542); modern scientists sought for things that existed independently 'out there' as their work seemed to uncover the hidden truth, whereas Latour and Woolgar argue that the reality 'out there' is no more than delicately constructed statements (Latour and Woolgar 1986, p.

179). This is to suggest that the notion of objective truth is also a construction, hence 'reality' cannot be used to explain why a statement is a fact because it is the "consequence of the settlement of a dispute rather than its cause" (ibid., p. 180, p. 236). The anthropologists only wish to argue that the 'out-there-ness' quality of scientific work is the process of construction, the consequence of a series of inscriptions and human activities in the laboratory that is made extremely difficult to detect; this is different from denying the existence of reality. Instead of being a discovery, science is a "fierce fight to construct reality" (ibid., p. 243), and the agonistic field of science is "similar to any other political field of contention" (ibid., p. 237).

By arguing against the classic dichotomy of the scientific realm on the one side and the social realm on the other, Schmidgen (2015, p. 50) points out that the authors are supporting a "hybrid" mode of existence between "construction and facticity", which Latour continued to pursue in his later works and attempted to find a way of reconciling the two. In *Laboratory Life*, although the authors discussed the non-dismissible role of material factors in scientific research, they primarily analysed the inscriptions produced rather than the material itself. Their arguments were presented in such a succinct manner, but the simplicity caused the problem of being one-sided and potentially creating more ontological problems rather than offering any solutions. As Brown criticises:

> Latour's argument for no-truth-value-until-later (in *Laboratory Life*) is simply to cite the phenomenon of *shifting belief* - which is not enough to justify the deep ontological claims about facts which are here asserted.
>
> (Brown 1991, p. 249)

Even though the book claims that it only seeks a more comprehensive description of reality beyond the version offered by the dominant philosophical tradition, some critiques see the work as an attempt to create an alternative reality by suggesting science as a meaningless practice (Leitch *et al.* 2018, p. 2115); they especially sense that Latour should be the one to blame despite Woolgar being a co-author. Bloor (1999, p. 111) argues that Latour's attempt to "debunk science" has made other sociologists' efforts to explain the misunderstanding of knowledge being 'purely social' go to waste.

Laboratory Life (1979) might have overlooked the discussion of the object itself, but the intention was never to dismiss reality as fiction. Knowing the way to improve, Latour (1993) took a step further to ensure that nothing was reducible to something else by not denying the ontological existence of facts; the scientific was irreducible to merely the social and vice versa. His next major work *The Pasteurization of France* (1988A) pursued such a trail; Latour still argued that scientific facts are experimentally made up, but he asserted more carefully this time that there also existed a non-manufactured quality of facts by borrowing the triumph of the French microbiologist Louis Pasteur. On the one hand, Latour pointed out that Pasteur's success was not merely because of his talent; instead, Pasteur's success must be understood within the particular historical convergence of competing social forces and conflicting interests (Latour 1988A). On the other hand, Latour explicitly denied reductionist thinking of the social and the scientific can be merged into one, and neither should the two be kept completely apart; he proposed the two must be considered together like space and time, just like the social factors such as the hygiene movement at the time was a necessary condition for Pasteur to succeed, as well as the microorganisms themselves as the non-human actors intervening our history that are usually failed to be acknowledged by historians (La Berge 1990, p. 1216; Lawrence 1990, p. 113).

To further explore the connection between the scientific and social realms, Latour then spent a lot of time looking into actor-network theory (ANT).[16] He rejected simple dualisms and insisted that every entity possesses qualities that attributed the relationship with other entities as "everything and everyone is profoundly relational" (Gershon 2010, p. 163). Because of these complex and interconnected relations, nothing can be said to be simply the opposite of another. Rejecting dualism opened a new perspective on how human actors and non-human actants influenced the flow of knowledge. Studying ANT was an attempt by Latour to reveal the formation of a connection between people and objects to reconcile the social and nature despite the criticisms.[17]

In the essay *Why Has Critique Run Out of Steam* (2004) Latour formally addresses the problem with *Laboratory Life* (1979) that it inevitably undermines the credibility of science and the reliability of scientific knowledge. He realises that the book is sometimes interpreted not in a desirable way that obscures the certainty of "a closed argument," such as arguing for the "lack of scientific certainty" in the case of global warming (Latour 2004, pp. 226-7). After years of effort detecting the hidden prejudices of seemingly objective statements, Latour involuntarily supports the extremists and conspiracists disguising under

[16] For more information on Latour's interpretation of ANT please check out his books *Science in Action: How to Follow Scientists and Engineers Through Society* (1987) and *Reassembling the Social: An Introduction to Actor-Network-Theory* (2005).

[17] Examples of criticisms to Latour's ANT include Donna Haraway (1997, Chapter 1) arguing Latour's depiction of networks offers very few account for how they emerge and interact due to impoverished narratives. Haraway's view is agreed by Susan Leigh Star (1991, pp. 26-56), Star suggests Latour over simplified narratives as some actants are privileged and some are disadvantaged, and more attention should be paid on this matter. Marilyn Strathern (1996, pp. 517-35) points out that Latour did not consider how networks are "cut" when they expand due to various external reasons such as the distribution of power. Bloor (1999, p. 82) rejects Latour's insight for the way forward of the field, because he thinks Latour's criticism of the sociology of knowledge and his idea of a "network" disagrees with the principle of "the schema of subject and object" stating that "knowledge is to be understood in terms of an interaction between an independent reality".

the name of being critical, yet who use the same argument trying to destroy the validity of carefully obtained hard evidence.

To address this problem of bad critiques, Latour proposed a distinction between a "matter of fact" and a "matter of concern" (Latour 2004, p. 231). Seeing the world as a "matter of fact" is seeing it objectively without the interference of social factors that reinforce certain thoughts and behaviours; in other words, it is to find the metaphysical truth. However, only a partial rendering of reality is obtainable to everyone (ibid.; Hill 2015; Scholtz 2020). Latour admits that in *Laboratory Life* (1979) he and Woolgar did not have an efficient way to criticise matters of fact without moving away from them and paying attention to the conditions of making them possible; the step they took successfully 'debunk' the objectivity of science, but Latour realised that it only worsened the situation by tearing things apart. As an alternative, seeing the world as a "matter of concern" helps to assemble the fragments again with care as well as the aim to protect (Latour 2004, pp. 231-2). Latour then discusses the etymology of the word "thing" – a "thing" is "an object out there" that exists objectively, but it is also "a gathering" that its quality and value are socially determined (ibid., p. 233). The word designates both a matter of fact and a matter of concern. Latour suggests that reality should not be defined just by matters of fact; connections should be built between nature and culture, science and politics, the constituted objects and the debatable. Thus, Latour clarifies the role of critics in the following paragraph:

> The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rugs from under the feet of the naive believers, but the one who offers the participants arenas in which to gather. The critic is… the one for whom, if something is constructed, then it means it is fragile and thus in great need of care and caution.

(Latour 2004, pp. 246)

Modernity concealed the complexity of things, and modern science since enlightenment separated nature and culture; yet Latour argues that we as human beings have never been modern because we constantly create hybrids of nature and culture (Latour 1993; Leitch *et al*. 2018, p. 2114). By adding these connections in his later works, Latour is hoping to add reality to scientific objects rather than subtracting (Latour 2004, pp. 237). Although he was misunderstood, he was not fooling the public with his gimmicky analysis but challenging the public to rethink the common sense and the knowledge that have taken for granted.

Despite the criticisms, the thesis takes the view that *Laboratory Life* (1979) remains relevant in contemporary discussions. Indeed, the book may not be a comprehensive depiction of everything happening in the laboratory by including the physical quality of objects and their effects on the scientists, but this does not naturally discredit the content of the book, especially in the way it deconstructs the process of knowledge generation through the lens of anthropologists; the later writings of both authors do not disregard the work that they have done in this pivotal book. For example, the same style of empirical studies was produced by Latour such as *The Pasteurization of France* (1988A) in which he borrows the success of Louis Pasteur, *Aramis, or the Love of Technology* (1996) in which he analyses the birth and demise of high-tech automated subway project named Aramis, and *The Making of Law: An Ethnography of the Conseil d'Etat* (2009) which can be seen as a legal construction version of *Laboratory Life* (1979). As for Woolgar, he invested himself in the field of science and technology studies; his book *Science: The Very Idea* (1988B) demonstrates further that the idea of being 'scientific' is just a 'rhetorical accomplishment' and that there is no such thing in science as objective knowledge, only the label exists

(Dennis 1990). In an edited book *Representation in Scientific Practices Revisited* (2014), Woolgar discusses the difficulty of empirical studies in scientific practice in terms of representation, in which the discussion was also built on his previous research. After 40 years, the content of *Laboratory Life* (1979) was again evaluated; Havstad (2020) conducted a study to see whether contextual changes such as time, space, and culture would affect the presumed generalisability and the potential replicability of the ethnographic results. The study shows that most of the original ethnography could be replicated using Latour and Woolgar's methodology from the book, despite lots having changed since the original study such as a new laboratory culture, a significant upgrade in technology, and the costs of equipment. Furthermore, the idea of the cycle of credit was applicable to the new data; Latour and Woolgar's interpretations of scientific work as obtaining inscriptions as well as solving the 'myth', still clash with scientists' own point of view. Havstad concludes that the book appears relevant in today's science and technology discussions.

Summary

Laboratory Life (1979) enlightened the public with a new perspective, an unconventional way of seeing the world of science and the scientific knowledge generated. This chapter discussed the inspirations and the events which led to the creation of the book, including the early academic training of Latour, his studies before the book, the academic background of Woolgar, and how the two academics met; without these conditions, the book would not take the form of anthropologists visiting a laboratory. From a Foucauldian point of view, *Laboratory Life* (1979) is a cluster of discourses formed under contingencies that eventually led up to the publication of the book. The book would cease to exist if any

part of the authors' past experiences changed or went missing. Foucault successfully portrayed knowledge as a product of the *episteme* as well as a means of control from a theoretical point of view; to Foucault, science is not the objective truth but a part of the criterion restricting what can be said for the time being. Therefore, scientific knowledge should not be considered as the equivalent of objective truth. *Laboratory Life* (1979) is able to consolidate Foucault's finding by providing a practical study from a relatively recent time frame. The book argues that the epistemological quality of an object is inseparable from social factors, and that material factors also play a crucial role in the production of scientific knowledge. Additionally, scientific activities are akin to an economic cycle of credit. Yet, all traces of social factors and the temporal quality of statements seem to vanish once those statements stabilise. The established statements are then reintroduced into the laboratories and recognised as facts, but the entire process of how the statements become facts is considered insignificant at this point. These intriguing arguments challenge the common perception that scientific knowledge is discovered from nature and is purified from social influences. The chapter also discussed the debate subsequently generated by the book that too much attention was given to social factors, and that the book failed to address the ontological quality of the object of studies in the laboratory. By looking into the later publications of the authors, the chapter argued that the arguments addressed have not lost their relevance.

The deconstruction tool provided by the book is a double-edged sword; it is capable of extraordinary things such as emancipating the public from objectified knowledge, but it also provides opportunities for conspiracists to disseminate useless and potentially harmful information to the public. Can the arguments themselves be blamed for being used for a vile purpose? No, we blame the people for the misuse of such a powerful weapon pointing in

the wrong direction; the existence of the tool itself is a neutral matter, it only obtains positive or negative meaning when it is used under different contexts. The purpose is never to create more chaos, but to build and protect. Latour and Woolgar are not incorrect in asserting that scientific knowledge is not free from subjectivities; the process of discovery is in reality the process of construction that is inseparable from social and material factors, and this side of the knowledge usually fails to be recognised. Therefore, when making altruistic knowledge exchanges, people should be aware that they are actually sharing their unique versions of socially constructed knowledge, not the one-and-only metaphysical truth of the world. Hence, there is no such thing called universal common sense, as it is merely a stabilised statement exclusive to one society that its members have become accustomed to.

Despite all the controversy, the thesis argues that it is still possible to use this tool for something good, wielding it with care to add reality rather than subtract in terms of raising awareness of the phenomenon that social factors are engaged in the fundamental way knowledge is produced. Therefore, the sharing of content must be examined during the process to identify distinctive social factors, not to dispose of this 'impurity' but to acknowledge the circumstantial quality of the knowledge shared. In combination with aspects of Foucauldian philosophy that were discussed in the last chapter, the thesis has built a theoretical framework in order to understand why the same approach of scientific investigation can produce different versions of truth claims. The next chapter presents a case study by depicting the story of face coverings at the early stage of the COVID-19 pandemic through various papers and policies that differ from one to another, despite all claiming to be based on science. Afterwards, the thesis will use a hybrid approach of theoretical and practical analysis by laying out the complexity around what seemed to be a simple issue of face covering, as well as to account for the variation of truth claims.

Chapter 4 Theories in Practices Part One: The Story of Face Coverings in the Context of Early COVID-19 Pandemic

Hitherto, the thesis discussed how human beings were made subjects under the ever-changing power-knowledge relation proposed by Foucault, and that the epistemological quality of an object was constructed under the influence of social factors claimed by Latour and Woolgar. The purpose of such a long and detailed discussion is to reveal the hidden subjective quality of knowledge – the disappearing social factors after the stabilisation of scientific knowledge, as well as the gentler yet pervasive social control in the form of discourses. With these arguments in mind, the thesis proceeds with the view that the concept of knowledge should not be perceived as the absolute truth, nor a simple reflection of it; instead, the contextual and circumstantial quality of knowledge must be stressed. In other words, no matter how rigorous, formalised, or scientific a set of discourses might seem, it is always a provisional construction under social influences.

Suggesting knowledge as a construction also implies the possibility of having multiple versions of knowledge concerning one object. Whenever a question was asked, the answer to the question after a thorough investigation was thought to be the new knowledge produced and integrated into reality. However, there is often more than one way to answer the same question, which means that theoretically different versions of knowledge can be produced regarding the same object. This further entails that multiple versions of individuals' reality can exist at the same time; contrasting realities can be created by the person who asked the question together with the people who answered it in various

attempts. In this sense, the perception of reality can be a personal matter based on the many contingent little causes encountered.

Same as Latour, the thesis does not wish to take a sceptical view by claiming that nothing is real; otherwise, the thesis would become a product of one specific influence, fixated on a certain positivity of discourse without considering the possibility of changes, and subsequently undermines the argument it is trying to make. Instead, the thesis would like to adopt a pragmatic perspective by not asserting anything new about the truth itself, but to reveal a problem and to offer the thinking of constructivism and liberal ironism to ease the friction while communicating between different perceptions of realities formed under different knowledge constructions.

Taking the position that scientific models and research methods are both shaped by factors other than the absolute truth, this chapter focuses on the story of face covering at the early stage of the COVID-19 pandemic to reveal the problem of conflicting knowledge on this topic. This chapter would not be able to cover every aspect of the new legislation of all countries in the world; focusing on face coverings alone was sufficient to build an interesting case for epistemological and social analysis. There were debates and inconsistencies regarding whether face coverings could effectively contain the spread of the virus, embodied in various health policies, journal articles, news, and social media platforms. Many of them claimed that they took a valid scientific approach to reach their conclusion, but could the same scientific system give rise to all these different claims concerning that one small piece of fabric could or could not protect lives during this challenging time? Scientific knowledge has appeared in a contradictory form. This chapter reveals such an inconsistency through a literature review; the next chapter will analyse from the perspective

of Foucauldian philosophy and *Laboratory Life* (1979) to provide an explanation to account for the differences.

A Global Health Crisis

As a brief introduction to the background of the pandemic, the causative virus of COVID-19 was known as coronavirus or SARS-CoV-2, and infected individuals would experience respiratory illness caused by the virus (WHO no date B). The virus was thought to have been initially discovered by the operating dealers and vendors of the Wuhan Huanan Seafood Wholesale Market in China in late December 2019; Zhu and colleagues (2020) report that several people there were diagnosed with pneumonia around that time, but the cause was unknown. The report also suggests that although the market predominantly sold aquatic products, some farmed and wild animal products were also sold there from time to time; it was suspected that those wild animal products were the cause of the epidemic as the virus could be transmitted from wild animals to humans or as an amplifier of the early epidemic, and many of the early cases were reported with a link to the market. Nevertheless, this suspicion remains unconfirmed because several other early cases reported no connection to any markets in Wuhan (WHO 2021A). This is only the tip of the iceberg of the controversial nature of this global health crisis as some knowledge remains unstable; the World Health Organisation (WHO) is still calling for further studies and data on the origin of SARS-CoV-2 and reiterating that all hypotheses remain open (WHO 2021B). By the time of June 2023, there was no further official publication from the WHO providing another set of narratives, nor reaffirming their initial findings.

After realising the gravity of suspicious pneumonia going on in Wuhan, the Chinese government ordered the closure of the seafood market on the 1st of January 2020 (WHO 2021A). Despite such an effort, the virus caused local health facilities to cluster with recent pneumonia patients (Zhu *et al*. 2020). The virus soon started to spread in mainland China and overseas; at the end of January 2020, the WHO Emergency Committee declared "a global health emergency" (WHO 2023) based on the uncontrollable growing cases of COVID-19 both in China and other states, even though at the time the cases number was low in other Asian countries, Europe, and North America (Velavan and Meyer 2020). However, travellers soon assisted the spread of the virus worldwide; Al-Salem and colleagues (2021) suggest that imported cases to the European Union via travellers from outside contributed to the disease spreading in the EU countries, and the ability to move freely for citizens of Iceland, Norway, Switzerland, the UK, and all European signatory countries had accelerated the transmission of SARS-CoV-2. Although many countries closed their borders after realising the gravity of the situation, the virus had invaded, and some countries suffered more than others. As an example, the delayed response by the UK government in closing the borders led to 1356 independent SARS-CoV-2 lineages arriving in the country. By the 8th of June 2020, SARS-CoV-2 had been found in over two hundred countries affecting over seven million people's lives, in which over four hundred thousand people had died because of it (Forouzandeh *et al*. 2021).

COVID-19 truly became a global health crisis in the sense that not only did the infection result in potentially life-threatening symptoms, but also because the spread of the virus was out of control at the beginning of the pandemic, affected multiple social sectors and caused huge inconvenience for individuals. As Pollard, Morran, and Nestor-Kalinoski (2020) point out, there was no thorough understanding of the epidemiology,

pathophysiology, and pandemic response efforts to combat COVID-19 at the early stage, thus the pandemic posed a serious public health threat to nations worldwide. Because of the lack of knowledge, the global response to the outbreak varied significantly, including policies on lockdowns, social distancing measures, usage of personal protective equipment (PPE), and population screenings. The pandemic continued to exert huge pressure on countries and governments, revealing the problem of limited health resources, lack of preparations, and insufficient infrastructure to protect the public and health workers (Mallah *et al*. 2021). COVID-19 was shown to be difficult to control due to cluster transmissions and super-spreader events; the outbreak also heavily impacted the global economy by disrupting international businesses and terminating the global supply chain systems, which in turn decreased the value of international trade. On top of lowered incomes, the world states had to expand the budget for acquiring more PPE and supporting health sectors; such a deduction of government revenue and an increment in spending posed an economic challenge (ibid.).

By the time of May 2023, the UN News (2023) finally reported that the WHO Director-General Tedros Adhanom Ghebreyesus declared the end of the global health emergency. However, this was not to suggest that the virus was eradicated from the earth; the virus was still infecting people, but the pandemic trend was dying, and people could "return to life as we knew it before COVID-19" (ibid.). Whilst individuals were gradually becoming accustomed to a new lifestyle during the pandemic alert, the initial shock and confusion had a long-lasting impression. The rest of this chapter reviews various health policies of different countries; it also provides an overview of a selection of articles published in 2020 and 2021. The purpose of this review is not to extract the absolute truth about face coverings; the range of analytical material chosen was certainly not the most up-

to-date source for such an analysis. Instead, the purpose is to capture the conflicting knowledge presented at the beginning of the pandemic when the knowledge was yet to stabilise, as well as the various attitudes of experts and governments regarding face coverings as a means to contain the spread of the coronavirus. By doing so, this chapter paves the way for the theoretical and practical hybrid analysis in the next chapter to further prove the point that knowledge is a construction, and its epistemological quality is inseparable from social factors.

The Initially Ambiguous and Inconsistent Health Policies on Face Coverings

The initial rapid spread of coronavirus in early 2020 had a significant impact on people's living patterns; it not only posed a serious public health threat but simultaneously affected the freedom of individuals by limiting their ways of acting and travelling. The changes were mainly caused by the implementation of new health policies across the globe by various governments with the intention of containing the transmission of the virus. Even though the general intention of governments announcing new health policies was the same, the new policies differed significantly from one country to another. Due to the limitation of space, this section has no intention to compare and contrast all policies made regarding the usage of face coverings worldwide, nor to cover every available study of related topics; nevertheless, the information gathered in this section would be sufficient to reveal the ambiguous and inconsistent nature of policies and legislations from different states regarding the usage of face coverings by the public at the early stage of the pandemic.

Tso and Cowling (2020, p. 2196) provide a useful summary of the recommendations on the usage of medical masks within the general community across different credible

health authorities by the time of April 2020. In a list of fifteen regions, more than half of the local health authorities did not encourage the public to put on medical face masks; these countries were mainly located in America (the United States, Canada), Europe (France, Italy, Spain, Germany), and Oceania (Australia, New Zealand). The health authorities of these countries only recommended mask-wearing upon close contact with infected individuals, with the United States having an additional requirement to hear them in workplaces. Only four regions from East Asia (China, Hong Kong, Macau, and South Korea) supported the usage of face masks for the general community, with the United Kingdom and Japan holding an ambiguous stance at the time the report was published. Additionally, a couple of nations even discouraged their people from wearing face masks by emphasizing the potentially harmful effects of using them; for example, governmental health experts from countries such as Germany, Norway, and the Netherlands suggest that face masks might pose health risks if not worn properly or create a false sense of security for the wearer. Furthermore, some countries explicitly mentioned the type of face masks they were referring to, such as surgical masks, whereas some did not (Feng *et al*. 2020; Laestadius *et al*. 2020). Through this comparison, it was clear that there existed a divided conviction among the authorities on the matter of how effective face masks could be if worn by the public under the situation of this sudden global health emergency. It has also shown a correlation between the geographic locations and the face mask policies; none of the countries that were considered 'traditional Western' supported the idea of public masking, whereas many from the 'East' advocated the benefit of masking right from the start of the crisis.

The WHO has always played the role of directing and coordinating the world's response to health emergencies by releasing carefully phrased guidance. Similarly, in the context of the early outbreak of COVID-19, the WHO released its initial guidance

recommending the use of masks when in close contact with infected, suspected, or high-risk individuals but not for the general community (Tso and Cowling 2020, p. 2196; Feng *et al*. 2020, p. 435). The reason for such a recommendation, as claimed by the WHO, was the lack of scientific evidence supporting mask-wearing against COVID-19; due to the recent discovery of the virus, there was no sufficient evidence at the time to support the effectiveness of community masking against COVID-19 (Tso and Cowling 2020, p. 2196; WHO 2020). Conversely, the WHO asserted that improper usage of face masks could even hamper their users; therefore, it was only the health workers with the essential knowledge of PPE who were required to put on face masks. Yet, the WHO also recommended the public adapt locally by putting on masks when the general culture was to use them, even though such an act was not considered 'scientific' by their official guideline (WHO 2020). Tso and Cowling (2020, pp. 2195-7) suggest that this carefully written guideline from the WHO did not necessarily contradict the recommendations of some health authorities from the East Asian region. This is because, at the time, the WHO did not make a statement claiming mask-wearing is ineffective; a lack of evidence is not equivalent to disqualifying the effectiveness of face masks. However, Tso and Cowling (ibid.) point out that such ambiguous guidelines resulted in the public misinterpreting the statement as mask-wearing being ineffective.

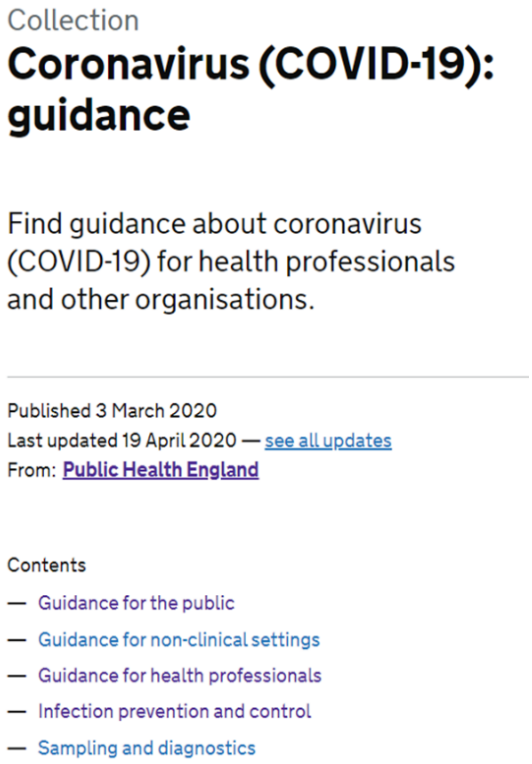
To unpack the WHO guideline further, it was obvious that their recommendation was not merely based on pure scientific facts; it also included the consideration of cultural elements and the authority of local governments during the drafting process. Because COVID-19 was very new to the world at the time, there was initially very little knowledge about this new virus; scientists needed time to conduct experiments to determine the features of the virus as well as to come to a stabilised conclusion about the effectiveness of

face coverings, not to mention the different types of masks existed. Despite that 'there was not enough evidence to support public masking' can be considered as a scientific claim, the recommendation that "masks might be worn in some countries, in accordance with local cultural habits" (WHO 2020) is far from being the scientific evidence justifying the reason for masking. In other words, the knowledge that the WHO conveyed to the public was a combination of scientific claims and considerations of social factors that were local and contextual. Since science was insufficient to provide an answer at the time, local authorities were under pressure to act according to their current situations, which means that the early health policies ended up being set corresponding to the unique local circumstances. As a result, this inconsistency across the globe nourished doubt regarding the effectiveness of face coverings during the situation of COVID-19.

As the evidence accumulated, the health policy of each state began to shift accordingly. Take the example of the early advice from Public Health England (2020A; 2020B; 2020C), the official guidance page back in April 2020 provided separate guidance for the public, non-clinical settings, and health professionals (Figure 1).[18] This guidance corresponded to the WHO guidance released around a similar time; both differentiated the situations when in close contact with the virus, and for the public. As for the usage of PPE including face masks (Figure 2), it was recommended for those who worked in health and social care settings to use extra precautions as they were the most at-risk category. However, under the non-health and social care settings category, the guidance claimed

[18] By the time the thesis was edited, Public Health England was replaced by UK Health Security Agency and Office for Health Improvement and Disparities. However, when the initial research took place, Public Health England was the one releasing coronavirus guidance to the public. For more information, please see https://www.gov.uk/government/organisations/public-health-england (accessed 08/06/2023). The original source has become unavailable to access as the websites have been updated, Figures 1, 2, and 3 are screenshots from the original website, provided to highlight the content mentioned in the discussion.

there was little scientific evidence of widespread benefit from PPE and suggested that practising good hand hygiene and social distancing were much more important. Even though face masks were believed to play a vital role in clinical settings, the guidance did not recommend their usage to the public in an indirect manner, the reason being face masks must be used correctly to be effective (Figure 3). Nevertheless, the guidance did not explicitly forbid mask-wearing for the public either.


Collection

Coronavirus (COVID-19): guidance

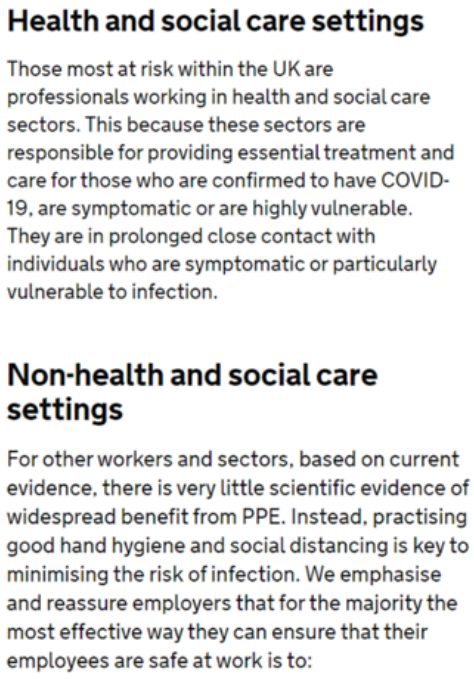
Find guidance about coronavirus (COVID-19) for health professionals and other organisations.

Published 3 March 2020
Last updated 19 April 2020 — see all updates
From: Public Health England

Contents

- Guidance for the public
- Guidance for non-clinical settings
- Guidance for health professionals
- Infection prevention and control
- Sampling and diagnostics

Figure 1

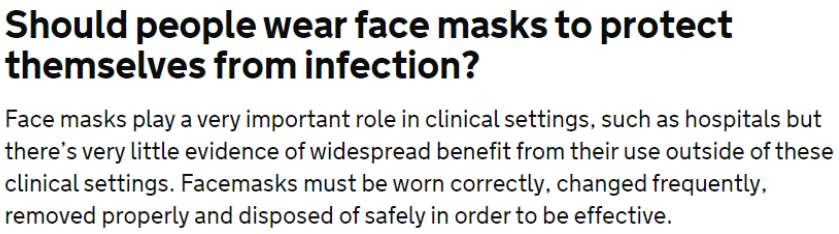

Health and social care settings

Those most at risk within the UK are professionals working in health and social care sectors. This because these sectors are responsible for providing essential treatment and care for those who are confirmed to have COVID-19, are symptomatic or are highly vulnerable. They are in prolonged close contact with individuals who are symptomatic or particularly vulnerable to infection.

Non-health and social care settings

For other workers and sectors, based on current evidence, there is very little scientific evidence of widespread benefit from PPE. Instead, practising good hand hygiene and social distancing is key to minimising the risk of infection. We emphasise and reassure employers that for the majority the most effective way they can ensure that their employees are safe at work is to:

Figure 2


Should people wear face masks to protect themselves from infection?

Face masks play a very important role in clinical settings, such as hospitals but there's very little evidence of widespread benefit from their use outside of these clinical settings. Facemasks must be worn correctly, changed frequently, removed properly and disposed of safely in order to be effective.

Figure 3

The attitude of the British government towards face masks changed in July 2020. According to Blackburn (2020), after weeks of neither encouraging nor forbidding the public to wear face masks, showing an ambiguous attitude regarding the position on this matter, the government announced a new official guidance concerning the usage of face masks in mid-2020 under the demands from experts, including thousands of doctors from the British Medical Association. On the 14th of July, the now former Health and Social Care Secretary Matt Hancock confirmed the government's plans to make face coverings mandatory in indoor spaces such as shops and supermarkets in England, starting from the 24th of July 2020 (GOV.UK 2020). In the oral statement, Hancock spoke on behalf of the government that they were trying to "restore shopping" after the first lockdown, and there was evidence that wearing face coverings could increase the confidence in people to shop.[19] Hancock also mentioned that the implementation of mandatory face coverings on public transport and in NHS settings a month ago increased people's confidence in travelling. The new legislation even went as far as punishing individuals for not wearing a face covering in public indoor spaces by fining them up to £100 each time. It is worth noticing that the announcement used the new term 'face coverings' instead of the previous term 'face masks' as the former refers to a broader range of related products. Additionally, the announcement made no mention of the availability of scientific evidence supporting face covering as an effective means of containing the spread of the virus; instead, the rationale for pushing forward the new legislation was that it helped with the economic restoration post-national lockdown.

[19] The first lockdown in England began from the March of 2020 to June the same year. For a history of English lockdown during COVID-19 please see https://commonslibrary.parliament.uk/research-briefings/cbp-9068/.

The social effect was once again emphasised over the scientific evidence, despite the initial guidance implying the necessity of acting in accordance with scientific evidence.

As for the government health guidance updated on the 27th of January (GOV.UK 2022), face coverings were no longer required by law in England and no punishment would be enforced when one refused to wear one in public indoor areas. Nevertheless, it was still recommended by the government to continue wearing them in crowded and enclosed spaces, as well as when in close contact with strangers. The guidance provided a succinct explanation of several types of face coverings for clarification, along with the criteria of what was considered a good-quality face covering versus the not-so-good pieces. Furthermore, the guidance included a "further information" section explaining the reason for using face coverings, how to wear them correctly, and other miscellaneous on this topic. According to the article, "the best available scientific evidence" at the time supported the statement that wearing a face covering would reduce the spread of coronavirus particles. Despite the science then supported wearing face coverings, the government withdrew their earlier mandatory masking policy. If the legislation were set solely based on scientific evidence, this could mean two things – the scientific evidence once again had changed around this topic, or there were potentially other non-scientific factors that influenced the policy-making process, thus having an impact on the choices and behaviours of individuals. If there was no change to the scientific evidence, then there should be no reason to change health policy unless other social elements were involved and affected the decision. Alternatively, there was also the possibility that a combination of scientific and non-scientific factors influenced governmental decision-making.

Akin to the approach of the British government towards face coverings and corresponding policies, the coronavirus health policies of other nations also experienced several transformations during the pandemic. For example, the Netherlands was one of the countries which initially was not on board with the idea of the public wearing face masks, including scenarios when individuals were symptomatic or caring for symptomatic people (Laestadius *et al*. 2020); but since mid-2020 as the infection and death number rose, the Dutch government decided to make mask-wearing mandatory on public transports (Hirsch 2020). Although the Dutch COVID-19 health policy went through more changes as time progressed, the part that mandatory masking on public transport remained effective until the 16th of March in 2022, which is later than the British government's removal of compulsory public masking (Government of the Netherlands 2022). Similarly, Germany did not advocate the use of face coverings at the beginning of the pandemic but later implemented a compulsory face coverings policy in both indoor public spaces and on public transport, along with other management measures such as contact tracing app (Hirsch 2020; Laestadius *et al*. 2020). However, it was not until the 2nd of February 2023 that compulsory mask-wearing for public transport as one of the basic measures in Germany was finally lifted (The Local 2022; Euronews 2023; DW 2023; Schengen Visa News 2023). The comparisons confirmed that the chronological transformation of the face-covering policy was not exclusive to England. However, the different dates of lifting the obligatory public masking as well as the various conditions face coverings were required have further revealed an inconsistency in global health legislation regarding COVID-19; despite there certainly being a better corpus of knowledge concerning coronavirus and face coverings in early 2022 comparing to back in 2020, the approach of each government had hardly arrived at any agreement.

The similarity in policy transformation trend was expected as the input of the WHO was valued by many when it came to the implementation of health policies. During the pandemic, the WHO was constantly updating their recommending protocols on face coverings as scientific evidence accumulated. The organisation released official guidance for mask use in the context of COVID-19 on the 1st of December 2020; the interim guidance supported masks-wearing "as part of a comprehensive package of prevention and control measures to limit the spread of SARS-CoV-2, the virus that causes COVID-19" (WHO 2020). Moreover, the guide explained that masks could be used both for personal protection and prevention of onward transmission; it also classified diverse types of masks, such as medical masks, fabric masks, and respirators, as well as their suitable use depending on circumstances. The guidance was again divided into health care settings and community settings; in short, people are advised to wear medical masks and occasionally respirators under health care settings, but the recommendation became more evenly split between fabric masks and medical masks under general community settings. The answer to the question of whether wearing face coverings was an effective means to contain COVID-19 was complicated, because it could not be answered with a simple 'yes' or 'no'; the answer was contextual, circumstantial, and subject-specific. At the time, the WHO was also aware that the discourse around face coverings had yet to stabilise, that the knowledge did not form a closure and was still up for being challenged by new discourses.

From the perspective of knowledge, the new knowledge held by individuals concerned with coronavirus was inseparable from the intervention of governments. Governments worldwide played an unneglectable role during this health crisis, not only in the sense that they provided crucial information for individuals to react upon such as updating the current knowledge regarding the virus, or statistical figures like the infection

rate and the number of deaths in a swift manner with comparable high accuracy; the intention was to use this information to influence the bodily behaviours and the minds. Many researchers suggested that governments should implement health education and interventions with the purpose of disseminating certain knowledge and shaping behaviour patterns in order to recover from the public health emergency; the information from other media and the internet was generally inconsistent and non-accessible to everyone, hence actions from governments were necessary especially to preserve the rights of vulnerable groups (Abdelhafiz *et al*. 2020; Adesegun *et al*. 2020; Azlan *et al*. 2020; Chan *et al* 2021; Chernozhukov, Kasahara, and Schrimpf 2021; Clements 2020; Islam *et al*. 2020; Mohamed, *et al*. 2021; Nicholas *et al*. 2020; Sikakulya *et al*. 2021; Tam *et al.* 2020). Official recommendations such as washing hands frequently and wearing face coverings impacted the daily behaviours of individuals and the knowledge people hold of what works when it comes to preventing the spread of the virus. For example, hand sanitisers had suddenly gained so much popularity as frequent handwashing was recommended as an effective prevention measure; because of this recommendation, there was a suddenly increased demand for this type of product as individuals listened to the government and decided to act accordingly, meanwhile creating a large shortage in supply (Suthivarakom 2020). In other words, the knowledge output changed the sanitation habits and purchasing behaviours of individuals. Yet, the earlier discussion has shown that considering scientific evidence alone was incapable of explaining the variations in policies regarding face coverings across different nations; it seemed to be the case that scientific evidence was only part of the whole picture.

Controversy Around the Efficacy of Face Coverings in Terms of Scientific Discourses

The last section discussed the inconsistent health policies implemented by various governments which were supposedly based on scientific evidence, this section focuses on the knowledge aspect of face coverings. The scientific discourse played a crucial role in shaping the new health policies as well as the understanding of individuals worldwide during the COVID-19 pandemic in terms of the efficacy of face coverings. The discussion is centred on a literature review of articles published in 2020 and 2021 which contributed to building a comprehensive understanding of the effectiveness of masks, in order to reveal the inconsistent nature of the early discourse around this topic and how the claims then changed later. Again, this section has no intention of serving as a comprehensive literature review of all the knowledge available regarding face coverings in the form of written articles, nor a critique of the validity of the claims from a scientific perspective; the point of the following discussion is to gather a selection of publicly available scientific discourses of face coverings from the early stage of COVID-19 and to pave the way for the in-depth discussion in the next chapter highlighting the process of knowledge production and stabilisation.

Additionally, these selected articles were all written in English and can be found easily through the Google search engine; this means that they should be easily accessible to the public who speak the language of English and have access to Google. The high accessibility of these articles allowed them to act as a source for building the knowledge of the public on this matter. Even though some of the articles appeared more credible than others, the thesis does not wish to evaluate the legitimacy of these articles; the reason for such a variable selection is that they all applied scientific discourses in their writing to justify

their claims. This section intends to take the view of an 'outsider', inspired by *Laboratory Life* (1979), who had little knowledge about face coverings in the context of the coronavirus pandemic, in order to document a section of the knowledge construction process from the standpoint of an anthropologist rather than a scientist of relevant fields.

In the middle of March 2020, the number of coronavirus-infected individuals experienced a significant increase and COVID-19 was officially declared a global pandemic (WHO 2020C). Around the time of April 2020, the first wave of studies concerning the effectiveness of public mask-wearing was published as an attempt to contribute to the closure of the controversy about face coverings. Chan and Yuen (2020) published one of the first journal articles evaluating medical face masks from an epidemiological perspective. The article suggests that although empirical evidence was limited at the time, mask-wearing can potentially mitigate the spread of coronavirus in combination with other hygiene measures. However, public masking may not be necessary for low-risk areas from a cost-effective point of view; considering the global shortage, Chan and Yuen claim that striking a fine balance between the cost and benefits was crucial, and further studies needed to be conducted swiftly. Greenhalgh and colleagues (2020) suggest that although it is contested whether masks will reduce the transmission of COVID-19, the public should act without definitive evidence according to the precautionary principle, especially considering the seriousness of the new threat; therefore, face masks should be advertised. Javid, Weekes, and Matheson (2020) agree on the part that there was insufficient evidence to support mask-wearing; although they are concerned that mask-wearing could be harmful because the actions could "instil a false sense of security", "reduce adherence to other respiratory hygiene and social distancing measures", and "contamination may occur when removing masks with imperfect technique". They do not counsel against such action because they agree with Greenhalgh

and colleagues that indirect benefit combined with low risk of harm should outweigh the lack of direct evidence supporting public mask-wearing. In general, none of these studies published within this particular time frame argue against the public usage of face coverings, but this is not the equivalent of promoting the usage either. Nonetheless, masking as a precaution measurement was recommended by some, despite the shortcomings such as the cost and the potentially harmful aspects of using it as well as the fact that mask-wearing has yet to be supported by concrete scientific evidence. Similar studies are also published a few months later, such as the ones by Sunjaya and Jenkins (2020), and Burnett and Sergi (2020).

Following the initial speculation, articles collecting and analysing numerical data began to make an appearance. Eikenberry and colleagues (2020) developed a compartmental model for assessing the impact of masks used by the public, based on the data they collected from New York and Washington. Their result reveals that the use of face masks by the public is potentially of high value, especially when the adoption rate is high and in conjunction with other non-pharmaceutical practices. Similarly, Stutt and colleagues (2020) believe that the lack of experimental population-based data on masking cannot be the reason supporting the ineffective claim of face masks. In their report, two mathematical modelling frameworks were built to examine the dynamics when face masks are worn by the public, with or without imposed lockdown; the result shows that when combined with physical distancing, public masking may provide an acceptable way of managing the pandemic and re-opening economic activity. Mitze and colleagues (2020) analysed data collected from different regions in Germany and concluded that wearing face coverings could reduce the daily growth rate of reported infections by around 47%. Zhang and colleagues (2020) provide an analysis of the trend and mitigation measures in three epicentres; their conclusion indicates that mask-wearing in public corresponds to the most

effective means to prevent inter-human transmission. However, Zhang and colleagues' approach was criticised by Kampf (2020) due to the omission of a range of factors, such as the issue with small sample sets used, not considering the local population density and the effect of other measures like social distancing.

These writings appear to be the earliest convincing studies supporting the use of masks for the general community, but they all appear with limitations as indicated usually at the end of the articles by the authors themselves. The numerical models were based on calculations of limited data, and the literature research was based on the studies of previous pandemics rather than an evaluation under the setting of COVID-19; quite a few studies utilised previous research to consolidate their arguments. For example, Barr (2020) claims that because coronavirus is a respiratory virus transmitted through air, it is reasonable to conclude that masks do work but uncertain to what extent based on previous studies on them reducing the spread of respiratory viruses and the flu epidemic. For this reason, Barr believes the question people should not be asking is whether public masking is beneficial; instead, they should be asking to what degree of mask protection is needed as suggested by the precautionary principle. Akin studies with similar conclusions were produced by Liang and colleagues (2020), and MacIntyre and Chughtai (2020). However, because these studies did not directly investigate the properties of coronavirus, they cannot be regarded as direct scientific evidence of the effectiveness of face coverings. In 2021, the studies by Chernozhukov, Kasahara, and Schrimpf (2021), and Karaivanov and colleagues (2021) investigate the correlation between mandatory face mask policy and COVID-19 case growth; by analysing the data collected from the United States and Canada respectively using the same approach, both studies suggest that the policy seemed to reduce the spread of COVID-19 without affecting people's social distancing behaviour. Despite these two studies offering

a more comprehensive evaluation compared to their predecessors as more data were available at the time, the authors stressed that their studies were observational based on regional data and further studies were needed to enrich the debate.

Despite the many endorsements of mask-using, there were also writings from early to mid-2020 that did not share the same glowing recommendation of public mask-wearing and expressed various concerns. As an example, Mahase (2020) points out that due to a shortage of surgical masks and respirators, cloth masks were the most accessible type of masks to the public. He provides a brief review of the early evidence on cloth masks as well as an overview of recommendations at the time. He suggests that there is little decent-quality research available to make a conclusion. Middleton and Lopes (2020) agree with Greenhalgh and colleagues (2020) that precaution is important, but Middleton and Lopes stress the importance that other factors must be considered at the same time when making the decision such as mask shortage, necessary public training, and the usage of face masks along with other social measures. Bae and colleagues (2020A) evaluate the effectiveness of surgical and cotton masks based on the data they collected from two hospitals in Seoul; their result shows neither surgical nor cotton masks effectively filtered SARS-CoV-2 among infected patients. However, two months later Bae and colleagues were forced to retract their articles due to a mistake they made in terms of the limit of detection, pointed out by the editors of the journal. Although Bae and colleagues proposed a correction with new experimental data, the editors rejected their request (Bae *et al*. 2020B). Stone and colleagues (2020) agree with Boseley (2020) and the advice of the WHO at the time that masks do not necessarily protect people, except under the circumstances when they are worn by sick individuals or people taking care of them. Additionally, Stone and colleagues are more concerned about the risk imposed by the inappropriate usage of face coverings

and the supply shortage; they advise that other precautions are far more effective according to the current evidence, therefore more attention should be paid to those instead of face masks. Martin, Hanna, and Dingwall (2020) list four reasons for the potential flaws of adopting public masking, including the technical challenges in mass mask adoption, risk compensation, societal consequences, and difficulties in the prediction of indirect consequences; they suggest that proposing a policy change regarding face coverings was based on eminence rather than evidence. A more extreme opposition came from Rancourt (2020A) who claimed that "a growing body of evidence" was a lie from public health officials. After health policies began to favour public masking, Rancourt still asserted that there was no balanced evidence proving that masks reduce the transmission of COVID-19; the "growing body of evidence" was insufficient to support the new policies, and the "considerable known harms and risks due to face masks" were failed to be considered.[20] Watson and McCrae (2020) also suggest that wearing masks and full economic lockdowns as part of the strategies to combat COVID-19 were "simply not based on evidence" at the time. Similarly, Marasinghe (2020), Ahmed, Harker, and Edirisinghe (2020) conclude that there was a lack of evidence supporting mask-wearing among healthy individuals and there was an urgent need for further research; however, they were open to the idea that the public masking can potentially be beneficial.

[20] The thesis was aware of the quality of the research by Rancourt (2020) was questionable based on the fact that the article was not peer-reviewed and was only self-published on ResearchGate. The thesis was also aware of his stained academic reputation (Fish 2009). However, as previously discussed, the purpose of this literature review is not to judge the validity of the selected articles nor to reveal the scientific truth about face coverings; rather, the discussion is intended to reveal the controversial nature of this debate through scientific discourses, and all the selected studies contributed to the knowledge building process.

Since mid-2020, there have been more journal articles providing systematic reviews of face coverings in terms of materials, filtration, and fitting, as well as testing methods; the focus shifted towards the assessments of the efficacy of the object itself. Chua and colleagues (2020) evaluated a few types of the material composition of face coverings in terms of how they can prevent the spread of airborne and droplet-borne infections; they concluded that public masking served as a key strategy that cannot be easily substituted. Forouzandeh, O'Dowd, and Pillai (2021) summarised several adoptable testing methods for determining the effectiveness of face coverings. O'Kelly and colleagues (2021) conducted a quantitative experiment on the fitting of masks made of different fabrics by measuring the concentration of particles inside and outside a mask; their result showed that respirators like KN95 and N95 provided high filtration when they were fitted properly. As for other types of masks including cloth masks, not one type was proved to be superior to the others due to their poor fit; they all offered filtration to a certain degree, and their adequacy could potentially be improved with a better fitting. Li and colleagues (2021) provided a systematic review evaluating eligible studies which offered over 95% confidence interval data of mask-testing as well as appropriate study designs; their review indicates that mask-wearing was in general associated with reduced risk of infection, especially for the healthcare workers group. Nevertheless, they suggested that more randomised trials were needed to solidify the claim. Abboah-Offei and colleagues (2021) conducted a rapid literature review to investigate the impact of face masks in controlling the transmission of respiratory viral infections, and they concluded that all types of masks served a dual preventive purpose of protecting oneself and others from COVID-19. Although Santarsiero and colleagues (2021) agree that both medical masks and respiratory personal PPE displayed a given effectiveness value from their review of existing evidence, the data on commercial and homemade masks

were conflicting; the level of protection offered by any masks could be compromised as droplets might leak into the face piece without an adequate facial seal. Duncan, Bodurtha, and Naqvi (2021) set up fabric filtration and inward leakage experiments respectively on reusable fabric masks, disposable surgical masks, and KN95/N95 respirators to determine particle penetration. The result showed that there was a variation of penetration, not only between different types but also within the same category; sometimes the difference was even substantial. In general, cloth masks had the highest particle penetration and inward leakage, surgical masks were placed in the middle of the rank with marginally improved inward leakage, and the KN95/N95 type was at the top offering the highest degree of filtering performance and inward leakage protection. Therefore, Duncan, Bodurtha, and Naqvi (ibid.) suggested that there was a need for impartial authoritative guidance and mask testing to confirm whether the products met any implied standards. Overall, these studies agree that KN95/N95 respirators were effective PPE against COVID-19 when they are fitted properly, but the efficacy of other types of face coverings had yet to be confirmed as no agreement was reached.

Additionally, due to the early shortage of surgical masks and respirators, commercial and home-made cloth masks became the popular choice for individuals who would like to wear a mask or were required to wear one due to policy changes (Sharma, Mishra, and Mudgal 2020); journal articles examine the efficacy of cloth masks began to appear as others were not immediately available to the public. Sharma, Mishra, and Mudgal (ibid.) reviewed existing studies and concluded that although cloth masks had limited power in blocking viral infection transmission, the effectiveness depended on the type of material used and it could be improved; hence, they recommended the usage of cloth masks in closed indoor and crowded outdoor public spaces. Taminato and colleagues (2020)

conducted similar research on various databases, but their findings revealed that there were no randomised clinical trials involving cloth masks. They suggested using cloth masks as additional prevention and it must be used along with other measures; otherwise, cloth masks would only have a marginal impact. Based on previous research, Clase and colleagues (2020) claimed that despite the material cloth, in general, being incapable of stopping isolated virions, it was capable of blocking droplets and aerosols containing viruses; different types of cotton used would affect the filtration percentage, but have additional layers could increase the efficiency and protection level. Therefore, Clase and colleagues suggested that cloth masks might be effective in reducing contamination of the environment by any virus, potential harm could also be mitigated by public health education and interventions. However, Roberge R. and Roberge M. (2020) held a relatively sceptical position towards cloth masks; they argued that cloth masks only gained popularity because there was a lack of standard respiratory protective equipment, and their literature research indicated that recommendations for the public to wear cloth face coverings were not made on an empirical basis but on assumptions. Therefore, they only recommended the use of cloth coverings when other protective equipment was unavailable. Hao, Xu, and Wang (2021) conducted experiments on many household materials available to examine the filtration performance of face coverings made of varied materials in terms of droplets and aerosols. Their result indicated that the higher the grams per square meter of the material, the higher the filtration efficacy.

This category of studies focusing on the object itself generally expressed a positive attitude towards public masking as a means of protection from coronavirus. Even though no data from clinical trials involving the actual coronavirus was presented in any of the above discussions, mask-wearing was recommended by many based on previous research and

experiments. In other words, the conclusions of many journal articles were based on the logic of induction; masks could block droplets and other types of airborne infections to a certain degree depending on the material they were made of, then they should be able to reduce the transmission of coronavirus and benefit the public. However, as Nanda and colleagues (2021) pointed out, the preclinical and clinical evidence for the benefit of face masks in the context of COVID-19 was limited; they advised that there was an urgent need for randomised controlled trials to investigate the actual impact of masks on the transmission of SARS-CoV-2. When this journal article was published, many countries had already adopted compulsory public masking policies. It further raised the question that to what extent the health authorities worldwide made their decision based on scientific evidence; the common approach at the time seemed to be "better safe than sorry", as Wong and colleagues (2020) put it, "is it not better to adopt a possibly imperfect protective measure than to wait for more evidence at the expense of human lives?"

Summary and Evaluation

As a summary, this literature review of articles with scientific discourse indicated that the initial reason for supporting public masking was mainly based on the precautionary principle considering the seriousness of the new threat to public health. Even though some claimed that there was not enough evidence on the efficacy of face coverings at the time, the data from previous related research were utilised to support the argument; the initial speculation was that wearing face coverings was associated with low risks of harm. Then, there were numerical analytical studies with evidence to support masking based on regional data. These studies appeared to be convincing because of their statistical and analytical

nature, but they also had shortcomings such as having limited sample sizes and the lack of consideration of other factors affecting the results. Next, there were journal articles focusing on the object itself, systematically reviewing and assessing the efficacy of several types of masks in terms of materials, filtration, and fitting. These articles in general agreed that KN95/N95 respirators were the most effective type of masks against COVID-19 when fitted properly. However, conclusions on the efficacy of other types of masks including surgical masks, cloth and commercial masks were inconsistent. A few studies mentioned that the mask shortage was a big problem at the beginning of the pandemic, and this problem affected the public as face masks of higher grades were unavailable. Nevertheless, face coverings were recommended to the public before the call for further evidence came to an end. The rationale of studies that were less supportive of public masking was based on insufficient high-quality research and the lack of direct evidence at the time; some suggested that the policy of compulsory masking was not set based on scientific evidence. Additionally, the potential risk imposed by inappropriate wear of masks was also advised. Yet, this claim was also not supported by good-quality evidence, thus it was no more convincing than its counterarguments. There seemed to be a division between complying with the precautionary principle and waiting for better-quality evidence to become available. The controversial scientific discourse around the efficacy of face coverings at the time led to different recommendations about public masking.

This chapter has raised the question that if there was only one version of science, in the sense of being the metaphysical truth, then how did it manage to produce contradicting knowledge which led to the construction of multiple versions of reality? Thus, the thesis argues that the knowledge of diverse health realities constituted by discourses was not the equivalent of the metaphysical truth about the universe because of its malleable quality.

However, this was not to deny the existence of such truth but to argue that the constituted realities were heavily influenced by contextual factors. In layman's words, what one person sees depends on where that person stands. However, from the Foucauldian point of view, discourses are not simply the product of the mind, and the statements cannot be considered as constructed by the speaker; rather, they are shaped under various social influences. The next chapter will provide an explanation to account for the inconsistency that was revealed through the literature review; it will confirm that the health knowledge available to the public reveals less about the absolute truth and more about the complex social mechanisms that generated such knowledge.

Chapter 5 Theories in Practices Part Two: Epistemological Quality of Face Coverings and Power Relations

The last chapter revealed the inconsistency in public health policies and scientific discourses of face coverings in the context of COVID-19 through a literature review; this chapter explores the reason for having different scientific claims for the same object, as well as justifies the variation and transformation of public health policies in relation to scientific evidence. If science is such a highly regulated system of knowledge, then how can this inconsistency be accounted for? It also was the case that having scientific evidence alone was incapable of explaining the changing policies. The story of face coverings needs to be situated in the context of epistemology and power relations by applying the theoretical framework built in previous chapters using aspects of Foucauldian philosophy and *Laboratory Life* (1979).

This chapter revisits Chapters 2 and 3, and conducts theoretical and practical hybrid analysis to further consolidate the constructive nature of knowledge. It argues that the epistemological quality of an object is inseparable from the social factors that contributed to the knowledge construction, and the nature of knowledge is contextual and circumstantial. Much healthcare-related knowledge has always been presented in an absolute form, but the reality is that there is no one-size-fits-all solution considering different material situations and cultural norms that participated in the discursive formation of the knowledge. Different knowledge constructions lead to different individual realities. For example, the reality of those who obeyed the precautionary principle at the early stage of the COVID-19 pandemic was that public masking would be beneficial; conversely, the reality of those who

were looking for direct evidence would be that public masking might be unnecessary at the time. In other words, multiple versions of reality do exist, supported by different versions of knowledge held by individuals; thus, the perception of reality becomes a personal matter. The next chapter will introduce the constructivist epistemology to account for such a claim and introduce liberal ironism as a tactic to ease the tension between distinctive realities.

The Epistemological Quality

Initially being a stranger to the field of science studies, Latour was able to adopt an outsider's view realising that scientific knowledge was produced in laboratories; this is to suggest that the epistemological quality of an object was inseparable from the production process that was specific to the local. This argument is capable of explaining the inconsistent knowledge regarding face coverings revealed by the literature review. The policies and articles are the products of their local institutional culture respectively, where different statements were manufactured under the influences of distinguished material and social factors, thus resulting in various truth claims. Scientific knowledge as a product cannot be seen as the equivalent of the objective truth of the universe; instead, it should be treated as a hybrid of objective facts and subjective social factors from a Latourian point of view. Therefore, taking a closer look at the written materials could shed light on the non-scientific factors involved in the production of inscriptions to further assist the understanding of the process of the birth of new public health knowledge.

Additionally, part of the Foucauldian philosophy on discursive formation and positivity can also be used to perceive the stabilisation process of new knowledge. Statements that were believed to be scientific knowledge were the result of a particular

discursive formation at the time, determined by the positivity of what could be said. The concept of 'credibility' introduced in *Laboratory Life* (1979) can be associated with the Foucauldian argument that 'human beings are made subjects' under the regulation of power relations in a society. The credibility of authors is associated with the institutions backing their claims; this social concept affects the validity of their work and how seriously their arguments are going to be taken by the academic circle, and thus determines the degree of contribution of the work to the making of new scientific knowledge.

Literary Inscriptions

The thesis previously explained how *Laboratory Life* (1979) adopted literary inscription as the principle for organising observations to make sense of various activities in the laboratory. As a result, Latour and Woolgar realised that many activities, such as sending test tubes into bioassay machines or cutting up animals, could be seen as "means of obtaining inscriptions" even though they appeared to be "superficially unrelated to the literary theme" (Latour and Woolgar 1986, p. 52). This was because all the complex and highly regulated procedures that scientists went through were for one purpose only, being the output of academic journal articles. Literary publications were considered the objects of manufacture in the same way as commercial goods. Following the same logic, journal articles investigating the effectiveness of face coverings by setting up multiple experiments documenting results fit into this category. Even though no two laboratories were alike, they had the same mission of obtaining inscriptions in the form of journal articles through a series of activities.

For example, the paper by O'Kelly and colleagues (2021) documents the result of quantitative fit-testings of multiple types of face coverings; it was published to fill the gap in

the knowledge evaluating the efficacy of face coverings, focusing on the fit factor by measuring the concentration of particles inside and outside the mask. The experiment set-up centred around a particle counter machine which was capable of measuring both particle concentrations from inside the mask when worn by research participants and from the ambient air; the higher the number of particles inside the mask indicated the poorer the fit of the tested mask, as unfiltered air was allowed to enter the mask and raised the particle level inside. The result indicated that the fitting of N95 respirators was critical as it largely affected the filtration level. Other types of face coverings assessed including KN95 respirators, surgical masks, and fabric masks all had low fit factor scores, which means that the wearers had difficulties properly wearing them; because of this reason, they shared a similar level of protection lower than N95 respirators. The journal article uses multiple forms of inscriptions, such as images of researchers operating the particle counter, images showing the fit of multiple masks on one volunteer's face, charts indicating the fit of masks, a chart comparing the percentage of particles inside and outside among seven volunteers, as well as verbal descriptions of their experiment from introduction to the summary of key findings and implications. In contrast to Guillemin's laboratory, this group of scientists only involved a simple machine and a few pieces of structured fabrics, but the outputs were in the same format – that being academic journal articles. The activity of utilising the particle counter by O'Kelly and colleagues shared the same principle as running a bioassay machine in Guillemin's laboratory to obtain data and organise them into graphs of different shapes. The final products of the two distinctive laboratories, exploring two areas of study at different times, are both multiple sheets of paper printed with inscriptions; their activities can both be interpreted as obtaining inscriptions.

Material Factors

Latour and Woolgar (1986, p. 64) applied the term "phenomenotechnique" referring to an artificial reality that was constructed by the material settings of the laboratory.[21] They argued that such a reality only took on the appearance of a phenomenon through the construction of material techniques in the laboratory; if any equipment from there was removed, it would simultaneously remove at least one object from the constructed reality in the scientific discussion. In other words, without the specific material environment of the laboratory, the object under investigation would cease to exist; yet this factor was often overlooked as an "essential feature of science" (ibid., p. 69).

Indeed, the material set-up of a scientific experiment is a determining factor of the outcome. The research of O'Kelly and colleagues (2021) would cease to exist if the particle counter were unavailable because the conclusion of the paper was built on the analysis of the number of particles counted by the machine both inside and outside masks worn by the volunteers during the test. Nevertheless, their paper mentioned little about this piece of equipment itself; they were referred to as the "quantitative fit testing machines" in the main text, and the next page had an inserted photo showing the machine at work with a brief description underneath (ibid., p2, 3). The lack of further explanation of this technology reveals that this machine was taken for granted as established knowledge and a part of the laboratory set-up; the credibility of the machine was not challenged, such as its inventor, producer, working principle, or accuracy.

[21] The term 'phenomenotechnique' was initially coined by Bachelard in *Le Matérialisme Rationnel* (1953). For more interpretation of the term by Latour and Woolgar, please see *Laboratory Life* (1979) p. 63.

In comparison, the study of Hao, Xu, and Wang (2021) regarding the filtration performance of homemade face masks involved a much more complicated experimental setup. In the paper, Hao, Xu, and Wang dedicated a section explaining the setup; it was divided into an aerosol generation section and a filtration assessment section. The aerosol generation section included an output atomiser spraying a CaCl-water solution at a flow rate of 3.0 litres per minute, a diluter, a diffusion dryer, and a mixing chamber. The filtration assessment section consisted of a 37-mm filter cassette where the chosen material was placed, along with a HEPA filter, a critical orifice, a scanning mobility particle sizer that was equipped with a differential mobility analyser that classified the sizes of particles between 30 and 600nm, and a condensation particle counter. This setting was undoubtedly much more complicated than that of O'Kelly and colleagues. However, the authors did not carry out a critical analysis of their set-up either, only a detailed description was included in the paper.

Despite the two groups of scientists investigating the efficacy of different face coverings, the first group focused on the fit factor whereas the second group concentrated on the materials. The equipment available to the scientists had a vital impact on the type of experiments they conducted. The data collected in both cases were purely based on the output of particle counters; it was with these data the scientists were able to arrive at their conclusions. In other words, the availability of the material instruments was a controlling factor that shaped the format of experiments and determined the outcomes. Yet, both groups took their material set-up for granted and treated the equipment as uncontested scientific facts. This observation complies with a point raised by Latour and Woolgar (1986, p. 69):

> Without the material environment of the laboratory none of the objects could be said to exist, and yet the material environment very rarely receives mention – an essential feature of science.

Additionally, Foucault made a similar point in *The Birth of the Clinic* (1963). As previously discussed, the development of medical discourse from the Classical Age to the modern era was embodied in a simple transformation from "What's the matter with you" to "Where does it hurt?" Such a development reflected the presence of the disease changing from being invisible to visible to the doctor's eyes; the later empirical practices allowed the disease "to be seen" and "to be spoken" (Foucault 2003, p. 116). Such a transformation also shifted the power relation between the doctor and the patient. Even though there were social factors involved in these transformations, such as the role the French Revolution played in shaping Parisian hospitals, the event could also be argued as a change in the material environment at the time; without the increasing popularity of anatomy and the accessibility of human bodies, the clinical knowledge could not have developed in such a direction. The availability of the human body in front of the doctor's gaze was a material factor that contributed to the formation of the new *episteme*, and hence the production of new clinical knowledge as well as the power relation shift.

Standards

The story of Guillemin and his success in determining the sequence of TRF revealed the effect of standard setting in the process of knowledge production; Guillemin ruled out his competition by reshaping the rules and raising the bars of the field. Such an act eliminated his competitors who were no longer able to continue pursuing the new goal due to their limited material factors, such as a lack of financial support and equipment. In other

words, Guillemin redefined the future of this subfield by making an impact on the new knowledge emerging from the field in the form of changing standards.

Many journal articles that were published during the pandemic accessing the quality of face coverings elaborated on the standards and testing methods adopted in the studies. Forouzandeh, O'Dowd, and Pillai (2021) provided a review of the standards and testing methods of face masks. However, their research was North American centred as many tests mentioned were in line with the guidance from American National Standards Institute (ANSI), the American Society for Testing and Materials (ASMT), US Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH). O'Kelly and colleagues (2021) briefly discussed two existing industry-standard methods for evaluating the fit of masks: qualitative fit testing and quantitative fit testing; according to the authors, these testing methods were approved by NIOSH, and the exact methods were also mentioned in the work of Forouzandeh, O'Dowd, and Pillai (2021). The study of Hao, Xu, and Wang (2021) adopted one of the filtration efficiency tests listed by Forouzandeh, O'Dowd, and Pillai (2021). Hao, Xu, and Wang's experiments tested household materials using the NIOSH NaCl method as the substance can provide a range of differently sized particles between 10nm and 10µm. Similarly, Duncan, Bodurtha, and Naqvi (2021) used the same substance NaCl aerosol to determine the filtration and total inward leakage of several types of masks.

It is worth noticing that the above studies were conducted by researchers from universities in the U.S., which means that the standard the researcher complied with was connected to their geographical position, as NIOSH was a subsidiary agency of the U.S. Department of Health and Human Services. The decision to adopt NIOSH's guidance was the

equivalent of following the standard setter of this subfield. In these journal articles, even though all the authors described their experiments set-up, they did not question the purpose of such set-ups; they thought the association with NIOSH provided sufficient justifications for such decisions. Furthermore, researchers from other countries also recognised the authority of the U.S. standards. As an example, some Chinese researchers were fully aware of the face mask testing standards of both NOISH and ASTM. Yang (2006) compared the Chinese standard of face masks proposed by the Chinese State Administration for Market Regulation with that of NIOSH and Comité Européen de Normalisation long before the COVID-19 pandemic.[22] Guo (2021) offered an in-depth analysis of the differences between the new ASTM standard and the new Chinese standard in light of COVID-19.[23] Pan and colleagues (2021) provided a more specific review of standards from different authorities, including the Chinese GB2626-2019, GB19083-2010, NOISH 42CFR Part 84, and European standard EN 149:2001+A1:2009, EN 13274-7:2019; these codes referred to papers and information published by these organisations regarding face coverings.[24] Despite many health-related authorities being regional and serving the purpose of standard-setting for particular countries, some had the ability to spread their influence across the globe. This is to suggest that these authorities had higher credibility in the field; their standards had a greater influence on discussions, as well as shaping new scientific knowledge.

[22] The article was written in Chinese. Please see bibliography for the original source.
[23] The article was written in Chinese. Please see bibliography for the original source.
[24] The article was written in Chinese. Please see bibliography for the original source.

Credibility

Laboratory Life (1979) partly explored the notion of credits under the setting of scientific disciplines. Latour and Woolgar found that the behaviours of scientists were like bankers investing capital and there was a cycle of credibility – "an integrated economic model of the production of facts" (1986, p. 194). The initial investment for a scientist was education, the obtained certificate would then become the capital for the next career investment such as getting into a research laboratory. Afterwards, the scientist might wish to move to another position in the laboratory or another institution; such a process could build up a curriculum vitae for the scientist, and more capital would be accumulated in future career investments. The position in the field achieved by the scientist was understood as the result of the "intersection of individual strategy and field configuration" (ibid., p. 211). The field could also be simultaneously modified and strengthened according to new knowledge produced by the scientist. Guillemin was able to transform the field of neuroendocrinology by setting a new standard, but the premise was that he invested in the field and built up a curriculum vitae so that his fellow scientists acknowledged the credibility of his work.

In June 2020, a controversial article was published by River Cities Reader titled *Masks Don't Work: A Review of Science Relevant to COVID-19 Social Policy* (2020B). In the article, Rancourt argued that masks and respirators did not work against the coronavirus because there were extensive randomised controlled trial studies and meta-analysis reviews showing that these items could not prevent respiratory influenza-like or respiratory illnesses believed to be transmitted by droplets and aerosol particles. Two months later, Rancourt (2020A) published another article on ResearchGate arguing against health officials' claim of having "a growing body of evidence" to support of usage of face coverings. Rancourt's claim

was certainly much more extreme and radical compared to other journal articles, and it attracted criticism. Johnson (2020) provided “a complete debunk” of Rancourt’s full argument also published on ResearchGate. Even though Rancourt was a certified holder of a PhD degree, his argument was taken with a grain of salt because his articles were not published in peer-reviewed journals. Additionally, having a PhD in physics did not help strengthen Rancourt’s argument for the efficacy of personal protective equipment; without the affirmation from other members of related scientific fields such as epidemiology, his articles would not hold high credibility. Furthermore, Rancourt did not have the best reputation within the academic circle; he was known for his confrontations with the University of Ottawa for grade inflation and academic squatting (Johnston 2009; Fish 2009). Rancourt’s credibility as a scholar was tarnished after the confrontation with his former employer; it was a failed investment of his previous capitals. Regardless of what the objective truth was, Rancourt's not being a credible scientist under this context affected how his statements were treated; the social factors mentioned above diminished the weight of Rancourt’s claim during the construction of new knowledge.

In contrast, journal articles following the standard of NIOSH had more credibility because of their association with the institution; this can be explained from a Foucauldian perspective. Foucault argues that human beings were made subjects in the sense that the position of the speaker and selfhood were defined by internalised social norms under a particular *episteme*. In other words, the credibility and the position of the researcher in a field were inseparable from institutional power. Despite each researcher having certain agency and freedom to conduct independent research, the research was not truly liberated from the power structure because it needed to follow certain rules set by the authority to be seen as a piece of credible work. Therefore, the knowledge produced was not entirely up

to the subject itself; it was a product of an intricate yet specific power relation. In this case, most researchers decided to follow the rules set by NIOSH, hence the new knowledge was shaped under the influence of NIOSH. Simultaneously, these researchers were deemed credible according to the power relation, taking on positions and becoming docile bodies that further strengthened the institutions.

Temporal Quality

As previously discussed, *Laboratory Life* (1979) depicted the 'microprocessing of facts' in the laboratory and suggested that scientists attempted to force a statement in one particular direction through daily activities as a common practice. Therefore, the product of the laboratory was a social construction based on very particular situations and the local collective circumstances that were unique to the institution. However, these social references began to disappear quickly once the statement started to stabilise; the analogical path of how the scientist put the pieces together was often depicted as a logical connection, even though it was highly circumstantial in many cases. The complex set of local situations of the laboratory, which temporarily provided "a weak link" connecting the statements, was later understood as "flashes of intuition" (Latour and Woolgar 1986, p. 171). The new knowledge itself eventually became the reason why the statement was formulated in the first place, and it was up to this point that a statement lost all its temporal qualities; the statement was then considered as a fact that possessed a quality which appeared to be "beyond the scope of some kinds of sociological and historical explanation", and was incorporated into "a large body of knowledge drawn upon by others" (ibid., p. 105). This change only took place once the statements became stabilised, and all the temporal qualities vanished at this point.

Any repetition or similarity observed was sufficient for constructing the initial claim. The construction of new knowledge depended on the scientist's "provision of inscription obtained from instruments accumulated within the laboratory". In the case of face coverings, the conclusions of the papers with numerical figures obtained by the authors were inseparable from different equipment that was available in their local environment.

Following the provision of inscription, there was an "accumulation of techniques" preventing the new knowledge from being "artefactual" as opposed to "factual" (Latour and Woolgar, 1986, p. 127). Such an accumulation of techniques was involved in the construction and dismantling of facts in both daily and formal conversations between scientists, which Latour and Woolgar referred to as the "work of social negotiation" (ibid., p. 157). Although the published papers discussed above excluded any informal discussion that seemed to be too social rather than logical in the final inscription, their submission to the NIOSH standard indicated an alliance between the researchers and the established institution; this highly established institution held a formidable reputation worldwide that had also influenced researchers living abroad. Therefore, it was unsurprising that the U.S. – based researchers O'Kelly and colleagues (2021), and Hao, Xu, and Wang (2021) decided to comply with the institute and allowed their studies to be driven in particular directions according to the standard of NIOSH. In the words of Latour and Woolgar (ibid., p. 164):

> In a sense, these discussions constituted a complex sociology and psychology of science engaged in by participants themselves… participants' own sociology of science is used as a resource in making decisions and evaluating statements.

The decision to follow this set of rules was based on the scientist's understanding of the social aspect of the field. The process consisted of the identification of leading institutions in

the field as well as the individual's psychology of decision-making; both steps involved social factors that were temporal and subject to change. Additionally, because there was no further justification or evaluation of the experiment included in the papers other than descriptions of set-ups and references to institutions such as NIOSH, it was hard to argue that such a decision was made purely based on logical causes. In the words of Latour and Woolgar (1986, p. 136), "the logic of deduction cannot be isolated from its sociological grounds" as it would be "deflected by prevalent beliefs".

Through the accumulation of inscriptions, there was a turning point where a major ontological change took place. At this point, the temporal qualities disappeared, and the statements gained the appearance of the absolute truth, as long as the technology involved in building the equipment, or the prestige of the institutions associated remained credible. The early studies of face coverings embodied much inconsistency, this was because the discourse around this object in the context of COVID-19 had yet to stabilise at the point when the articles were published. According to Latour and Woolgar (1986, p. 237-8, 202-3), science was an agonistic field much like other political fields of contention, and scientists were interested in increasing their own production of credible information; they needed the work of others with comparable results to reaffirm the credibility of their own work and to transform their statements into credible knowledge. Once the statements stabilised in the field, they were rarely challenged; they became a part of the knowledge corpus, a part of laboratories, and were taken for granted. In the case of face coverings, the variation between claims tended to reduce as time progressed. According to the literature review in the last chapter, the inconsistency of both health policies and papers was significantly larger in early 2020; some studies argued against public masking, but some advocated the precautionary principle, and the world governments adopted different measures for their

own countries. In comparison, many studies from late 2020 and 2021 recognised the effectiveness of respirator-graded masks against coronavirus when used correctly, but the efficacy of other types of face coverings was still under debate. As for health policies, a lot of countries implemented mandatory mask-wearing rules despite initial reluctance, but details such as when was face coverings compulsory and how scrutinised the rules were varied from one state to another. Furthermore, finding out whether the public could benefit from mass masking was not entirely the same as investigating the filtration level of face coverings; more research was needed to support the claim under different social and cultural contexts. Latour and Woolgar (ibid., p. 243) defined reality as "the set of statements considered too costly to modify," and the literature review at the time revealed that the general knowledge regarding face coverings had not reached that point; the statements had not lost their temporal qualities and were still challenged with relatively low cost.

The Foucauldian concept of *episteme* is also applicable to comprehending the malleable quality of knowledge. The *episteme* is a set of relations that organises knowledge through discourses at a specific time, and it is transformable throughout history. In this sense, scientific knowledge is also a formation of selected discourses under a particular context; it is subjected to changes despite how objective the statement seems. As Latour and Woolgar (1986, pp. 128-9) pointed out, no matter how hard the scientists tried to make their inscriptions look like a representation of an objective entity, those inscriptions were merely collections of discourses. Scientific knowledge was an end product of the construction process; such a construction of discourses was not guaranteed to remain unchanged forever.

Even though the credibility of certain statements can build over time until they become a part of the laboratory setup: being too costly to challenge is not the equivalent of being unchallengeable. Historically speaking, there were many instances where stabilised knowledge for centuries was replaced by a set of new discourses. For example, the geocentric model was the predominant belief of astronomy, but it was eventually challenged and replaced by Heliocentrism through the work of Renaissance astronomers such as Nicolaus Copernicus and Galileo Galilei. New discourses brought by technological devices such as telescopes shook the previous construction, resulting in a new *episteme* being established. After the stabilisation process, the statements were still a part of the discursive formation under one *episteme*, which means that they would be challenged in the future when new discourses became available. Therefore, there is a need to develop a mindset to acknowledge this malleable quality of scientific knowledge.

Knowledge/Power

Thus far, the chapter discussed the epistemological quality of a scientific object and argued that it was inseparable from material and social factors within the laboratory where the knowledge of the object was produced; in this way, the variation in scientific claims could be accounted for. However, there is another way of explaining how different opinions were held regarding public masking – the power of social institutions influenced public knowledge as well as the behaviours of individuals. The previous discussion touched upon the credibility of institutions such as NIOSH shaped the published journal articles, this section focuses on the institutional power in the form of knowledge which has a direct effect on human bodies under the context of COVID-19.

Since the outbreak, Foucauldian philosophy has been used by researchers to make sense of some controversial events; it was used to argue that the formation of public health policy was not only based on medical expertise but also on the power of the administrative state. Tasnim (2021) brought up the concepts of biopower and biopolitics to show their relevance in new policies such as restrictions on movements, normalisation of mask-wearing and phone tracking during the pandemic. Raveendran and Bazzul (2021) argued that education, science, and biopower were inseparable concepts based on the Indian context during the pandemic, and therefore must be considered in the context of science education. Kloet, Lin, and Chow (2020, p. 639) associated biopolitics with nationalism and argued that COVID-19 became "a field of competition" among East Asian geopolitical entities. Some studies involved the discussion of legality. Chiaramonte (2021) revealed the historical interconnection between medical and legal matters, that medicine worked well both as a mechanism of social control and a scientific technique; such a complexity allowed the possibility of building new practices and institutions. Chriss (2021, p. 22) pointed out that the pandemic was a good example of how the response of each local community had created "a patchwork quilt" of social control policies that targeted the social, legal, and medical aspects in order to contain the damage done by the pandemic. He mentioned that it was consistent with Foucault's notion of governmentality that the human body became the object of interest to the state since the 19th century, and politics was always entangled in public health issues. Denisenko and Trikoz (2020) suggested that national governments often expanded their biopolitical impact in cases of emergencies for a legal regulation change; by analysing legal measures, they concluded that many countries restricted the biological rights of citizens during the pandemic.

Moreover, some scholars discovered flaws and expressed their concerns regarding the new power relations formed during the pandemic using Foucauldian philosophy. Smith's (2020) analysis exposed the flawed power structures of a privatised health system and encouraged the reconstruction of the U.S. healthcare system. Golikov (2020) revealed the problem of governments using security as a tool for legitimising new policies in emergent situations. Arminjon and Marion-Veyron (2021) raised a paradoxical aspect of biopolitics under the pandemic context by focusing on the inability of the government to produce reliable biostatistical data. In terms of surveillance, Sylvia IV (2020) explored social distancing through the theoretical lens of biopolitics and pointed out that the government increased measures of control. Treguer (2022) considered the role of technology and argued that there was an urgent need to discuss digital surveillance in the name of protecting the population's health; the health crisis discourses allowed state institutes to push back legal boundaries and undermine human rights. Marinkovic and Major (2020, p. 499) adopted a genealogical approach to biopolitics and revealed that there was a "history of the present" of the current situation where regulatory practices as biopolitical mechanisms were established as power over life since the late 18th century; they concluded that we must face the current biopolitical challenge which privacy was deconstructed under technologically and digitally mediated surveillance and control measures. However, Lorenzini (2020, p. S43, S45) bluntly pointed out that instead of worrying about the increased surveillance, people should be more concerned about the level of docility and inequality created by this biopolitics; he suggested that this was a politics of "differential vulnerability" that established a hierarchical structure among individuals, hence "alternative social and political paths" should be explored. Similarly, Højme (2022) outlined a Foucauldian critique of legal measures taken by the Danish government which led to an increase in biopolitical logic

where some lives came to matter more than others. By identifying the connection between biopower, medical technology, and the political ideal in the context of COVID-19 in Wuhan, Wu (2020) expressed concern about dysfunctional social institutions and organisations under the lockdown. Wu argued that society reverted to the rudimentary form of power mechanism; such a reversion reshaped gender dynamics and put women under the control of capitalism and patriarchy. In terms of economics, Ghosh (2021) analysed the coronavirus prevention strategies of the Indian government and concluded that the Indian biopolitical government valued economic and political gains more than the welfare and lives of citizens. Degerman (2020) argued that the political power of medicine was not the only power at play in the current crisis as it was battling with the economy for predominance; however, the consequences of medicalisation could last for a long time and therefore must be explored.

Instead of contemplating the legal, political, economic, or technological aspects in the context of the pandemic, this section is centred on the concept of knowledge as the embodiment of biopower within a society. As previously revealed, there were a lot of inconsistencies in early COVID-19 health policies implemented by various governments worldwide; this phenomenon resulted in conflicting face-covering choices made by individuals. The governments played a vital role in constructing new discourses and shaping the behaviours of the public by intentionally releasing certain statements approved by medical experts in addition to providing new guidelines. This information then became part of the discursive construction of new knowledge held by individuals concerning the efficacy of diverse types of face coverings, thus influencing bodily behaviours. The knowledge became the equivalent of power in the sense that the information released by the

government turned individuals into docile bodies that were submissive to the ruling by doing what they expected.

The Docile Bodies

Through the genealogical study of the modern Western penal systems, Foucault brought to light a subtle but pervasive means of control that targeted the 'soul' of individuals. Contrasting to the ancient physical punishments which only aimed at the bodies, this modern form of control addressed the mind and let the thinking process determine the bodily behaviours. This technique of control can be found in other forms of social institutions such as schools, hospitals, and factories; Foucault used the term 'carceral archipelago' to refer to this modern social system of disciplinary power beyond the Western penal system at the time. Similarly, these social institutions aimed to address the mind so that it could further instruct bodily actions, and this form of control was particularly apparent in the form of knowledge. In this case, health guidance released by government officials turned human beings into objects of power by standard setting, which resonated with the dividing practice – one of the three modes of objectification; the notion of 'docility' was then introduced indicating the manipulability of the human body attentive to society. Normalising judgement as a technique of control was used particularly by the guidance to maintain control of individuals' behaviours, thus creating docile bodies.

In *Discipline and Punish* (1975) under the subheading 'Panopticism', Foucault describes measures that were taken during the plague at the end of the 17th century:

> First, a strict spatial partitioning: the closing of the town and is outlying districts, a prohibition to leave the town on pain of death, the killing of all stray animals; the division of the town into distinct quarters, each governed by an intendant. Each street is placed under

> the authority of a syndic, who keeps it under surveillance; if he leaves the street, he will be condemned to death. On the appointed day, everyone is ordered to stay indoors: it is forbidden to leave on pain of death… This surveillance is based on a system of permanent registration: reports from the syndics to the intendants, from the intendants to the magistrates or mayor.
>
> (Foucault 1991, pp. 195-6)

These restrictions constituted a compact model of the disciplinary mechanism. Although not to the same extent, the operation of such a disciplinary power was apparent in the case of inconsistent advice and policies on mask-wearing for the public in the context of COVID-19. In this case, the control mechanism was milder but more pervasive as it came in the form of knowledge concerning the effectiveness of face masks under different settings. As briefly discussed in the last chapter, Public Health England provided separate guidance for the public, non-clinical settings, and health professionals (Figure 1). However, advice regarding the usage of PPE, including the classification of several types of face coverings and their protection levels, was only available under the "health and social care settings" section, which was only intended for health care professionals. This information was unavailable under the "non-health and social care settings" heading, except for a single-lined statement dismissing the effectiveness of PPE based on the available evidence at the time:

> For other workers and sectors, based on current evidence, there is very little scientific evidence of widespread benefit from PPE.
>
> (Figure 2)

These subheadings on the website revealed an intentional division between individuals depending on their occupations.

Dividing people into groups based on certain criteria is one of the three modes of objectification – the dividing practice – which transforms human beings into objects of power. In this case, the health authority backed by the state used the dividing practice to distinguish the general public and health care professionals under the context of COVID-19. The purpose of such a distinction, however, was less about science and more about the state maintaining control of its people. If PPE were believed to be effective in clinical and healthcare settings, why would it suddenly become ineffective in other settings? If it were because of the risk that PPE could potentially pose to the public, there were also supporters of the precautionary principle. Additionally, if there was not enough evidence to support the usage of face masks, there was also not enough evidence to prove public masking could harm the general population. When the scientific evidence was lacking, what was the rationale behind Public Health England releasing the guidance the way it did?

To answer the question, the material factor – the availability of face masks – was a non-dismissible part of the discussion. As Sayburn (2020) pointed out there was growing evidence showing that thousands of health workers were not provided with adequate PPE supplies by the end of March 2020 according to the British Medical Association. Gereffi (2020) suggested that although countries such as the U.S. and Germany had more advanced technology and specialised in high-tech medical devices, countries with low-cost production lines such as China and Malaysia were the leaders in making less technological PPE including face masks. Due to different production types, the sudden outbreak of COVID-19 made an enormous impact and resulted in a supply shortage in many countries that did not specialise in PPE production. Bown (2022) investigated various export policies and suggested that China's initial action of increasing imports and decreasing the export of PPE removed supplies from the world market; such an action led to a shortage of PPE. Ji and colleagues

(2020) found that certified face masks soon became national essentials as one of the immediate solutions to protect individuals especially those who worked in high-risk environments. Because of this sudden increase in demand, many states imposed restrictions on exports of both masks and raw materials. Ji and colleagues argued that the shortage situation has led to confusion and misinformation about face masks.

Therefore, it seemed to be the case that by making such a division, the state was maintaining the stability of the healthcare system by spreading knowledge on the best ways individuals should act. The assumption was that the healthcare professionals working in clinical and social care settings had a higher risk of infection, therefore the need for these workers must be prioritised. As Stone and colleagues (2020) pointed out, the inappropriate use of masks by the public could be considered "a moral issue leaving frontline health workers without the necessary protective equipment" due to the early global shortage. To ensure as much supply of face masks as possible for health care professionals, the UK government constructed a set of discourses around face masks by emphasizing the uncertain level of protection offered by this piece of fabric to the public. As shown in Figure 3 from the last chapter, the guidance in 2020 states:

> Face masks play a very important role in clinical settings, such as hospitals but there's very little evidence of wide spread benefit from their use outside of these clinical settings. Face masks must be worn correctly, changed frequently, removed properly and disposed safely in order to be effective.
>
> (Public Health England 2020C)

The division proposed by this guidance correlated to the dividing practice; contrasting information was fed to target audiences as different corresponding actions were expected

by the state. Under clinical and healthcare settings, workers were informed to wear face masks along with other PPE as similar procedures were long established before the pandemic, whereas in other settings people were discouraged from masking due to limited scientific evidence available. The readers of the guidance were also told that a specific procedure of how masks should be worn must be followed, yet that information was unavailable to them. The guidance did not explicitly forbid the usage of masks for the public, but it had the effect of normalising individuals' judgement. The subtext intentionally undermined the role of face masks as a prevention method for the public by emphasising its particularity; this information caused reluctance among the public to buy and wear masks.

Despite the reasonable decision of prioritising the needs of healthcare professionals, the discourse of the guidance for the public was constructed in a way dismissing public masking without acknowledging the material shortage. By questioning the effectiveness of face masks rather than staying neutral before more scientific evidence became available, Public Health England created contextual statements that eventually became public knowledge. Simultaneously, individuals who read the guidance began a self-formation activity –subjectification; the guidance allowed people to put themselves into corresponding categories and judge what behaviours should be performed. In short, scientific facts were not the only factor impacting the individual's decision regarding mask-wearing; social factors played a non-dismissible role in the construction of such knowledge. By following the health guidance, people became objects of power; the docile bodies were created through normalising judgment.

Another example of a state controlling individuals' actions through health guidance can be found in China, where mask supply was relatively sufficient in early 2020 as the

Chinese government restricted the export of medical goods in order to primarily fulfil domestic needs (Fuchs *et al.* 2020; Sutter, Schwarzenberg, and Sutherland 2020; Bown 2022). The National Health Commission of the People's Republic of China (NHC) was responsible for formulating the Chinese national health policies. Like Public Health England, the NHC adopted a classificatory method which divided individuals into groups according to their occupations as well as the risk of being infected; however, the guidance from the NHC provided more detailed information to the public regarding how face coverings should be worn. Figure 4 was a part of the guidance posted on the NHC's official site available to the public released on the 5th of February 2020; the guidance was drafted by the Chinese Centre for Disease Control and Prevention which was an affiliated department to the NHC. The top row of the table listed six types of face coverings ranging from non-medical graded commercial masks, disposable medical masks by Chinese standard YY/T0969, surgical masks by Chinese standard YY0469, KN95 respirators by Chinese standard GB2626, medical protective masks by Chinese standard GB19083, and respirators with P100 cotton filter; an image for each category of masks was also included in each cell for referencing purpose. The first two columns to the left categorised common social scenarios and occupations into five major groups from the highest risk division to the lowest. Each group received recommendations on the usage of several types of face coverings; the tick symbols indicated the necessity to wear particular types of masks under the scenarios listed in the far-left column, whereas the circle marked optional choices. The top category in the far-left column named "High Risk" referred to healthcare professionals, researchers, and cleaners who worked at places like epidemic fever clinics and isolation wards. The second group was "Relatively High Risk" consisting of health workers from the emergency, observation, and testing departments. The occupations mentioned in these two groups were in direct contact

with patients infected with the coronavirus. Individuals who fit the description were all recommended to use higher-graded masks such as respirators or medical protective masks; for some, it was even compulsory. The middle group was known as the “Medium Risk” group including key workers from outpatient services and other sectors such as the police force, security, and delivery services. To ensure the basic functionality of the society, the key workers must be protected; they were required to wear disposable medical masks or voluntarily upgrade to surgical masks accordingly. Additionally, people who were self-isolating or living with self-isolating individuals were also included in this category; the mask requirement was the same as the key workers. The fourth group covered various scenarios of in-door public gatherings such as at school or offices; these activities were considered “Relatively Low Risk” and masking was only optional. The last was the “Low Risk” group referring to those who were at home or in public spaces with good air ventilation. Masking was completely optional for “Relatively Low Risk” and “Low Risk” groups; the guidance only recommended disposable masks and commercial masks for individuals who fit these two categories.

0推荐使用　✓选择使用

人群及场景		可不带或普通口罩	一次性使用医用口罩（YY/T 0969）	医用外科口罩（YY 0469）	颗粒物防护口罩（GB 2626）	医用防护口罩（GB 19083）	防护面具
高风险	疫区发热门诊				✓	○	✓
	隔离病房医护人员				✓	○	✓
	插管、切开等高危医务工作者					○	○
	隔离区服务人员（清洁、尸体处置等）				○	✓	
	对确诊、疑似现场流行病学调查人员				✓	○	
较高风险	急诊工作医护人员				○		
	对密切接触人员开展流行病学调查人员				○		
	对疫情相关样本进行检测人员				○		
中等风险	普通门诊、病房工作医护人员等		✓	○			
	人员密集区的工作人员		✓	○			
	从事与疫情相关的行政管理、警察、保安、快递等从业人员		✓	○			
	居家隔离及与其共同生活人员		✓	○			
较低风险	在人员密集场所滞留的公众		○				
	人员相对聚集的室内工作环境		○				
	前往医疗机构就诊的公众		○				
	集中学习和活动的托幼机构儿童、在校学生等。		○				
低风险	居家活动、散居居民	○					
	户外活动者	○					
	通风良好场所的工作者、儿童和学生等	○					

Figure 4

In addition to the table, this guidance offered information on when to use a new mask along with how to preserve and disinfect reusable masks. It explained that depending on the situation, it was possible to extend both the wearing time and the usage count per mask as long as it was worn correctly and cleaned properly. Masks must be discarded as soon as they are taken off by “High Risk” users as well as being contaminated by blood, secretions, or other types of bodily fluid. “Relatively High Risk” users must discard their masks when in contact with potential COVID-19 carriers. Reusing masks was possible for users from lower-risk groups if their hands were clean before touching the uncontaminated masks. Furthermore, the guidance dedicated a section of knowledge on cleaning and

preserving different types of masks. For example, it recommended that non-medical graded face masks should be air-dried after washing, and then they should be put in a clean bag on their own. For other types of reusable face coverings, the guidance suggested referring to user manuals enclosed for cleaning instructions. In short, contrary to Public Health England, NHC constructed more discourses around face coverings by officially releasing detailed information in terms of how to choose a suitable mask and how to use it properly in early 2020 (NHC 2020).

However, this is not to suggest that the Chinese guidance was definitively superior to the other; having the more complicated classificatory system based on types of masks and social scenarios was not the equivalent of having sufficient scientific evidence to support such a classification. The Chinese guidance did not reference any scientific evidence supporting their classification; therefore, such a decision was likely due to the precautionary principle as well as the urgent need for social control during an uncertain time. In addition to the debate between the precautionary principle and scientific evidence, there were studies questioning the quality and filtration efficiency of higher-graded masks and suggesting that the products failed to reach the standard that they claimed to be. The Health and Safety Executive (HSE) (2020) issued a safety alert declaring a substantial number of KN95-graded masks were "poor quality products accompanied by fake or fraudulent paperwork". Although the article did not explicitly point out the origin of those problematic masks, KN95 was a Chinese performance rating.[25] The article suggested that a substantial number of KN95 are deemed questionable according to the British standard.

[25] The KN95 standard was defined in the manual 《呼吸防护自吸过滤式防颗粒物呼吸器》 (*Respiratory Protection: Non-powered Air-purifying Particle Respirator*). Available at https://www.mem.gov.cn/gk/gwgg/agwzlfl/han_01/201802/W020180227592698718834.pdf.

Such a disagreement further complicated the knowledge of face coverings in terms of more uncertainty added to the discussion. Therefore, the implementation of the NHC health policy cannot be recognised as a more scientific decision than those who provided less information at the time.

Same as that of Public Health England, the Chinese guidance acted as a control mechanism that created docile bodies. By promoting public masking as a significant part of the COVID-19 health policy, the NHC normalised individuals' judgement by specifying expected actions according to individuals' social identities and exercised power by creating a new norm for them to follow. This guidance had a profound effect on the behaviours of Chinese citizens. According to a public survey conducted across mainland China by Sun and colleagues (2020) in March 2020, the percentage of people who wore masks in public spaces increased significantly even though it was not requested by the guideline; out of 5,761 questionnaires collected, 99.4% of the participators had worn masks during shopping, and 75.5% in their workspaces. Despite public masking was not compulsory in many indoor spaces, the Chinese government created a set of discourses which emphasised the role of face coverings in the context of COVID-19 – wearing something was better than wearing nothing. The qualitative research of Kwok and colleagues (2021) confirmed that social and environmental factors played crucial roles in influencing behaviours; more specifically, the information that was accessible to individuals such as government actions, authority influence, community and official media channels contributed largely to one's decision in terms of face coverings. By drawing the attention of the public to the virus' high infectiousness, and how serious the complications were, along with the rapidly increasing number of infected people through official media channels, the Chinese government successfully created public knowledge of an unfamiliar yet dangerous disease. Additionally,

Kwok and colleagues pointed out that personal factors such as health consciousness and psychological security also played a vital role in shaping their actions.

As the mind determined actions, the information released by the Chinese government regarding COVID-19 was a means to achieve social control of the population's actions in the form of knowledge. By using the technique of normalising judgement, individuals were given a particular standard of actions to perform; the new norm was masking, and not wearing one was seen as a disturbance to the public order. The other two techniques – hierarchical observation and examination – were also used. For example, security guards stationed at the entrance of the building observing people before they entered buildings was a form of hierarchical observation; the principle of examination could be found when guards urged people to put on masks and those who refused to follow would be asked to leave or pay a fine. Nevertheless, normalising judgement was the most subtle yet pervasive out of the three techniques because it directly shaped the way of thought. The psychological pressure of following such guidance was not only from the authority but also from surrounding peers, as masking was promoted as a means of not only protecting the self but also protecting others (Ji *et al*. 2020). These controlling techniques turned individuals into docile bodies with the agency to act in accordance with the knowledge and conduct the actions that were precisely what they were expected to do within this particular social context.

Conflicting Information

Through the comparison, it was apparent that the information regarding the need for public masking was conflicting. When direct scientific evidence was still lacking at the early stage, the Chinese government constructed a set of discourses about face coverings

that was vastly different compared to that of the British context. Countries refusing to follow the same COVID-19 prevention protocols was a sign of establishing control over their people respectively. By disseminating educational information on the new virus, the authorities utilised the power of knowledge to influence the bodily behaviours of their people. By refusing to follow the same protocols, the authority rejected the power structure of another state.

The report by HSE (2020) revealed disagreements in terms of the production and safety standards of face masks between regulations of different countries. As previously mentioned, HSE believed that a substantial amount of claimed-to-be KN95 could not provide the level of protection the masks claimed to achieve. The report pointed out that KN95 was a performance rating under the Chinese standard GB2626:2006, which was broadly the same as the European standard BSEN149:2001+A1:2009 for FFP2 masks. But because there was no 'independent certification or assurance' of the quality, all KN95 must not be used as PPE at work and must be removed from supply except the ones that were agreed by HSE. This safety alert reflected that national standards were not in natural agreement with each other, despite they were created according to presumably the same science and scientific procedures. These KN95 masks met the Chinese standard for PPE as they were made under the supervision of local rules, but they could not be considered satisfactory according to the British standard.

Furthermore, the National Personal Protective Technology Laboratory (NPPTL) (2023) refused to approve the legitimacy of all kinds of KN95 masks. In the report, NPPTL listed three types of KN95 masks deeming them as counterfeit, because they all claimed to be approved by American health institutions such as NIOSH or CDC (Centres for Disease

Control and Prevention) which was untrue. For example, the report considered the KN95 masks produced by Chengde Technology Co., Ltd. as counterfeit because the company used NIOSH's test information and referenced NPPTL's testing claims; because Chengde Technology was not a NIOSH approval holder or a private label assignee, their products were not considered as legitimate respirators by NPPTL. Similarly, Good Mask Co. misused NIOSH test information and marketed their KN95 masks as "CDC-approved, NIOSH-certified"; Health Protective labelled their masks as "certified KN95 respirator masks, adopted by the CDC". As American institutions NPPTL, NIOSH, and CDC never approved KN95 masks, the report suggested that they might not be capable of providing the appropriate or necessary respiratory protection to workers and users. However, the actual filtration efficacy of those KN95 masks was never tested; the report could not offer a definitive answer of how effective they were in protecting the mask wears from coronavirus infection. The report revealed a disagreement in PPE safety standards among the countries; the efficacy was no longer determined by the actual scientific experiments but by the various industrial regulations. In other words, it was the institutional power of one country that determined the efficacy of the mask, but this credibility was non-transferable to another country due to the difference in regulation and power structure. The packaging of both KN95 masks branded under Good Mask Co. and Health Protective indicated they met Chinese standard GB 2626:2006, but American institutions disregarded such a standard; such a decision served as a reflection of one nation rejecting the power structure of another nation.

These reports were pieces of evidence supporting the argument that the institutional factor played a more significant role in determining the efficacy of masks than actual scientific test results. In this way, the conflicting information could be accounted for

through the understanding of knowledge affected by diverse power relations of governmental bodies. In other words, the epistemological quality of a face mask was inseparable from social factors, therefore it was possible to have more than one version of individual realities.

Social Institutions as Carceral Archipelagos

It is worth noticing that health institutions such as NIOSH, Public Health England, and NHC were not the only ones that could shape the knowledge for face coverings; Foucault uses the metaphorical term 'carceral archipelago' to refer to a modern system of control through various social institutions. The laboratory where Latour and Woolgar observed the construction of scientific knowledge was indeed a unique social institution with its own power structure, but it was only part of the entire system for creating docile bodies.

As previously discussed, the PPE supply shortage was a determining factor that shaped the early health policy of Public Health England; in other words, the decision made by a health institution was intertwined with the problem that economic institutions were facing. Furthermore, Gereffi (2020) argued that the shortage of N95 masks in the U.S. was a policy failure rather than a market failure; the U.S. government failed to anticipate the scale and the severity of the pandemic, valuable time was wasted due to a "lack of testing, bureaucratic in-fighting, and unwillingness to confront the health risks posed by the looming pandemic" (ibid., p. 296). Because the decision of one social institution affected another, the knowledge produced was not the outcome of one social institution alone but a collaborative effort.

As a form of social institution, mass media also played a non-dismissible role in shaping people's knowledge. According to Kirk (2009, p. 85), mass media operated in the

same way as the other traditional forms of social institutions in terms of influencing the "attitudes, values, and beliefs" of individuals in society, communicating the appropriate information, and defining social norms based on the need of the "dominator". Traditional media was often used as a channel for government officials to deliver selected information to the public. As Kim and Kreps (2020, pp. 404-6) pointed out, at the initial stage of a public health crisis like COVID-19, the public often receives first-hand information through news media and journalists' reports. However, different communication channels such as television, radio, and social media can provide an overloaded amount of information, which could cause critical problems like misleading information, omission of vital information, selective information exposure, stress, and mental fatigue. Therefore, with the power to influence mass media, the government plays a crucial role in communicating and shaping the perceptions of its citizens.

In short, the health guidance drafted by political institutions embodied influence from both scientific and economic institutions; it was also disseminated to the public by mass media to shape the mind thus controlling behaviours. This cooperation of multiple social institutions constituted the 'carceral archipelago' as a system of control that turned citizens into malleable objects – the docile bodies – that were situated in complex relations where power was arranged and organised in separate ways. The inconsistent knowledge can be accounted for as the functioning of these social institutions was nation-specific, that different power structures corresponded to different realities.

Summary and Evaluation

This chapter performed a theoretical and practical analysis to explore the reason for having inconsistent discourses of face masks. The chapter tackled the question from both an epistemological perspective and a power-relations perspective. From the epistemological point of view, arguments from *Laboratory Life* (1979) were applied to the discussion of scientific knowledge formation, including obtaining literary inscription, the role of material factors, the variation of standards, the credibility of individuals and institutions, and the temporal quality of newly constructed knowledge which was also linked to the Foucauldian concept of the *episteme*. From the power-knowledge perspective, the chapter argued that individuals were made into docile bodies under the influence of institutional power embodied in the form of knowledge; conflicting information was partly caused by the disagreements between different institutional structures. The chapter also argued that social institutions worked together as the 'carceral archipelago' system of control which created docile bodies and benefitted the society.

It is reasonable to conclude that the metaphysical factor alone was incapable of explaining the inconsistent knowledge about face coverings, hence such a knowledge must be viewed as a construction due to its contextual and circumstantial nature. Much healthcare-related knowledge was often presented in an absolute form, but the reality was that different social and material factors participated in the discursive construction of such knowledge. Journal articles arguing for and against the public usage of face coverings could be seen as unique products under the influence of social institutions with unique 'cultures' and 'mythologies'; these features were exclusive to their own version of realities. The case

study of face coverings revealed that there was always more than one answer to the same question.

In other words, the outcome of scientific works obtained a malleable quality when applied to different social settings. From ‘What’s the matter with you’ to ‘Where does it hurt’, the norm of science was variable and open to interpretations; such quality must be considered along with the power-knowledge association when it comes to the sharing of health knowledge as well as the implementation of health policies and development strategies. Having such a mindset is not to undermine the validity of any scientific work, but to insist that all knowledge should be treated ‘ironically’ by not denying the possibility of change. When there is no satisfactory scientific solution, the study of humanity should be considered to provide a parallel solution to alleviate roadblocks and improve post-operative outcomes. The purpose of this thesis is to set up a theoretical ground for a more efficient means of constructing and communicating knowledge from an individualistic standpoint as a pragmatic solution to account for the confusion and inconsistency caused by the malleable quality of knowledge.

Under the context of the COVID-19 pandemic, the knowledge available to the public revealed less about the absolute truth and more about the complex social mechanisms. Each health guidance was the product under the influence of one particular institutional power structure, which means that the knowledge it disseminated to the public contained social factors that were exclusive to that society alone. However, such an issue was often ignored because the knowledge was often disguised under scientific discourses. Due to this reason, the sharing of this knowledge became vastly difficult, as these social factors were not immediately transferable across different power structures. As witnesses of this chaotic

time, we have seen endless scenarios where people arguing and pointing fingers at each other accusing them of being mistaken without actually being able to resolve the disagreements; from a pragmatic point of view, this was simply not good enough during this challenging time when human solidarity was much needed to conquer the virus.

Therefore, the thesis suggests it is best not to consider knowledge as the representation or reflection of the objective reality and to treat it ironically instead. The next chapter introduces constructivist epistemology and Richard Rorty's liberal ironism as a way forward to ease the friction and embrace multiple versions of reality. The constructivist epistemology supports the cognition of everyone to construct a viable world, and the liberal ironist way of thought is capable of harbouring contradicting knowledge. Furthermore, liberal ironists value the importance of sharing as a means of generating new knowledge as well as maintaining human solidarity which pulls society together. Such an idea sets up a pragmatic way of facilitating communication between individuals for a better society, which will subsequently help to ease the tension created by the pandemic as well as benefit global health and development practices.

Chapter 6 Radical Constructivism and Liberal Ironism

The last chapter revealed the possible application of Foucauldian philosophy and *Laboratory Life* (1979) in the context of the COVID-19 pandemic. The theoretical and practical analysis provided a justification for individuals having inconsistent knowledge regarding face coverings. The pandemic brought forth the possibility of having multiple versions of reality from an individualistic point of view; this further alluded to the argument that everyone could construct a unique reality depending on the discourses available. Therefore, there is a need to discuss constructivist epistemology; the logic of involving such a concept is that seeing reality as a construction can assist in understanding the existence of inconsistent knowledge, thus supporting the claim that various versions of reality do exist. This chapter will also discuss radical constructivism as it allows the freedom to construct from a private level.

However, having multiple realities undermines the result of communication and knowledge sharing between individuals and groups. Therefore, a mediation process is much needed for all realities to co-exist peacefully and to achieve mutual understanding. This chapter argues that adopting a liberal ironist mindset can facilitate communication between different subjective realities and ease the collision between conflicting discourses. The communication of knowledge does not need to be a battle of discourses as it was to some; it is more efficient to view it as a form of negotiation, in which different realities are not seen as absolutes and spaces are left for embracing unfamiliar vocabularies. In this way, human solidarity is strengthened by the liberal society, which could benefit the world in facing the new global health challenges.

Constructivist Epistemology

As a theory of knowing, constructivism is evident in Immanuel Kant's work *Kritik der reinen Vernunft (Critique of Pure Reason)* (1781), in which he argues that the world of appearances was constructed by the human mind as a result of a combination of information that was received through senses. Kant states in the book:

> Up to now it has been assumed that all our cognition must conform to the objects; but all attempts to find out something about them a priori through concepts that would extend our cognition have, on this presupposition, come to nothing… As for objects insofar as they are thought merely through reason, and necessarily at that, but that (at least as reason thinks them) cannot be given in experience at all - the attempt to think them (for they must be capable of being thought) will provide a splendid touchstone of what we assume as the altered method of our way of thinking, namely that we can cognize of things a priori only what we ourselves have put into them.
>
> (Kant 1998, BXVI-BXVIII)

The quote suggests that independent knowledge from a combination of experiences (a priori knowledge) was generated by the human mind through cognition, but the experiences that were gathered through the senses were dependent on how the human mind constructed them in the first place. Therefore, Kantian constructivist thinking denies the possibility of obtaining transcendental metaphysical knowledge that is independent of the human mind, thus restricting science to the realm of appearances (Rohlf 2020).

There is also a sceptic position that shares similarities with Kantian constructivism, but they are different enough to be set apart. According to von Glasersfeld (1990), a sceptic

argues that it is impossible to know the true description of the world regardless of how well one can describe it because the descriptions are based on sensual experiences and there are no other ways of accessing the world beyond the experiential interface; such an argument is similar to that of constructivists. Despite the efforts by philosophers such as Plato who attempted to get around the problem by assuming the existence of some metaphysical beings, or by René Descartes who adopted rationalist deductive thinking, later British empiricists such as John Locke, George Berkeley, and David Hume contributed to hardening their philosophical claim from sceptics' point of view. Yet, the weakness of sceptics is that they still acknowledge the traditional Western epistemological view of knowledge being a faithful reflection of ontological reality, and this supposedly 'true knowledge' is independent of the observer – the knowing subject (ibid.). As Hilary Putnam (1980) points out, there is no philosopher before Kant who was not a metaphysical realist.[26] Although the previous philosophers had different views about reality, their understanding of the truth was always tied to the notion of objective validity (von Glasersfeld 1984, p. 18).

In comparison, constructivism directly opposes the thoughts of metaphysicians. Constructivist epistemology stresses subjectivity and relativism.[27] It is a theory of learning that regards the experience and the reality as two entities, that individuals construct their knowledge and meaning from their experiences (Doolittle 1999). Constructivist epistemology is often applied in the field of education and teaching philosophy as it is a cognitive approach that encourages students to construct meanings through their minds

[26] In general, realism claims about the existence and independence of a subject-matter: a, b, and c and so on exist, and the fact that they exist and have properties such as F-ness, G-ness, and H-ness is (apart from mundane empirical dependencies of the sort sometimes encountered in everyday life) independent of anyone's beliefs, linguistic practices, conceptual schemes, and so on (Miller 2021).

[27] Relativism is the view that truth and falsity, right and wrong, standards of reasoning, and procedures of justification are products of differing conventions and frameworks of assessment and that their authority is confined to the context giving rise to them (Baghramian and Carter 2022).

when they encounter a new subject matter. Such a construction process can then be further enhanced by social interactions (Akpan and Kennedy 2020, p. 6). The work of the established Swiss psychologist Jean Piaget, who conducted empirical research and made a great contribution to the cognitivist theory and behaviourist psychology, is strongly associated with the emergence of constructivism (Oogarah-Pratap, Bholoa, and Ramma 2020; Walshe 2020). Ernst von Glasersfeld (1990, p. 233) points out that some of Piaget's thinking inspired him to draw out the following principles of constructivism:

1. (a) Knowledge is not passively received either through the senses or by way of communication.

   (b) Knowledge is actively built up by the cognizing subject.
2. (a) The function of cognition is adaptive, in the biological sense of the term, tending toward fit or viability;

   (b) Cognition serves the subject's organization of the experiential world, not the discovery of an objective ontological reality.

The principles embody a complete departure from the traditional notion of knowledge, truth, and objectivity. In short, constructivism encourages the construction of knowledge through experience, thus supporting each individual to construct their own version of reality. However, it is not the equivalent of claiming all experiences are farfetched, nor of denying the existence of the objective world; the principles suggest that one cannot simply construct the reality however one seems fit because the concept of 'viability' has restricted constructivism from verging into denial of any relationship between knowledge and the independent world.

Why Radical?

Constructivism and its associating epistemology are generalised concepts; constructivism does not represent a "unitary theoretical position" but a "continuum" of multiple types (Doolittle 1999). For example, cognitive constructivists emphasise the processing of information concerning human cognition and believe that reality is knowable to individuals through accurate internalisation of the reconstruction of external reality. For this reason, cognitive constructivism is often considered a "weak form of constructivism" because it does not fully embrace the subjective nature of constructed knowledge (ibid.). In contrast, radical constructivism occupies a contradictory position by acknowledging the "internal nature" of knowledge; "while an external reality may exist, it is unknowable to the individual" (ibid.). Due to this reason, radical constructivism affirms the possibility of having multiple personally unique realities and is considered a strong form of constructivism. Between the cognitive and the radical exists the social constructivists who interpret knowledge as the result of "social interaction and language usage" and understand knowledge as a shared experience that is "bound to a specific time and place" (ibid.); the social constructivist truth is found among people rather than in the head of one individual. Doolittle (1999) summarises the features of these three main categories of constructivism as follows:

> Cognitive constructivists emphasize accurate mental constructions of reality. Radical constructivists emphasize the construction of a coherent experiential reality. Social constructivists emphasize the construction of an agreed-upon, socially constructed reality.

To tackle the inconsistent knowledge problem pragmatically in the context of COVID-19, radical constructivism seems to be one of the best theoretical tools to ease the friction

of communicating knowledge. Previous chapters have offered evidence indicating there were multiple versions of pandemic reality co-existing through state regulations and reports using scientific discourses; the debate over public masking was the epitome of conflicting realities coming together. As Klinenberg and Sherman (2021, p. 443) point out, surveys indicated that people in the United States had vastly divided opinions regarding face masks; such a feature was embodied in a new genre of videos featuring people shouting, screaming, threatening, and fighting each other in public places because someone refused to wear masks. Klinenberg and Sherman suggest that it was rare to have such a large number of video recordings representing conflicting stances by documenting over-the-top behaviours of individuals when health and freedom were at risk. This can be considered as the exemplar of having multiple colliding realities but not being able to reconcile them from an individual's point of view. Those viral "face mask face-offs" videos described by Klinenberg and Sherman were the perfect embodiments of radical constructivism.

Another crucial factor to consider is that COVID-19 was uncharted territory at the time. Like other newly emerged epidemics, there was an urgent need to generate new and specialised knowledge in the containment of coronavirus effectively. As previously discussed, the construction of new scientific knowledge must follow the rules of various laboratories; additionally, there may be disagreement among laboratories regarding the outcomes of others, which means that time is a crucial element as the newly constructed knowledge needs to be stabilised enough to be authoritative and too costly to be challenged. However, time is immensely valuable when facing a sudden disastrous public health crisis with high epidemicity; actions must be taken before there exists a wide social consensus on the subject. Even at the point when COVID-19 was less of a threat, a worldwide consensus could not be reached; countries still adopted different health policies

which further resulted in different realities. By the time of February 2022, there were no further legal COVID restrictions in place in England; the English government only suggested their citizens conduct safe and responsible behaviours (UK Health Security Agency 2022). But at the same time, the Chinese central government was still promoting their 'zero-COVID' policy which resulted in multiple cities and regions under strict COVID restrictions or lockdowns limiting citizens' freedom to commute, travel, and even go grocery shopping. It was not until early December 2022 that the central government was forced to scrap the policy in response to multiple protests within the country (McDonell 2022a; 2022b; 2022c; 2022d). However, not everyone was celebrating the ending of the zero-COVID policy; as Xie (2022) suggested, many Chinese voluntarily decided to stay home and cancel trips, because they worried about another round of outbreak in the country. If one raised the question of what the pandemic was like, it was almost certain that different answers would be presented depending on who was asked. In other words, a unified consensus was extremely difficult to reach due to assorted reasons such as a shortage of time, a lack of evidence, politics, and individuality; without the consensus, there were multiple interpretations of the reality of what was the truth about COVID-19 and what were the correct actions to perform.

Cognitive constructivism fell short of embracing the possibility of having such a divergent worldview due to the subjectivity of the newly constructed knowledge at an unstable stage. As Doolittle (1999) points out, one of the principles of cognitive constructivism maintains the position that independent reality is knowable to individuals. Knowledge is argued to be the "accurate internalisation and (re)construction of external reality"; internalisation is the cognitive process, and it is supposed to accurately correspond to the real world. Cognitive constructivism is perfectly capable of explaining the cognitive formation of knowledge as well as the nature of the knowledge, but it is ineffective at

reconciling conflicting knowledge as it was impossible to fixate on one claim at the early stage of the pandemic because the knowledge has yet to be stabilised. This type of constructivism cannot offer a pragmatic theoretical framework to navigate the challenge for the time being as people must begin to work with what was available as soon as possible since the outbreak.

Similarly, social constructivism is not the best tool for understanding conflicting knowledge either. Compared to the other two types of constructivism, social constructivism lies in the middle of the two extremes by emphasising the social nature of knowledge; it stresses knowledge as the result of "social interaction and language usage," therefore knowledge should be a shared experience between people rather than being individualistic (Prawat & Floden 1994; Doolittle 1999). It also suggests that because a variety range of social interactions happens in distinct social-cultural contexts, knowledge as a product of such activities is therefore time and place-specific (Gergen 1995; Vygotsky 1978; Doolittle 1999). In the context of COVID-19, social constructivism can explain the phenomenon of having inconsistent beliefs regarding the efficacy of face coverings; individuals within the same social group co-constructed their unique reality through social activities. In other words, social constructivists acknowledge the presence of multiple realities being distinguishable according to the shared knowledge of social and cultural groups. However, it does not have much to say about mediating contradicting knowledge when numerous social groups collide. It is possible that a piece of new knowledge will gradually take its shape under such a circumstance, but social constructivism is not the best tool to conduct analysis from an individualistic point of view. Additionally, it is difficult to draw the influential boundaries of different social and cultural groups, as individuals can identify themselves as

belonging to multiple groups and become unique in the sense that no two individuals belong to the same group.

Thus, it is more pragmatic to adopt a radical constructivist stance to understand the construction of the conflicting pandemic knowledge focusing on internal cognition rather than the external reality, on the individuals rather than a social or cultural group, by following the claim that "knowledge is knowledge of the knower, not knowledge of the external world" (Staver 1995, p. 1126). Ernst von Glasersfeld (1984, p. 3) applied the metaphor of a key and a lock to explain the relationship between experience and reality as a radical constructivist:

> A key fits if it opens the lock. The fit describes a capacity of the key, not of the lock. Thanks to professional burglars, we know only too well that there are many keys that are shaped quite differently from ours but nevertheless unlock our doors.

This is to say that there are multiple ways of experiencing and interpreting the information generated from our senses when interacting with the external world; the internal experience is the key, and the external world is the lock. There are always more keys that can fit the lock and it is impossible to collect them all, and we are incapable of knowing the shape of the lock despite knowing several shapes of the keys. In other words, the external reality (the lock) may exist, but it is unknowable to the individual because the nature of knowledge (the key) is internal to the human mind. Reality is unknowable because our experience is mediated by our senses, and our senses are inadequate at rendering accurate representations of objects and even social interactions (Doolittle 1999). Although knowledge is constructed from experiences, it is only true to the owner of the sensory experience and cannot be seen as an accurate representation of the external reality.

Even though no absolute truth about the objective world can be generated from a radical constructivist point of view, the constructed knowledge through the empirical information received can still be useful for navigating our practical world (von Glasersfeld 1984, p. 19; von Glasersfeld 1990, pp. 20-1; Walshe 2020, p. 360). Despite being radical, the concept of 'viability' is still restricting this type of constructivism from being solipsistic by acknowledging the relationship between knowledge and independent reality. It is possible to distinguish, coordinate, and establish the viability of knowledge from the experiential world through constant repetitions even though the feedback is still strictly restricted by the senses (von Glasersfeld 1990, p. 234). By claiming reality is unknowable to the human mind, radical constructivism does not deny the existence of the objective world as the objective world acts as the source for the human minds and offers them the space for interpreting experiences. In the words of von Glasersfeld (1990, p. 237):

> [R]adical constructivism does not suggest that we can construct anything we like, but it *does* claim that within the constraints that limit our construction there is room for an infinity of alternatives.

The essence of radical constructivism is that one can never obtain the kind of absolute truth about the world that is independent of human experiences through sensory and cognition. Calling it a theory of knowledge is thus inappropriate because it would then undermine the foundation of the theoretical framework by claiming an independent truth regarding knowledge. Therefore, von Glasersfeld (1990, pp. 19-20) adopted the term a 'theory of knowing' as an orientation for this radical departure from traditional epistemology. Radical constructivism embraces the possibility of having multiple versions of reality by recognising the internal nature of knowledge, thus it is the best tool to explain the lack of an agreed-upon reality after the outbreak of COVID-19 even within the same

communities from the point of view of an individual; information can indeed be gathered through social interactions, but it is down to the individual who is eventually responsible for what to believe.

The Problem with Having Multiple Versions of Reality

However, having the possibility of multiple realities would inevitably undermine the fruit of social activities such as communication and knowledge sharing. The realities of the pandemic were deeply compartmentalised based on disciplines; one would expect the sum of works from various disciplines to be able to map out a comprehensive fact, but this was hardly the case in practice. Mol and Hardon (2020) suggested that different disciplines engaged with reality in their own way; they pushed their research in different directions. There were constant tensions and clashes as they focused on various aspects of the same challenge, and the solutions did not always complement each other's. For example, clinicians saw COVID-19 as a disease that caused havoc in the bodies of patients; therefore, they oriented around blocking the possible transmission routes. In contrast, the priority should be to lower the transmitted dose according to the immunological logic, so that a protective immune response can be elicited resulting in fewer cases of severe disease and fewer deaths (ibid., p. 2-3); the conflict was between the different priorities. Furthermore, COVID-19 was also a threat to the economy because the measures to block the flow of the virus simultaneously blocked the flow of money. But at the same time, if there was no restriction applied to limit the viral transmission, the population would soon be too ill to participate in any economic activities resulting in further recession (ibid.); in this case, the priority of one discipline contradicted the priority of another. Research from different disciplines were not jigsaw puzzle pieces that simply came together nicely; they drew from

various techniques and prioritised distinctive concerns that were directly associated with their area of study. Therefore, Mol and Hardon (2020, p. 4) proposed that interdisciplinarity as a matter of negotiation:

> What is required, instead are conversations that take their inspiration from a democratic respect for minorities and from mediation, where ongoing differences are taken for granted, while solutions are sought that aim to do justice to each interlocutor's particular intellectual and practical stakes.

This mediation process is much needed to accommodate diversity by providing a space for co-existence and setting up a theoretical framework that ensures a better collective response in the future.

A version of reality is the product of a specific construction of knowledge and each discipline corresponds to its specific version of reality. However, the existence of multiple versions of reality raises the question – how can we understand each other if we come from different versions of reality? Or to put it in layman's words, when I say the word 'apple', how do I know you are thinking of the same apple and not a banana? To offer a method of reconciliation, the thesis proposes the possibility of assuming a new embracing reality as a pragmatic means to ease the conflicting knowledge between realities and facilitate desirable activities. The pandemic fostered the growth of relativist thinking, hence there is a need to manage the emergence of different realities. As Mol and Hardon (2020) suggested, researchers needed to attune to each other's research styles and engage in interdisciplinary conversations to accommodate diversity. The same principle should be extended beyond the realm of scientific research; it is also applicable from an individualistic level as long as there are goals that need aligning and conflicts that need easing. Meanwhile, the assumed

shared reality must not incorporate a dominant-subaltern relation between the former realities, because the knowledge is of the mind and not the external world according to radical constructivists, and there is no metaphysical knowledge to judge the superiority of individual former realities.

For all the reasons above, the thesis proposes a consideration of liberal ironism most strongly expressed by Richard Rorty as a way to proceed. The thesis is not able to discuss every single aspect of liberal ironism due to the space limitation, hence the later section will introduce liberal ironism focusing on its core ideology being an opposing perspective to the representationalist in terms of knowledge generation, and as a means for self-development through continual redescriptions. The liberal ironist stance on the contingency of both languages and the truth builds up nicely on top of radical constructivism. This is a useful tool as it not only is compatible with having multiple realities, but it can also offer a framework for individuals on how to act when their realities conflict with each other.

Anti-representationalism, the Contingency of Languages and Truth

Like radical constructivism, Rorty expressed a strong anti-representationalism stance in his work. In *Philosophy and the Mirror of Nature* (*PMN*) (1979), Rorty attacks the representationalist epistemology by suggesting that people should "see knowledge as a matter of conversation and of social practice, rather than as an attempt to mirror nature" (Rorty 1979, p. 171). The rationale behind this argument is rooted in the clear distinction between "the world is out there" and "truth is out there". As stated in *Contingency, Irony, and Solidarity* (*CIS*) (1993, p. 5):

> To say that the world is out there, that it is not our creation, is to say, with common sense, that most things in space and time are the effects of causes which do not include human mental states. To say that truth is not out there is simply to say that where there are no sentences there is no truth, that sentences are elements of human languages, and that human languages are human creations.

Rorty supports the argument that the objective world has its own existence with or without human interpretation of it, whereas the concept of truth is not intrinsically objective and cannot exist without the human mind. This is because the truth in the human mind is a description that cannot exist independently of languages, sentences, and vocabularies – the things that are not just simply out there and waiting to be discovered, the things that are created by the minds of human beings. Akin to constructivist epistemology, Rorty sees knowledge of the world as the result of a combination of information that was received through the senses. Knowledge was generated from experiences through cognition; hence, it cannot exist independently of the mind, nor can it represent the objective world.

Although it is possible that the physical, non-linguistic elements of the world can cause human beings to justify holding certain beliefs linking back to the concept of 'viability', language is certainly not one of the objective features as it is purely a human creation. As Rorty wrote in *CIS* (1993, p. 6):

> The world does not speak. Only we do… But it cannot propose a language for us to speak. Only other human beings can do that.

By pointing out such a feature of the language, Rorty allows the reconsideration of the validity of sentences that were built from vocabularies and their relationship with truth. There were different sets of vocabularies throughout history that were used to describe the

same subjects or phenomena; the previous chapter on Foucault discussed the changing discourse of clinical medicine and sexuality, both were examples of language as a discursive construction of a specific time and space, as well as being the manifestation of the humankind in that particular point in history. Rorty's argument resonates with the Foucauldian post-structuralist ideology and genealogical analysis that reveals the contingency of discourse. To Foucault, the discursive construction or the chosen combination of vocabularies is not the product of 'rational inevitable trends', but of many unforeseen independent social, political, or economic causes. Rorty refers to this contingency using the playful term "alternative language games" and points out:

> [I]t is difficult to think of the world as making one of these [chosen vocabularies] better than another, of the world as deciding between them.
>
> (Rorty 1993, p. 5)

Rorty does not believe in an intrinsic nature of language beyond being a human creation; in *CIS*, he defends the contingency of language and attacks the idea of intrinsic nature. He argues that language is not a medium of expression nor representation; it is neither reductionist nor expansionist. Words must be seen as tools, and it is possible to have alternative vocabularies as tools even though they conflict with each other. These tools provide precious opportunities for new creations:

> But this is not to say that vocabularies never do get in the way of each other. On the contrary, revolutionary achievements in the arts, in the sciences, and in moral and political thought typically occur when somebody realizes that two or more of our vocabularies are interfering with each other, and proceeds to invent a new vocabulary to replace both.
>
> (Rorty 1993, p. 12)

Nevertheless, the new set of vocabularies born in conflict is just another human creation and there is no indication of any kind to confirm the new set is one step closer to describing reality than the previous set. This opens up the reconsideration of whether "our language" – the modern scientific discovery that claimed to be the facts or the truth about the universe and our culture – is in fact "something that took shape as a result of a great number of sheer contingencies"; scientific revolutions were merely "metaphoric redescriptions" rather than "insights into the intrinsic nature of nature" (ibid, p. 16). This process of generating new vocabularies explains the changing perspective on matters such as clinical medicine and sexuality. When the old vocabularies were no longer comprehensive enough to describe the contradictory information on a certain subject, a new vocabulary was then created to redescribe the subject to resolve such conflict and encompass all the currently available information.

The change of medical discourse embodied in the two questions "What's the matter with you?" to "Where does it hurt?" (Foucault 2003, p. xxi) is the result of resolving the conflict between two assertions "presence in an organ is never absolutely necessary to define a disease" (ibid., p. 10), and "[t]here is disease only in the element of the visible and therefore statable" (ibid., p. 116). The first set of vocabularies prevailed in the Classical Age when the patient's body was believed to be a barrier that hindered the discovery of the "essence of the disease" (ibid., p. 8). After the emergence of a new empirical practice based on the study of modern anatomy, prevailed the second set of vocabularies that allowed the disease "to be seen" and "to be spoken" (ibid., p. 116). Therefore, the nature of the question changed from feeling oriented to a physically and bodily related enquiry; the quest for understanding diseases was no longer solely about finding the common symptoms (the "essence") for classification purposes, it was also about seeing the presence of the disease

in human bodies. The new entry of an alternative set of discourse describing the empirical encounters with diseases meant that a new set of vocabulary was created; it transformed how we speak about illnesses. The discourse of sexuality went through the same transformation; it was greatly restricted and even forbidden to speak about sex under the Victorian regime, and the discourse around the topic was silenced and repressed. However, the contemporary concept of sexuality is much more liberated in comparison because it becomes an object of scientific disciplines, and the human body becomes a "medical and medicalizable object" (Foucault 1990, p. 44). The emergence of new scientific discourse transformed the old way of speaking about sex; sex is no longer just the topic of desire, nor does it only carry a shameful aspect.

Both examples suggest that when a new and updated set of vocabulary was born, the old discursive construction soon became dated and was generally considered invalid. As *Laboratory Life* (1979) puts it, when the credibility of old statements was challenged successfully, it was then replaced by a newer and more credible one. However, it does not imply that the new knowledge is necessarily a closer description of the objective world. This analogy laid the foundation stone for Rortian liberal ironism, that one should be aware of the contingency of language, that the knowledge held was a construction rather than a representation of reality; languages were made rather than found, and the truth was a property of linguistic entities, of sentences, and not the reflection nor the representation of the objective world. Therefore, one should not be trapped by the impractical task of discovering the metaphysical truth, because there does not exist an absolute criterion beyond the language of how to value alternative vocabularies. There is a more pragmatic way of thinking offered by liberal ironism.

A Neopragmatist Thinking

It is important to acknowledge Rortian philosophical stance as a neopragmatist before getting onto the discussion of liberal ironism as the two concepts are strongly associated. According to Legg and Hookway (2021), pragmatism is very broadly the philosophical tradition of "knowing the world as inseparable from agency within it". The knowledge of a pragmatist must be grounded and gained through interactions with the physical world. In other words, a pragmatist is expected to value the vital role of experience in the process of knowing, which is similar to constructivist epistemology. Pragmatism was initiated around 1870 by Charles Sanders Peirce and his friend and colleague William James, who are currently known as the 'classical pragmatists'. The work of this first generation of pragmatists focuses on theorising inquiry, logic, meaning and the nature of truth. Later, the pragmatist perspective began to broaden toward politics, education, and other social dimensions. Generally, the pragmatist epistemology is a "return to common sense and experience" and centres on the concept of "inquiry" which is considered "the process of knowledge-seeking and how we can improve it" (ibid.).

As a departure from classical pragmatism, Rorty neglected the concept of experience as an explicit philosophical theme which was well discussed by his predecessors; instead, Rorty focused on the linguistic aspect of truth to rectify what he deemed to be the crucial mistake of the classical epistemology which naively conceived that language and thought as simply mirroring the world (Legg and Hookway 2021). Rorty claims that there is nothing systematic or constructive that one can say about truth because human beings can never be in a position to prove what we believe in is the absolute truth; all that can be said about our knowledge is that it meets the standards of acceptance that are endorsed in our community

for the time being (Legg and Hookway 2021; Rorty 1990; Hookway 2007). Therefore, the absolute truth should not be the aim of pragmatists' enquiry. Such a perspective is akin to that of radical constructivism, but the difference is that radical constructivism provides more of a theoretical framework for knowing and neopragmatism focuses on a more practical problem of how to critically build and revise our view of the world.

Additionally, there are some shared concepts between Rorty's neopragmatism and Foucauldian philosophy, that both recognised the significance of languages and discourses. Although the early Foucauldian view saw language as an autonomous system that spoke nothing other than its own meaning, he later argued that language should be seen as an instrument of thought; it was in a certain relation to thoughts, but the language itself had no innate meaning nor fundamental role in knowledge. Similarly, Rorty saw language as a man-made instrument that spoke no other than its given meaning. Rorty argued that language was the fundamental construction of knowledge that could not exist independently of the human mind. Furthermore, both philosophers acknowledged the concept of contingency; the common ground was that the language we spoke and the knowledge we possessed took shape because of sheer contingencies. As previously discussed, Foucauldian philosophy suggested that the concept of positivity determined the relations between discourses so that they combined in a way for the sentence to make sense at a particular time and place. The concept of the *episteme* was further developed to acknowledge the overarching rule of discursive formation, which was unstable and ever-changing. Inspired by Nietzsche's genealogy of morals, Foucault adopted a new genealogical method to reveal to us that the *episteme* was not the product of rationally inevitable historical trends, but of contingent turns of many independent little causes that had a wide range of social, political, and economic effect. Similarly, Rorty also believes that language and knowledge took shape as a

result of numerous sheer contingencies and, therefore, are up for change. He adopts the idea that language is not a medium between the self and the objective reality, that it is only "a flag which signals the desirability of using a certain vocabulary when trying to cope with certain kinds of organisms" (Rorty 1993, p. 15). Ramberg (2009) points out that *PMN* uses the argument of contingent vocabularies to attack the representationalist epistemology. The book produces the concept of 'epistemological behaviourism', meaning "explaining rationality and epistemic authority by reference to what society lets us say, rather than the latter by the former" (Rorty 1979, p. 174). In other words, the term eliminates the possibility of legitimising practices into transcendental truth above empirical encounters. Rorty argues that we should always have doubts about the vocabulary we are currently using because it can be easily replaced by newer vocabulary whenever there are conflicts between words.

As for the concept of truth, Foucault changed from believing in language as a truth unto itself speaking nothing other than its own meaning, to later acknowledging the contingency of social, political, and economic causes and their effect of transforming discourses. As he argues in *The History of Sexuality Volume I* (1990), the reason that the permissive sexual discourse was silenced under the Victorian regime was not that the concept of truth had a liberating effect that opposed the power of repression, but because of new emerging medical and psychological scientific discourse which transformed the truth:

> Truth isn't outside power, or lacking in power… Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its régime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the

> techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true.
>
> (Foucault 1979 "Truth and Power", p. 131)

To Foucault, truth is produced rather than simply exists in the universe as an objective fact. Truth is a status that can be acquired by a statement when the effect of power determines such a statement can be made. The usage of this concept always varies depending on particular features of application contexts. This view of truth is similar to that of Rorty's, that truth is dependent on language, thus truth cannot exist outside the human mind because language is a human creation that cannot exist independently in the universe. However, this is not to argue that objective reality does not exist; it is our limitation that we cannot give useful content to the nature of the world by relying on the choices of vocabularies and the so-called rational rules that were created by us, we simply cannot perceive the objective reality (Ramberg 2009).

Some would argue that the world has a normative constraint on our belief system, particularly natural sciences; these people – the metaphysicians as Rorty refers them – believe that as long as we follow the signs of nature, we will be able to get closer and closer to the objective reality, thus the only truth should be the goal for human beings to strive towards. To Rorty, such a task is meaningless because the human can only offer semantic explanations to validate a sentence meeting certain criteria to be true:

> So aiming for truth, as opposed to warrant, does not point to a possible line of action, just as we have no measure of our approximation to truth other than increasing warrant. Indeed, for Rorty, this is part of what makes the concept so useful, in a manner not coincidentally

> analogous with goodness; it ensures that no sentence can ever be analytically certified as true by virtue of its possession of some other property.
>
> (Ramberg 2009)

Although there are material elements of the world which can justify human beings holding certain beliefs, language is certainly not one of those features because it is purely a human creation. For this reason, we are incapable of judging which of the alternative metaphors is superior as the world does not provide us with such a criterion (Rorty 1993, p. 20). Therefore, it is redundant to seek objective facts from a neopragmatist point of view; the modern scientific vocabularies are the "business of controlling and predicting things" and are "largely useless for philosophical purposes" (Rorty 1995, p.32). Therefore, "ceasing to see truth as a deep matter" is in the best interest of human beings as a topic of philosophical interest (Rorty 1993, p. 8). Such a principle is akin to that of the radical constructivists who see reality as humanly constructed, who are concerned about the viability of discourse but also allow the space for alternative interpretations. Truth is not the equivalent to objective reality in the philosophy of both Foucault and Rorty; instead, it is seen as contextual and something that human beings agree upon in specific context settings. Besides, none of them considered revealing objective reality as their primary concern.

However, Foucault and Rorty held different attitudes towards the level of autonomy of individuals; Foucault was determined to show that human beings were made subjects under the function of power and knowledge, whereas Rorty sought a new possibility for the creation of an ideal liberal society. Foucault was looking for the *episteme* that made human beings the subjects that they are now because he saw human beings in the grip of the power structure in every society from the past to the present. Power was apparent in the form of knowledge; it was through discourse that knowledge and power were joined together, and the human body was an essential vessel for power operations. As a result, docile bodies were created. Foucault suggested a pessimistic view regarding the autonomy of human beings, despite there existed the concept of

resistance to power. Power and resistance are always in a dynamic relation; power cannot operate alone without resistance because power spreads through society via the articulation of points of resistance, but at the same time it is also disrupted by resistance. In other words, resistance is never in a position of exteriority to power, and resistance exists in the same relational dynamic with power (Lawlor and Nale 2014). Heller (1996, p. 99) argues that the reason Foucault decided to employ the term "resistance" instead of just "another power" was because certain categories of power were privileged over others. The others were named the "resistance" because they were considered as a lesser form of power in the given social circumstance. Due to the shifting *episteme*, no form of power is inherently stronger than others; thus, the relation between power and resistance is dynamic in the sense that it is contingent and open to changes. However, resistance not being external to the power relation suggests that the individuals in a society are deprived of their autonomy to resist the power relation since it is all-inclusive. Foucault argued for a pessimistic view that human beings were made subjects whose thoughts and actions could not escape the influence of power, that human beings were incapable of making truly liberal choices; even the choices of resisting the dominating power were just incited by another less-dominant power, and these choices were not originated from the individual.

In contrast, the neopragmatist thinking of Rorty offers a more optimistic view on the level of autonomy individuals possess. Rorty (1993, p. 64) points out that sharing with Marx and Nietzsche, Foucault believes that our imagination and will are limited by the influence of socialisation, which constrains us from proposing an alternative society. Following this logic, society "does not allow room for self-creation, for private projects" and denies the possibility of having a private sphere (ibid., p. 63); insisting the self only as a creation of the society has left no room for individual autonomy. Opposing Foucault, Rorty thinks that there is space for the improvement of both the individual and society. Rorty points out that Foucault failed to admit that the constraint from the pre-modern society was compensated by a significant decrease in cruelty and pain, and the selves

shaped by modern societies are better than the selves created by earlier societies. Rorty argues that autonomy is achievable, but not by every individual:

> Autonomy is not something which all human beings have within them and which society can release by ceasing to repress them. It is something which certain particular human beings hope to attain by self-creation, and which a few actually do. The desire to be autonomous is not relevant to the liberal's desire to avoid cruelty and pain - a desire which Foucault shared, even though he was unwilling to express it in those terms.
>
> (Rorty 1993, p. 65)

Even though Rorty agrees with Foucault that power shaped contemporary subjectivity, he insists that "we liberals" are good enough for self-creation (ibid., p. 64). Unlike Foucault's pessimistic view on the inability to break free from the power structure, Rorty believes that individuals can adapt even under the influence of power to break free from the identity of a "docile body" and to find a way to improve the current society.

Rorty (1993, p. 63) argues that Foucault has the intention to avoid cruelty and pain in his research by pointing out the drawbacks of this society – "the ways in which it does not allow room for self-creation"; along with having doubts about the current knowledge and believing in the contingency of matters, these are the exact reason why Rorty classifies Foucault as an "ironist" (1993, pp. 61-5). Their disagreement lies in whether it is possible to be a liberal; Foucault thinks it is impossible whereas Rorty claims it is possible for some people. In Rorty's terms, Foucault is an ironist who is unwilling to be a liberal, but Rorty himself intends to be both. Foucault supplies a solid foundation for understanding the role of knowledge and power within society through an ironist point of view, Rorty then opens up the possibility of being critical and liberal.

Liberal Ironism

In *CIS* (1993), Rorty sketches a type of ideal individual whom he calls the liberal ironists. Since the last section touched upon Rorty considering Foucault as an ironist but not a liberal, this section will start by explaining the concept of ironism from the perspective of Rorty. *CIS* (1993) explicitly defines three crucial conditions that an individual must fulfil to be an ironist:

> (1) She has radical and continuing doubts about the final vocabulary she currently uses, because she has been impressed by other vocabularies, vocabularies taken as final by people or books she has encountered; (2) she realizes that argument phrased in her present vocabulary can neither underwrite nor dissolve these doubts; (3) insofar as she philosophizes about her situation, she does not think that her vocabulary is closer to reality than others, that it is in touch with a power not herself.
>
> (Rorty 1993, p. 73)

Rorty uses the term 'final vocabulary' referring to a set of words that all human beings employ to justify their beliefs and actions. It is final in the sense that these words are the furthest they can currently go with their language; beyond this limit is beyond their present cognition. Thus, when there is doubt about the words, they have "no noncircular argumentative recourse" (ibid.). In other words, one's final vocabulary reflects the way that one's reality is made up, and one cannot see beyond the boundary of this set of vocabulary. Rorty considers a set of final vocabulary to be made up of two parts; a small part that is made of flexible terms such as "beautiful," and a large part of "rigid" and "more parochial terms" such as "Christ" or "England" (ibid.). For this reason, an ironist should be aware that

no matter how established the terms might seem, there is still space to challenge them because these parochial vocabularies are not closer to the objective reality than others according to the neopragmatist thinking. As previously discussed, Rorty is fully aware of the contingency of discourses; he argues that an ironist must realise the current version of the final vocabulary one possesses is contingently rather than rationally formed. Consequently, redescription is a powerful tool because it is capable of altering the current vocabulary. Ironists understand that even the terms for self-description are open to changes; they are aware of the fragility of their final vocabularies and, thus of their present selves. Such opinion on the contingency of vocabularies and the self is comparable to that of Foucault, that human beings are made subjects. The difference is that the Foucauldian self is given by the power relation, whereas the Rortian self has more agency and is down to the vocabularies of individuals despite social influences.

The counterpart of being an ironist is to hold on to the belief of universal common sense. To agree upon something being commonsensical is to assume that some knowledge is objectively true and thus commonly shared. The non-ironists take the current set of final vocabularies for granted and think that it is sufficient to "judge the beliefs, actions and lives of those who employ alternative final vocabularies" (1993, p. 74). The none-ironists deny the contingency of discourses by insisting that rationality can uncover the truth about the world step by step; they believe that all humans are rational beings, thus the commonly shared knowledge must be the representation of truth or even truth itself, not just of some random events that happened in history. The concept of common sense is an inseparable part of the epistemology of a 'metaphysician'. Rorty (1993, pp. 74-8) describes metaphysicians as individuals who believe in human rationalities and the real essence of the world waiting to be uncovered. Metaphysicians deem contingency as a distraction as it

would hinder the process of discovering what they called the “essential reality” (ibid., p. 16, 26), resembling the “pure nosological essence” of the Classical Age that Foucault points out in *The Birth of the Clinic* (1963). Metaphysicians see language as a medium rather than a product of contingency:

> They think this because the vocabulary they have inherited, their common sense, provides them with a picture of knowledge as a relation between human beings and ‘reality’, and the idea that we have a need and a duty to enter into this relation.
>
> (Rorty 1993, p. 75)

It is unthinkable for them to accept the view that the newly found vocabularies are not closer to reality in comparison to the old ones; they are representationalists who believe knowledge represents a relationship between humans and reality and the objective world is out there waiting to be discovered. Metaphysicians also consider redescription to be a powerful tool, being able to get closer to the objective world each time they redescribe. However, Rorty argues that metaphysicians only allow certain redescriptions based on ‘common sense’, which conversely limits the freedom of expression.

In short, ironists think it is unnecessary to seek the absolute truth of the world. This is because we can only offer semantic explanations to validate a statement; language is a human creation rather than existing objectively and we are incapable of judging which explanation is superior as the external world does not provide us with such criteria. Ironists avoid seeing anything as common sense shared by all, thus their final vocabularies can always be challenged; they have the spirit of poets who play with words, accept the contingency of the language, and constantly look out for new ways of describing things. In contrast, metaphysicians are ‘commonsensical’ and believe it is the ultimate truth that

determines our final vocabularies; they dedicate their lives to uncovering the 'essence', the 'correct' answers to the world. An ironist way of interpreting the objective world is the same as that of a radical constructivist in the sense that they both directly oppose the thoughts of metaphysicians, and they both encourage the construction of knowledge from a private, individualistic perspective – the lock and keys metaphor said it all.[28]

Rorty's ideal ironists care so deeply about redescriptions that they are not keen on seeking the absolute truth; this is where the 'liberal' part comes into play in this theoretical framework. Bjørn and Dieleman (2021, p. XV) point out that Rortian liberalism is independent of a metanarrative in which liberalism is a "transcultural and ahistorical conceptions of rationality and morality" – a metaphysical phenomenon. Instead, Rortian liberalism is 'pragmatic' and 'romantic'; it is pragmatic in the manner that he believes in piecemeal reforms increasing the freedom that citizens can enjoy as there is no hidden truth of what the best society should be, and it is romantic because he follows the thinking of Judith Shklar by believing "liberals are the people who think that cruelty is the worst thing we do" (ibid.) while promoting the concept of solidarity expanding the community. Rorty suggests that one must have a sense of human solidarity based not on a common possession, a belief, or a power structure, but on a shared common danger:

> [H]uman solidarity is not a matter of sharing a common truth or a common goal but of sharing a common selfish hope, the hope that one's world – the little things around which one has woven into one's final vocabulary - will not be destroyed.
>
> (Rorty 1993, p. 92)

[28] The lock and keys metaphor used by Ernst von Glasersfeld (1984), please see 'Why Radical?' section of this chapter.

Even though everyone is free to construct one's own version of reality, one must also care about the suffering of others to maintain a firm social bond. In this version of liberalism, Rorty draws a division between the private sphere and the public sphere, not in terms of interactions or behaviours, but in terms of theoretical vocabularies for public goods and personal fulfilment that are both willing to be redescribed (Bjørn and Dieleman 2021).

Although ironist theorists such as Foucault have provided invaluable insights into the formation of a private self-image, Rorty (1993, p. 83) considers their attempts as "pretty much useless" when it comes to the public sphere as they did not help to reduce cruelty. Foucauldian philosophy arguing human beings are made subjects applies to the private sphere in the sense that the self is the product of discourses, power relations, and contingencies, but not much has been mentioned about the individual's construction of the public sphere that goes beyond the selfhood. Rorty admitted that he attempted to reconcile the public and the private in his early philosophical career; however, he soon realised that the whole idea of "holding reality and justice in a single vision had been a mistake" (Rorty 2000, p. 12; Bjørn and Dieleman 2021). The division allows individuals not only to achieve private perfection by having "a self-created, autonomous, human life" (Rorty 1993, p. XIV) but also to maintain human solidarity along with the vision of avoiding cruelty:

> My private purposes, and the part of my final vocabulary which is not relevant to my public actions, are none of your business. But as I am a liberal, the part of my final vocabulary which is relevant to such actions requires me to become aware of all the various ways in which other human beings whom I might act upon can be humiliated.
>
> (Rorty 1993, p. 92)

A liberal ironist recognises that the final vocabulary should be split into two categories; the public part allows one to keep up with the responsibilities to others as well as maintain a one-and-only 'social glue' that pulls society together, and the private part is the responsibility to oneself (Bjørn and Dieleman 2021). Therefore, Rorty argues that there are two types of books that benefit liberal ironists – one that inspires individuals to become autonomous and one that helps with becoming less cruel. By constantly challenging the final vocabularies, the tool of redescription reduces the chance of one being cruel to others. Therefore, liberal ironists need an abundance of "imaginative acquaintance with alternative final vocabularies" to attempt to understand others who have a separate set (Rorty 1993, p. 92). Bjørn and Dieleman (2021) suggest that the main purpose of Rortian liberalism is to deepen and widen the notion of solidarity in society. By making the distinction between "we" as the liberal ironists and the others as "them," social progress in Rorty's view is the expansion of the scope of "we" by training sympathies and exposing into forms of sufferings that have been previously overlooked (Rorty 1993, p. 191; Bjørn and Dieleman 2021). Thus, the task for intellectuals is to sensitise and improve the ability to identify with others by constantly challenging the final vocabularies through redescription (Rorty 1991; Rorty 1993; Bjørn and Dieleman 2021).

One may question the idea of the 'social glue' holding the liberal society together, that it may not be strong enough without the support of metaphysical concepts such as ethics, morals, rationality, or conscience. Liberal metaphysicians would criticise this version of an anti-metaphysical social bond undermining the liberal society because forming a society requires human consensus about what is universally human; this universal concept acts as a social glue that is strong enough and allows the stability of the society (Rorty 1993, p. 82-3). Sharing common sense thus becomes a form of lubrication to achieve unity.

Without such consent, the metaphysicians imagine there would be conflicts of beliefs and interests between individuals, the social bond would be weakened, and the liberal society would be dissolved eventually. For this reason, it seems that ironism is not compatible with being liberal.

In Rorty's defence, the social glue does not need to be metaphysical to hold society together. In *CIS* (1993, p. 85), Rorty argues that the decline of the religious faith is proof of the failure of a metaphysical social glue; the liberal society was strengthened instead of weakened by removing certain limitations. Liberal ironists believe that the power of having a larger shared notion can only lead to suffering which hinders the ideal liberal society. Although it is undeniable that redescriptions can cause a certain degree of humiliation by threatening one's final vocabulary by "making the things that seemed most important to them look futile, obsolete, and powerless" (ibid., p. 90), ironism is compatible with liberalism and human solidarity by making the clear distinction between the private and the public vocabularies to avoid a greater degree of suffering that limits self-creations. It is the sense of a common danger, a sharing of sympathy, and the vigilance of noticing humiliations and sufferings when the situations occur that bonds individuals closer to each other. This reflects Rorty's neopragmatist thinking of being uninterested in nonhuman realities; his interest lies in the agency of free individuals of a liberal society who recognise the contingency of their languages and devote themselves to perfecting their selves while caring for others. To achieve such a goal, society requires peace and wealth – the standard "bourgeois freedoms" (ibid. p. 84). A shared belief is not required in Rorty's ideal liberal society; the freedom of redescription and self-creation, along with the sense of common danger, function as a glue that is strong enough to bond a society.

This brings up the second objection that liberal ironists value a non-linguistic ability – the ability to feel pain – more than they should, that such an ability appears to be metaphysical. Liberal ironists seemingly made a pre-assumption that the final vocabulary – "cruelty is the worst thing we do" (Rorty 1993, p. 85) – always holds, and their actions should be in line with this belief. Here lies a contradiction as liberal ironists should not consider any vocabularies unchallengeable, otherwise they are no different to liberal metaphysicians. Therefore, it seems unfeasible to be a liberal and an ironist at the same time.

To counter the argument, Rorty claims that it is true that liberal metaphysicians' support of 'being kind' is based on the belief of a 'common human essence', but liberal ironists only want their chances of being kind; they do not consider 'being kind' as a moral obligation as a common sense that everyone in the society shared. Although everyone should be a liberal ironist in the Rortian utopia, in reality, some citizens choose to be, and some choose not to be:

> Ironism, as I have defined it, results from awareness of the power of redescription. But most people do not want to be redescribed. They want to be taken on their own terms – taken seriously just as they are and just as they talk.
>
> (Rorty 1993, p. 89)

It is up to the individual to decide whether constantly seeking redescriptions is the way forward. In this way, the sense of human solidarity due to a shared common danger is not an 'essence' but a choice.

Furthermore, it is not the goal of liberal ironists to justify a reason to care about suffering; their job is to notice suffering when it occurs. Since they do not believe in a

metaphysical essence, they do not believe there exists a natural, logical, or philosophical reason to justify why they should care:

> For, in the ironist view I have been offering, there is no such thing as a 'natural' order of justification for beliefs or desires. Nor is there much occasion to use the distinctions between logic and rhetoric, or between philosophy and literature, or between rational and nonrational methods of changing other people's minds… The only important political distinction in the area is that between the use of force and the use of persuasion.
>
> (Rorty 1993, pp. 83-4)

Rorty avoids seeing philosophy as an unshakable discipline or as a natural standpoint to reflect upon. A philosophical answer is never the thing for liberal ironists to find, as they focus on pragmatic practices of avoiding humiliation. Rorty thinks that concepts such as suffering, humiliation, and cruelty are very personal; there are no unified definitions for any of them. However, it is precisely because of the fear of these overlapping concepts that makes human solidarity possible. It is further implied that liberal ironists cannot offer the same concrete social hope that liberal metaphysicians intend to offer with their philosophy; they cannot help with developing the concept of liberalism further because they do not have the criteria to decide whether a certain philosophical proposition is superior to others. Nevertheless, liberal ironists are capable of acknowledging that literature, ethnography, and journalism, contribute immensely to the building of a liberal society by challenging the existing discourses and constantly providing new redescriptions.

Indeed, human solidarity is also a constructed concept under the liberal ironist ideology and there is no ontological evidence to support such a claim as the best path for humanity moving forward. Even so, liberal ironists offer a neopragmatist approach to how

to be liberal in the sense of allowing free space for the self-perfection of each individual within a society without the limitation of an absolute truth of what the best society should be. This approach unlocks the dead-end left by ironist philosophers and bestows agency upon individuals to build a more liberal society.

Summary

This chapter introduced the concepts of constructivist epistemology, radical constructivism, neopragmatism, and liberal ironism. Constructivist epistemology encourages the construction of knowledge; instead of discovering the objective reality and treating knowledge as a faithful reflection of the ontological reality, constructivist epistemology suggests that it is the cognition of the subject that organises the experiences to construct a viable world for the subject. Therefore, constructivist epistemology allows the claim of having multiple realities as individuals construct their realities differently through unique combinations of various activities and interactions, which is the case for the knowledge of face coverings under the context of COVID-19. Radical constructivism is then introduced to understand the existence of multiple conflicting realities from an individualistic point of view, focusing on the internal nature of knowledge rather than the external objective world. Yet, having multiple realities inevitably undermines the meaning and the result of communication and knowledge sharing. Therefore, a mediation process is much needed for all realities to co-exist peacefully and to achieve mutual understanding.

The chapter then suggested Rortian neopragmatist thinking as a means to foster communication between multiple realities. Rorty shared the same anti-representationalism stance as radical constructivism, that the objective world was non-conceivable to the human

mind. As a pragmatist thinker, he believed that knowledge of the world was inseparable from the agency within it and that practical consequences were the criteria of knowledge and meaning. However, he differed from traditional pragmatists because he focused on the linguistic aspect of truth rather than experiences. Rorty saw the contingency of discourse and realised that there were no metaphysical criteria outside the language that could determine which discursive construction was closer to the objective truth. However, this was not to deny the existence of ontological truth, it was to argue from a neopragmatist point of view that truth outside of languages should not be the primary goal of enquiry. In the Rortian utopia, everyone should be a liberal ironist who strives to perfect the self by constantly challenging the final vocabularies through redescriptions knowing that the knowledge obtained cannot be the objective truth, meanwhile being empathetic towards other citizens and caring for their words to maintain human solidarity. Unlike Foucault who held a pessimistic view regarding the autonomy of human beings, Rorty considered human beings as capable of being liberal as well as improving the current society; his neopragmatist approach is capable of unlocking the ironist dead-end by proposing the possibility of being a liberal, thus providing a way forward to ease the tension and reconcile the multiple versions of reality that each individual holds.

COVID-19 as a sudden global health crisis revealed the bloom of relativism, especially through the inconsistent attitude and knowledge towards the efficacy of face coverings. This chapter added to the theoretical framework that the thesis was building to explain why the inconsistency existed and to point a way forward. The pandemic relativism is not going away as long as citizens still believe different realities of COVID-19; there is an increasing need to introduce the prevalence of relativities, manage them, and create a common space for communication; not only for the world to recover from the social damage of coronavirus,

but also to prepare for the next global emergency. The next chapter explores the application of the theoretical framework that the thesis built so far onto the three aspects that have been discussed previously; where would liberal ironists stand on the face-covering issue? How would they conduct global health collaborations? And what would they say about international development?

Chapter 7 The Application of Theoretical Framework

From a liberal ironist perspective, cruelty is the worst thing we do. Cruelty is not being sensitive, refusing to hear the voice of others and to understand their point of view by only propagating one set of vocabularies. Such an action can inflict deep suffering on others. In Part III of *Contingency, Irony, and Solidarity* (1993, p. 141) Rorty argues that the work of novelists Nabokov and Orwell can inspire readers to become less cruel by revealing the effects of social practices and institutions that were often taken for granted, and our private idiosyncrasies on others. The application of Rorty's liberal ironism can be extended beyond the field of literature as discourse is considered to be the building block of many social theories despite its linguistic nature. Liberal ironism is capable of acting as a mediator and establishing a space of communication for conflicting realities, for the reason that every individual with such a mindset is aware that one's knowledge is not the objective truth nor the representation of it, and these individuals constantly seek for new description to sustain a liberal society and to avoid being cruel to each other.

This chapter provides an insight into the three questions proposed at the end of the last chapter from a liberal ironist perspective, regarding face coverings, global health collaborations, and international development. Retrospectively, the theoretical framework allows us to spot the conflicting discourse through past events and reflect upon them in the same way as Rorty used to analyse the work of Nabokov and Orwell. Rorty believes that literary language is always parasitic on ordinary language, particularly in terms of the moral which he defines as below:

> The moral is to notice what one is doing, and in particular to notice what people are saying, that people are trying to tell you that they are suffering.
>
> (Rorty 1993, p. 164)

In this sense, the moral thing to do for liberal ironists is to notice suffering when it occurs. The following analysis will focus on finding the point of conflict, identifying cruelty, and explaining how adopting this mindset can ease suffering.

Where would liberal ironists stand on the face-covering issue?

Neopragmatism focuses on the linguistic aspect of truth, thus liberal ironists would conceive the physical object of face coverings as a cluster of discourses. They are attuned to the emergence of new vocabularies, and they constantly practice the activities of altering their final vocabularies when new ones are available to them. But this is different from blindly absorbing everything that they come across and taking them for granted; the new discourse goes through an individualised evaluation process that allows their interactions with existing vocabularies that one is currently holding before constructing a new set of final vocabulary. Because each individual holds as well as encounters a unique set of vocabularies, the constructed final vocabularies vary greatly from one to another. There exists a network of reasoning behind each of the truth claims constructed. Liberal ironists are aware of this interconnection between discourses; thus, they acknowledge the presence of multiple realities as the result of assorted networks of reasoning behind inconsistent claims, and they can account for the knowledge controversy. Although such an ideological mindset is incapable of providing one universally acceptable answer, it can theoretically reduce the friction in exchanging discourses by adding transparency to the construction

process concerning truth claims. This section also elaborates on how the liberal ironists can be distinguished from the conspiracists. Conspiracists are not ironists as they would not accept alternative vocabularies; they are also not liberals as what they do generates more suffering than good.

As analysed in previous chapters, a range of social institutions (or in Foucault's terms the 'carceral archipelago') have played a non-dismissive role in utilising discourse to affect individuals' decision of whether mask-wearing is an appropriate choice given the context of COVID-19; it was a subtle means of control by influencing the mind as well as adopting a more direct restriction that targeted the body including punishment when individuals failed to follow. The released COVID-19 health guidance differed from country to country, and it was the embodiment of control from selected social institutions that were directly concerned with public health; the subtle part of control came from the 'up-to-date' knowledge mentioned in the guidance, and it was usually followed by legal restrictions such as mandatory mask-wearing in public indoor spaces or self-quarantine. Liberal ironists are fully aware that the guideline was only a part of the COVID reality that was associated with the state, but more discourses participated in the construction of the reality than the influence of social institutions. Whoever was able to make an expression in words, either in person or on a public information platform, influenced the general perception of face coverings and participated in the construction of the new knowledge. This type of influence is only subtle in the sense that claims can only be suggested rather than imposed on other individuals, as the expressers were usually perceived as being separated entities from the state power hence, they had no political power to enforce legal punishments.

Liberal ironists would give equal initial consideration to all discourses as they believe it is impossible to determine which claim is closer to the absolute truth. However, the concept of credibility, as discussed by Latour and Woolgar in Chapter 5 of *Laboratory Life* (1979), can set discourses apart under scientific settings; some statements appear to be more reliable than others as they are associated with experts in the related fields. But liberal ironists would never reject a statement with low credibility; instead, they investigate the claim in relation to the cruelty it could bring.

For example, there were discourses suggesting that wearing face coverings was harmful due to them being useless against the virus and could risk the health of the wearer. According to Khanzan (2020), a piece of information that had been reposted multiple times on social media in early 2020 stated that a purported inspector from the Occupational Safety and Health Administration (OSHA) who had worked in a clean room for 23 years 'debunked' that none of the masks worked against the new virus:

> N95s won't 'filter your air on the way out', so they don't reduce the risk of catching COVID-19 from someone who has it. Surgical masks, the post claims, are rendered useless by the moisture from your breath and the 'amount of particles' on them. Cloth masks, meanwhile, trap carbon dioxide, risking the health of the wearer. 'I know, facts suck', it concludes. 'They throw a wrench into the perfectly (seeming) packaged pill you are willingly swallowing.'[29]

In the original post, there are a couple of terms that appear more frequently in scientific discursive settings such as "contaminated environments", "exhale", "sterile environments", and "carbon dioxide". This can be seen as an attempt to add credibility to the post by the original author. However, because this type of information prevailed only on social media

[29] The full text is available on a Linkedin profile: https://www.linkedin.com/pulse/osha-face-masks-robert-long (Accessed: 8 December 2023).

platforms with no concrete references, it was hard to acknowledge its credibility compared to a published journal article which was traceable as the outcome of a specific scientific institution. Khanzan (2020) adds that the latest public posts featuring this information were in September 2020, but similar statements never fully disappeared despite more validated claims supporting public masking being published and reviewed by bureaucrats and experts. Amusingly, people who believed in masks making people sicker and those who insisted that masks were beneficial both deemed the claims of their objectors as 'conspiracies'.

Can liberal ironists really blame those anti-maskers for spreading this radical information? Unfortunately, no, because there is no objective truth. Nevertheless, liberal ironists would be reluctant to accept the statement "masks make you sicker" as it contradicts other discourses with higher credibility. This decision was made not because they fully trusted the scientific knowledge production process, nor were they firm believers of the one truth science – on the contrary, they despised anything that attempted to gain a metaphysical appeal. The benefit of the doubt was given to the statement, but if this new discourse was introduced into the existing network of reasoning, it would generate greater cruelty and humiliation which is undesirable.

Accepting "masks make you sicker" is to discredit the claims made by many scientists, researchers, and investigators – the experts in the field from different backgrounds who were not against the public use of face coverings. As Latour and Wooglar (1986, Chapter 5) point out, the action of scientists signing their names on papers produced in laboratories shares the same principle of investors with accumulated capital making a reinvestment to gain more capital; to publish a paper while acknowledging one's identity is to invest in credibility which can have an impact on one's future career. But investments

always come with a risk; if the paper is deemed as inferior goods, the accusation can cause humiliation by weakening the investment return or even becoming a capital-losing transaction. However, this is not to suggest that all objections should be avoided because not giving everyone a voice undermines the liberal society; if either way humiliation is going to occur, liberal ironists seek the least cruel solution.

The origin of the "masks make you sicker" statement remains ambiguous as the reposts fail to acknowledge where the information was obtained; there seems to be an unwillingness for the 'OSHA inspector' to link his or her name with the statement for a credibility investment as if the 'inspector' had already predicted a negative outcome and feared that the post might backfire. People who reposted this information barely had any mention of their expertise on this matter; they were outsiders of relevant fields, and they were risking much less capital supporting the claim. It is true that rejecting a statement of unknown origin would also create humiliation, but not to the same extent as discrediting an academic paper or a column of a well-established newspaper. Often no traceable identity was mentioned in similar social media posts, and whoever claimed it first would not receive the same humiliation for their possible bad investment behaviour. Conversely, for those who put their names on their work, the accusation of producing inferior goods could damage the reputation of the claimer especially when the statement is directly associated with the field of their careers. Liberal ironists seek to reduce cruelty as much as possible; in this situation, they are inclined to reject "masks make you sicker" not because they have no doubt of the expertise or the credibility system, but because they are more willing to side with those who appears to be more responsible for their claims and puts more credits on the line.

Furthermore, liberal ironists only want their chances of being kind to strengthen the liberal society, which means they are aware that the credibility system is not absolute and the status of a piece of information being credible can probably be revoked in the future. The scientific knowledge production process as depicted by Latour and Woolgar (1986) is hardly the reflection of the objective world, as it is a typical social construction under the culture of specific laboratories and a reflection of personal interests; the knowledge produced is always open to being challenged by the fellow scientists. To avoid humiliation, the scientists are inclined to conduct thorough research before finalising the outcome to fend off apparent objections to their statements. As long as they are still active members in the scientific field, they do not cease to produce papers. Such behaviours are comparable to that of liberal ironists' who are attuned to new discourses to constantly update their final vocabularies.

At the early stage of the pandemic, there were mixed opinions on public masking; those who were against the idea argued the existing evidence was insufficient to support the claim, and there were also concerns about its potential harm such as instilling a false sense of security and possible contamination with imperfect technique. A professor-in-residence David Eisenman from the Department of Community Health Sciences of UCLA was quoted expressing a negative point of view towards mask-wearing:

> Wearing a face mask incorrectly might put you at greater risk of getting sick… I think people see a mask and they see an illusion of protection.
>
> (Khanzan 2020)

Meanwhile, the supporters of mask-wearing referred to the precautionary principle, suggesting the potential benefit of public masking is greater than its harm. Fast forward, the

general perception of the scientific community towards public masking turned mostly positive considering more research was conducted and more acceptable evidence became available. Eisenman later revoked his original statement by making the following statement:

> These things come back and haunt you… Science recommendations have evolved. Now I would say that the evidence is very much in favour of masks as an important protector in the spread of COVID-19.
>
> (Khanzan 2020)

Eisenman as a health expert showed that the attitude of the scientific community towards knowledge was subject to changes. Scientists who are a part of the credibility system are generally careful with their words; but despite how careful they were, it is still possible for their statements to be revoked. In this sense, scientific progress is not dissimilar to how liberal ironists build their final vocabularies. Liberal ironists understand that science is not about discovering the objective truth but about creation and being pragmatic; they acknowledge science because this system works – it may not be a reflection of the objective world, but it facilitates individuals to gain a better understanding of how to interact with it.

Conversely, those who believe "masks make you sicker" chose to ignore the emerging scientific discourse on the benefit of mask-wearing as well as their chances of being kind. The incident of COVID-19 generated many conspiracy theories regarding the origin of the virus and how people should react. Douglas and colleagues (2019) define the term 'conspiracy theories' as "attempts to explain the ultimate causes of significant social and political events and circumstances with claims of secret plots by two or more powerful actors," the causes can potentially be malicious. People are attracted to these theories attempting to satisfy important psychological needs encompassing the need for safety,

clarity, self-satisfaction, group-belonging, and being in control (Douglas *et al.* 2017; Douglas 2021). Despite there are possible positive consequences of conspiracy theories such as providing a sense of community, encouraging greater transparency, or opening up opportunities for political debate, Douglas (2021) argues that the negative outcomes heavily outweigh the positive, associated with radicalised and extremist behaviours, violence engagement, prejudice and discrimination, and the rejection of scientific findings. Douglas also lists a couple of COVID-19 conspiracy theories such as the virus acting like a "hoax to control the general public" or "a bioweapon" disseminated by 5G phone masts. Such statements had effects of diminishing people's intention to comply with government health guidance including the behaviour of putting on a mask, meanwhile encouraging violent behaviours such as vandalising 5G phone masts. Additionally, many studies suggested that COVID-19 conspiracy theories had a direct influence on health-related behaviours in a negative way as well as causing mental health issues (Freeman *et al*. 2020; Georgiou, Delfabbro, and Balzan 2020; De Coninck *et al*. 2021; Chayinska *et al*. 2021; Bierwiaczonek, Gundersen, and Kunst 2022; Hughes *et al*. 2022; Tsamakis *et al*. 2022). Although it is impossible to determine whether these statements reflected the objective truth, they were much more scientific and credible than conspiracy theories.

It can be argued that people who believe in COVID-19 conspiracy theories share similarities with liberal ironists – they both have doubts about the mainstream discursive construction, and they both disregard certain scientific knowledge as the objective truth; however, two major differences entirely set them apart. The first difference is that conspiracists are not willing to accept opposing discourse, nor to constantly challenge their final vocabularies. They simply denied the scientific system and turned a blind eye towards the emerging evidence which a liberal ironist would never do; they would take those anti-

masking statements as their objective truth without questioning. Conspiracists failed to acknowledge the possibility of having multiple realities as they largely insisted on a single reality, in which the government was the necessary evil that only cared about controlling the public. In other words, conspiracists are not ironists who understand that individuals construct their own realities as well as the need to constantly challenge their final vocabularies. Secondly, COVID-19 conspiracy theories appear to do more harm than good, which leads to greater cruelty. Knowing it is not their job to uncover the metaphysical truth, liberal ironists only want their chances to be kind; from the current discursive construction, they acknowledge the scientific and credibility system which means there is less chance for them to be cruel by following the advice of the health experts. Additionally, recognising variable realities lays the necessary foundation for smooth communications and collaborations from an equality perspective.

Indeed, scientific evidence and conspiracy theories are two types of discourses to be considered when liberal ironists update their final vocabulary; however, there is much more to consider than just these two. For example, it was repeatedly reported that there was a global shortage of medical masks, surgical masks, and respirators at the early stage of the pandemic due to its suddenness (Boseley 2020; Chan and Yuen 2020; Khanzan 2020; Mahase 2020; Middleton and Lopes 2020; Stone *et al*. 2020; Wu *et al*. 2020). Even though public masking was justifiable by the precautionary principle, liberal ironists would also consider the "moral issue" of not prioritising the need of healthcare workers considering the shortage problem (Stone *et al.* 2020). The lack of face masks could potentially result in the collapse of the health system with all the key workers being sick and incapable of carrying on performing their duties; this could lead to the general public not being able to seek medical or clinical help when desperately in need for not just COVID related problems.

Liberal ironists want to avoid the situation in which they are likely to create more cruelty – putting their self-interest first and resulting in frontline health workers without the necessary protective equipment. In this case, the action of not wearing face masks could also be justified.

Following the changing health guidance and the increasing COVID-19 cases later in 2020, the general perception of face coverings was shifting as well as the legal requirements of mask-wearing in different states. As the initial face mask shortage problem was eased, many countries adopted compulsory mask-wearing measurements on public transport and in in-door public areas (Hirsch 2020; Laestadius *et al*. 2020; Badillo-Goicoechea *et al*. 2021; Hale *et al*. 2021). The implementation of these measurements experienced pushback from individuals who held alternative opinions on public masking. As Klinenberg and Sherman (2021) point out, anti-maskers of the U.S.A. justified their behaviours through criticisms of accepted science and defending the Constitution; public masking was brought out of its global health context and put under the scrutiny of the political lens. Klinenberg and Sherman argue that there was an underlying communal justification for the action of going against the health guidance by refusing to wear a mask in public, that being the debate between 'positive liberty' that "prioritise[s] the promotion of collective conditions in which individuals can flourish," and 'negative liberty' which advocates "the absence of constraints on individual behaviour" (Locke 1986; Berlin 1990; Kant 2011; Appiah 2020). The anti-maskers believed in "hyperindividualism" that individual freedom should matter more than everything else, and this way of thinking was not exclusive to U.S. citizens. However, pursuing hyperindividualism posed a greater public health risk as mainstream science shifted toward favouring public masking; two sets of discourses were once again in conflict with each other. Even though compulsory public masking violated one's negative liberty,

which was an issue in the private sphere, liberal ironists would also be concerned with the public sphere and care for the suffering of others in order to sustain a liberal society. Furthermore, the private sphere can benefit from public masking in terms of reduced infection risk. Considering that liberal ironists acknowledge the practicality of science, they would side with the benefit brought by positive liberty outweighing negative liberty in the case of public masking as they seek their chances of being minimally cruel as much as possible.

However, from the environmental perspective, public masking was not all positive; the negative environmental impact made by the heavy usage of PPE including disposable face masks must not be ignored. As Spennemann (2021) points out, after the introduction of mandatory mask-wearing in indoor spaces, the public mainly had two choices of either wearing single-use surgical masks or multi-use washable cloth masks; since then, there has been an increasing number of articles highlighting the threat posed to the environment by the discarded single-use surgical face masks. Allison and colleagues (2021) estimate that there would be 124,000 tonnes of waste created if every citizen of the UK used one disposable mask each day for a year, and 66,000 tonnes of which would be unrecyclable contaminated plastic waste. Disposable masks are mostly made of petroleum-based non-renewable polymers that are non-biodegradable and hazardous to the environment. Due to the suddenness of the increased usage of disposable masks, many were improperly discarded; hence, there was an emergent need to regulate the disposal of these medical waste to avoid releasing tonnes of micro-plastics into the landfill as well as to the marine environment (Fadare and Okoffo 2020; Sangkham 2020; Dharmaraj *et al*. 2021; Oliveira *et al*. 2023). Additionally, indiscriminately disposed masks and other PPE can potentially act as a medium for disease outbreaks due to the nature of plastic particles that can propagate

microbes (Fadare and Okoffo 2020; Nzediegwu and Chang 2020); yet users of those PPE were generally unaware of these serious environmental repercussions (Botetzagias and Malesios 2021).

As a potential solution, reusable face coverings were proposed as an alternative to single-use masks, as reusable masks create more than 85% less waste and generate 3.5 times lower impact on climate change meanwhile being cheaper (Allison *et al*. 2021). Nevertheless, it has also been suggested that there was a lack of standardisation of reusable face masks; the standardised disposable type can generally offer better protection to the wearer than many types of reusable masks in terms of filtering the virus and reducing its transfer, and reusable masks are also capable of generating non-biodegradable waste (Allison *et al*. 2021; Duncan, Bodurtha, and Naqvi 2021; O'Kelly *et al*. 2021; Prata *et al*. 2021; Selvaranjan *et al.* 2021). After three years, the pandemic situation changed significantly, and face masks are no longer mandatory in many places despite that the virus has not been eradicated. Taking the UK as an example, face coverings were no longer required by law in most public spaces in England by the end of January 2022 and soon followed by Northern Ireland, Wales, and Scotland (GOV.UK 2022; BBC News 2022A; Welsh Government 2022; Scottish Government 2023; BBC News 2022B; Davies 2022). Meanwhile, the numerical data published by the official government suggested that the number of daily cases was the highest in January 2022 since the outbreak (GOV.UK 2023). The mandatory mask-wearing policy had an impact on the frequency of wearing face coverings (Binka *et al*. 2023); but after the removal of national health policies, it is now up to the individual to justify the reasoning for further mask-wearing.

At first glance, there seemed to exist two conflicting sets of discourse with public health on the one side of the scale and environment on the other; but the dilemma was not as binary as it seemed, and it was reconcilable to a certain extent. The environmental problem could be eased by properly managing the plastic waste or using a bio-degradable material instead. Alternatively, there was scientific evidence suggesting that reusable masks could be produced to achieve a similar protection efficiency as disposable masks using specific fabric combinations; it was important for the reusable masks to soon be subjected to standardisation with relevant cleaning instructions (Prata *et al.* 2021; Allison *et al.* 2021; Selvaranjan *et al.* 2021). However, all of these wishful transformations were impossible to achieve overnight; it took time to involve the government to pass new regulations on waste management and reusable PPE, as well as for manufacturers to find a cost-effective way to use bio-degradable material and to invest in new fabric. Therefore, the decision to refuse to use a mask due to its environmental unfriendliness could be justified from a liberal ironist standpoint of avoiding cruelty by reducing the negative environmental impact.

Nonetheless, the option of mask-wearing should not be taken away once and for all; the implication of wearing face coverings went beyond scientific and environmental discourses. Another factor to consider is the social discourse that was associated with the object. Ji (2020) investigated the discourse around face coverings in China and found out that they were associated with the concept of caring for other people – putting on a mask indicated that the individual had a "smaller love for family to a bigger love for Chinese people in general," which elevated the responsibility of the individual to be a protector of the community; in other words, face coverings carried a set of "morally relevant distinctions" that forced decisions upon the wearers; this "techno-moral change" could potentially outlast the pandemic itself. Ji's argument links back to the discussion in the

previous chapter regarding social institutions subtly controlling the human mind; as Ji pointed out, through the anti-epidemic promotional videos the Chinese government spread the message that wearing masks was caring for others, which was an exercise of institutional power to control bodily behaviours through the mind.

There were analyses in which the original motivation for mask-wearing was embedded deeper in cultures. Endo and Kato (2022) analysed the mask-wearing behaviours in Japan; before the pandemic, the Japanese had already adopted the habit of mask-wearing when having a cold. They argued that regardless of the actions taken by the Japanese government during COVID-19, the existing social value of appropriate mask-wearing behaviours was already embedded into the minds of the general public. Fearnley and Wu (2022) looked at the case of Singapore and argued against the idea that the acceptance of mask-wearing for Asians was due to political authoritarianism; rather, there was a wide diversity of beliefs, motivations and practices that challenged this "homogeneous mask culture" under political force. These are the cases where multiple social institutions were working together as the 'carceral archipelago' system that shapes the concept of what should be considered the norm. These studies suggested that for some individuals, the justification of mask-wearing was beyond the scientific discourse; the action was defended by a variety of reasons from a social-cultural point of view.

Thus far, this section explored different reasons that could potentially influence the decision of mask-wearing from a liberal ironist viewpoint. The above analysis of a face covering as a discursively constructed object revealed that there were many more factors to consider other than the scientific evidence when making a masking decision. Therefore, it is more appropriate to view face coverings as a cluster of discourses rather than just focusing

on their physical quality when it comes to justifying the behaviour of mask-wearing. When making such a decision, each individual creates a unique network of reasoning with various nodes that construct one's version of reality; the authority of the state, the scientific evidence, the autonomy of the self, the potential environmental impact, or the social-cultural influence can all be nodes in such a network. What caused each individual to make different decisions was that these nodes weighed differently; some nodes might be missing, or extra nodes might be added according to the individual's current final vocabulary. Take the examples of the anti-maskers described in Klinenberg and Sherman's (2021) research, the people who refused to wear a mask valued their autonomy more than both the authority of the state and the scientific evidence available; in contrast, many citizens of Japan and Singapore valued their social-cultural values more than self-autonomy and potentially more than the states (Endo and Kato 2022; Fearnley and Wu 2022). Because everyone's network of reasoning is different due to the vocabularies collected which consequently formed the relationship between nodes, the variation creates multiple versions of reality and truth claims as supported by the constructivist epistemology. Additionally, this network of reasoning is constantly shifting as new discourses emerge; the network adjusts itself to embrace the new vocabularies encountered.

This idea of using the concept of a network to map out the epistemological field is certainly not unprecedented. It shares similarities with Foucault's concept of the *episteme* – the "fundamental codes of culture" (Foucault 2001, p. xxii) which determines people's way of thinking and is also ever-changing. The difference is that, from a liberal ironist perspective, Foucault's *episteme* is at the public level, whereas the individual's network of reasoning is at the private level. Additionally, this private network also resembles the actor-network theory (ANT) as an attempt to understand the functioning of science and the

creation of knowledge; ANT grants agency to the non-human actors so that they are not just the "hapless bearers of symbolic projection". The theory stresses the importance of not simply separating the 'social' and the 'science' by interpreting the 'social' as a specific domain, or assuming an underlying force that shaped the 'science'; instead, the social should be seen as a "very peculiar movement of re-association and reassembling" (Latour 2005, pp. 7-9). The purpose of ANT is to innovate on top of traditional sociology, whereas by unpacking the network of reasoning it is possible to add transparency to the decision-making process in relation to different truth claims through the construction of discourses from a neo-pragmatic perspective. Due to the limitation of space, the thesis is not able to discuss the differences further; it would be a great topic for future research to compare and contrast networks that share similarities to the private network of reasoning as the result of Rorty's liberal ironist analysis.

As a summary, this section discussed how a liberal ironist would respond to the inconsistent discourse around face coverings. The section elaborated on the liberal ironist take on scientific discourse and drew a distinction between them and the conspiracists. Liberal ironists acknowledge the practice of science because it is a pragmatic means to gain a better understanding of how to interact with the objective world; they are different to conspiracists as they are not creators of cruelty and suffering. Even though the physical quality of a face covering constructed by the scientific discourses is likely to be treated as the absolute truth, liberal ironists are aware that this construction is only temporary as more constructions will take place in the future and they need to be attuned; the construction of scientific facts also takes a similar route in a manner that new discourse can potentially change the current understanding of the discipline. Additionally, the section gave other examples of the types of discourses beyond the boundary of science that are capable

of justifying behaviours concerning face coverings; each individual constructed a unique version of reality through the network of reasoning with a diverse range of vocabularies as nodes that carried different weights. Therefore, it became possible to comprehend the decision-making process through the analysis of this private network consisting of discourses.

Liberal ironists do not concern themselves with what is metaphysically true or false; rather, they build their final vocabularies with every piece of discourse encountered. They are less concerned about finding the absolute truth of face covering as a physical object, but they would pay more attention to how the discourses were constructed in a certain way regarding this object. More importantly, they carry out discursive practices intending to avoid cruelty as much as possible based on the current situation. In the eyes of the metaphysicists, the intolerable weak point of liberal ironists' tool of redescription is that no definitive answer can be given as a result. Indeed, liberal ironists cannot provide such an answer because nothing of the objective world can be revealed from discourses as human creations. Adopting this mindset cannot provide the one and only truth, but it is a pragmatic approach that is capable of reducing the friction when communicating knowledge by being aware of the complex network of reasoning behind the construction of each truth claim.

How would liberal ironists conduct global health collaborations?

The radical constructivist thinking that supports the presence of multiple realities is capable of explaining the barriers experienced during the health collaboration – the GRASPIT project – between the South Devon Healthcare NHS Foundation Trust and Nanyuki District Hospital. As discussed at the beginning of the thesis, a main issue that emerged from

the reflection was that a few assumptions made by the South Devon team did not match the reality at Nanyuki. Assumptions were made because there was some knowledge that the team thought to be commonly shared by both sides, or in Rorty's words there was the non-ironist 'common sense' that was expected to be present. Taking the liberal ironist approach can potentially help to avoid making assumptions, expose 'common sense', and unmask the knowledge that was taken for granted by exploring the network of reasoning that was associated with the claims. This process of unpacking the 'common sense' can generate future awareness of these pre-assumptions in global health collaborations and thus facilitate communication in health-related knowledge sharing.

During their interactions through the GRASPIT project, the South Devon team assumed that the Nanyuki team shared a similar reality with them since they all had been working in a hospital setting that offered similar health services – taking care of the sick patients on the wards and recognising deteriorating ones in this particular case. However, the different institutional cultures and power structures proved them wrong. It was mentioned in the reflective report (THET 2017) that under the NHS setting, assigning training responsibilities to health workers was generally considered an empowerment approach, rather than creating an excess burden on colleagues. It was true that the GRASPIT training course was popular and well-received at Nanyuki; but without conducting a consultation with the local health workers who would actually be involved, the team assumed that the Nanyuki staff would share a similar view with the NHS staff that 'being a trainer is good for professional development'. In comparison, the GRASPIT programme was proven to be fruitful at Kenyatta National Hospital in Kenya; the report (ibid.) pointed out that at Kenyatta National Hospital, the project was running successfully with 22 experienced "Master Trainers" who were trained by volunteers from the UK, carrying on the 'train the

trainers' course and benefitting over 1,100 health workers across Kenya. With the preconception that the institutional culture of all hospitals should be similar, the South Devon team constructed a version of the reality of Nanyuki District Hospital that did not match how the health workers of Nanyuki viewed their realities.

As Latour and Woolgar argued in *Laboratory Life* (1979), each laboratory had its own 'culture' that had a constant appeal in daily life as well as a 'mythology' that its citizens were trying to solve. Even though laboratories all work under the name of science, each laboratory has a distinct way of constructing inscriptions as well as the material and social process of obtaining them. No two laboratories are alike, and the same argument should also apply to hospitals. Due to the limitation of the space and the research method, the thesis cannot currently conduct a thorough analysis comparing the institutional culture of Torbay Hospital, Nanyuki District Hospital, and Kenyatta National Hospital; it is a possibility for future research to confirm this claim.

Another aspect to consider other than the institutional culture is the particular power structure of institutions and how that affected the execution of the "Train the Trainers" course. The assumption made about the Nanyuki District Hospital hierarchy was a part of the problem. A long-term volunteer of the GRASPIT project Ellie Gregory pointed out (THET 2017) that her team initially focused on getting the clinical officer interns involved in the project because the interns generally had more time than other staff. However, the team overlooked the local reality that the status of these clinical officer interns in the hierarchy was lower than that of official nursing and medical staff from the hospital; the interns were unlikely to be respected as GRASPIT trainers by the senior nurses and medical

officers due to their junior position in the institution. The team had to seek other potential trainers.

Furthermore, identifying the correct individuals to work with under a different institutional power structure turned out to be tricky for the South Devon team. According to the reflective report (THET 2017), the team was in conversation with the medical superintendent and the lead for nursing from Nanyuki Hospital during the development of the project; these senior staff expressed a lot of interest in the training course and the team assumed that this enthusiasm would be passed down to the supposed trainers. The team assumed that it was realistic for every participant who was interested and joined the programme to become a trainer on top of their pre-existing commitments, but the Nanyuki reality said otherwise. Due to the existing training obligations several times a week such as the local training in the hospital, educational training, and training organised by the national government, some of the staff did not have the capacity to attend GRASPIT training on top of the existing programmes. In the ideal reality constructed by the South Devon team, they underestimated the workload of their targeted staff. The report (ibid.) suggests that the team should have engaged closely with stakeholders who had a more central role in delivering future training during the course development process. In addition, the team assumed that the training responsibility at Nanyuki was held by the medical superintendent, but it was actually held by one of the consultants whom they overlooked; the team believed that the project would have been more successful if this information had been provided more explicitly to them (ibid.). The assumption of who held what kind of power and responsibility in this unique institution, was made by the team based on their own version of reality; it failed to match the Nanyuki reality, and hindered the successful implementation of the longer-lasting effect that the course was supposed to deliver.

It is not to argue that the South Devon team was the only group who made assumptions about their collaborator's reality; although it was not explicitly mentioned in the report, seemingly their Kenyan partners made assumptions about the UK team as well. As Ellie Gregory pointed out (THET 2017), she sensed that all of their Kenyan partners felt the need to be overtly polite because the South Devon team came a long way to Kenya to improve local healthcare quality by offering the GRASPIT training course. Ellie suspected that due to this reason, their partners were reluctant to reject any training plans including unrealistic ones. In other words, the Kenyan partners assumed that their UK partner would consider the gesture to be rude if they suggested alternative approaches. But in the reality of the UK team, successfully establishing a sustainable training programme was prioritised over any formalities. Indeed, there was only a limited amount of information that could be analysed from the report as it was written from the South Devon team's perspective; the report reflected a version of the collaborative relationship reality interpreted by the South Devon team, and the Kenyan partners' realities might differ significantly. If the Kenyan partners had produced similar reports reflecting on their collaborations with the team, comparing and contrasting them with the report discussed would assuredly be insightful in terms of analysing how the realities differed from one to another.

Although the second last section of the report mentioned the possibility of cultural expectations affecting the partnership, the thesis adopted Latour's approach of untangling the 'African mind' by focusing on the institutional culture and power structure rather than culture in a generalised sense. These lessons learnt from the GRASPIT Nanyuki collaboration revealed that a thorough reality check with all the stakeholders was necessary to avoid making any assumptions that would not match the collaborators' realities. As previously discussed, the counterpart of being an ironist is to assume there is a 'common sense' that

can be universally shared, which implies the existence of a metaphysical truth (Rorty 1993). The liberal ironist mindset addresses assumptions as knowledge taken for granted; in this case, the 'common sense' under hospital settings. The success in other places stopped the South Devon team from being ironists and led them to assume that the institutional culture in Kenyan hospitals was the same. A liberal ironist would deny the existence of any common sense knowing the contingency of discursive formations, that no two institutional cultures are alike. A potential solution to avoid making assumptions is to take the *Laboratory Life* (1979) approach diving into a new institution as an outsider learning about their 'culture' and 'mythology' before formally establishing the plan for a collaborative programme. In this sense, the concept of 'culture' is equivalent to the daily functioning of the Nanyuki Hospital including the workload of staff and their existing training schedules. A shortcoming of this particular collaboration was that the development and implementation of the GRASPIT training course were relatively informal; the South Devon team properly consulted with the senior management but overlooked other stakeholders who had a more central role in receiving the course and conducting further training (THET 2017). In other words, the team was unfamiliar with the local institutional culture including the work patterns of healthcare workers and their responsibilities; they need to be more familiar with this culture before they offer new training in the future. Similarly, 'mythology' was the issue that the institution as a whole was trying to solve; there could be multiple problems and recognising acutely sick patients could be one of them. The team identified a possible improvement the institution could make by adapting their clinicians' approach to the management of ill patients in the medical ward, and they were correct; the reason that this GRASPIT project was less successful is not that they identified the 'mythology' wrong, but due to the wrong perception of the 'culture'.

This case study reveals that there is no single reality even for individuals who work in the same type of social institutions, hence there is a need to establish a new reality embracing both sides of the partnership by accommodating multiple realities. To ensure a higher quality partnership in the future, South Devon Healthcare NHS Foundation Trust and Nanyuki District Hospital decided to formalise their partnership with a Memorandum of Understanding (MoU) to establish the roles and responsibilities for both partners (THET 2017). Having an MoU in place can encourage "a greater feeling of ownership" of the project by both partners without being driven by one side (THET no date). Having this measurement in place is the opposite of making assumptions; it is a liberal ironist approach as it opens up a common space to assist with the communication between two existing realities. In this space, individuals can exchange discourses, resolve conflicting discourses, and build on their final vocabularies in an attempt to merge their different realities to fulfil a cooperative goal. Even within this common space, it is unlikely to achieve the perfect unification of the final vocabularies of every single participant; nevertheless, all participants are involved in the process of building a collective reality as a pragmatic means of working together and pushing the project forward. It is never a guarantee that everyone will share the exact same set of final vocabulary, but being liberal and ironic at the same time equips the participants with open minds and the ability to adapt to new discourses.

The last section of the report mentioned that the partnership made some significant changes to their approaches, including the adoption of the Kenyan process of 'sensitisation' that allowed all stakeholders to have a common awareness and understanding of the project, the purpose of the partnership, and to ensure that the shared goal was explicitly explained (THET 2017). This improvement leads to the next discussion – what it means for development.

What would liberal ironists say about international development?

The term 'development' has not lost its relevance in contemporary societies. As one of the seventeen Sustainable Development Goals proposed by the United Nations in 2015, the world nations are striving to achieve a shared blueprint that promotes good health and well-being for all human beings at all ages; it is an urgent call for action by all countries as well as global partnerships (United Nations no date). Expressly, global health is a non-dismissive part of international development, and global collaborations in the name of improving population health cannot fully escape being considered a part of the development discourse. As previously discussed in Chapter 1, development discourse is ever-changing and such a standpoint is perfectly compatible with liberal ironism in the sense that it is always open to interpretations. However, the concept of development has long been criticised for being Western-dominant and not giving the subaltern a voice; traditionally, there have always been dominant and subaltern realities in development discourse. The beginning of the age of development in 1949 was when the world was divided into the 'developed' countries and the 'underdeveloped' countries, but these terms were just alternative phrases to the 'dominator' and the 'dominated' during the colonial period; it was a political gesture instead of truly caring for other's suffering, and this was problematic considering it did not fit the purpose of some current global health collaborations such as the GRASPIT Project. Therefore, we must shed off the ignominious past of development to ensure it remains relevant to the ideal liberal and ironic society.

As a potential solution to break off from the stereotypical classification of identifying who is in charge of development programmes, adopting a liberal ironist mindset is capable

of establishing a common space to foster unbiased dialogues between the collaborators. The multiplicity of the term has resulted in many different interpretations of what development should be, which means there exist multiple realities in terms of development discourses. The old way of the 'developed' country taking the leading position in a global partnership created cruelty in a way that they sometimes failed to address the real needs of their partners – the final vocabulary of the dominant country powered over that of the subordinate. The 'developed' tended to think that they knew what best was for their partners, but they failed to realise that the realities of their partners might differ significantly. Forcing others to accept a new reality is problematic due to its nature being reminiscent of imperialism; this power hierarchy conflicts with the foundation of a liberal society. Inequality creates cruelty, thus the old classification that existed to seize control must be abandoned. There is an immediate need to seek a different model of interaction to support a non-hierarchical existence of multiple realities of global collaborations. Additionally, forcing knowledge from one reality to another can potentially create tension in the recipient society as the discourse is alien and may fail to fit in the existing discursive construction; the collaborating partners can refuse to accept the knowledge as a result, but the purpose of knowledge sharing is undermined. Applying the constructivist and liberal ironist mindset can foster communication between multiple realities by acknowledging the equality of all discourses to avoid one reality taking the dominant position.

On a positive note, there are global collaborations that care about the well-being of people rather than political dominance; they are willing to adapt to new challenges to ensure their approaches will deliver the maximum amount of benefit to those who are in need. Taking the GRASPIT Project as an example, although the collaboration between the South Devon team and Nanyuki District Hospital went through some hiccups, the

partnership evaluated the weaknesses and changed the future approach. Other than formally establishing an MoU, the partnership also decided to adopt the 'Kenyan process of sensitisation' (THET 2017). Sensitisation training is commonly adopted in some African countries among healthcare workers, police forces, and religious and community leaders to increase awareness of the services they provide to the public, and to promote their engagement with the public by reducing their judgement and discrimination, especially towards men who have sex with men (MSM), sex workers, individuals with sexually transmitted diseases, and people who use drugs (Lang'at and Mwanri 2015; Scheibe *et al*. 2017; Duby *et al*. 2019; Kioko *et al*. 2021; Rono *et al*. 2021; Woensdregt and Nencel 2022). A written version of sensitisation training can be found in a manual provided by the National AIDS and STI Control Project (NASCOP 2020) for religious and community leaders to promote dialogue between individuals. The manual points out that in Kenya, HIV was more concentrated among certain key populations, and the cultural attitudes towards these key populations were negative considering these individuals were conventionally categorised as immoral and a threat to the social moral standard. The manual existed as an attempt to mitigate the negative assumptions about these key populations, and to improve the services and care that these leaders could provide to the key populations. The manual states:

> The resolution acknowledged that respect for religious and cultural diversity, tolerance, dialogue and cooperation can help diminish ideologies and practices based on discrimination, intolerance and hatred and promote world peace, social justice and friendship among peoples.

After the introduction, the manual introduces the methodology of this approach and is then followed by multiple modules including the basis of HIV/AIDS, understanding key populations, and activities such as brainstorming and role-playing for the leaders.

Particularly, the procedure is very systematic and supported by learning theories; a definitive outcome is expected for the participants of the sensitisation training.

However, not all sensitisation processes are the same. Woensdregt and Nencel (2022) described a more practical police-sensitisation activity organised by a male sex worker-led organisation (SWLO) based in Nairobi. Different to the manual that proposed a top-down approach, this SWLO sensitisation took a bottom-up approach that involved members of the organisation being the initiators. A group of more than 30 young men from SWLO not only put up banners with empowering slogans on the fences surrounding the police precinct as a part of the sensitisation activities, but they were also "picking up trash, sweeping the floors with traditional grass brooms, and cleaning the offices and empty cells with soap and water". Such behaviours caught the attention of some police officers as well as people walking by; the kindness acts became effective conversation starters and made a positive impression on male sex workers who were usually discriminated against by the local society. Later, the organisation's advocacy officer gathered the members and the police officers together and expressed his gratitude; a desk was also brought out by members of SWLO to police officers. The advocacy officer explained that this was a 'GBV (gender-based violence) desk', which the organisation wished to donate to the police station to improve male sex workers' treatment during gender-based violence cases in the future.

Another type of sensitisation activity was done to promote healthcare services to local communities. In the research of Rono and colleagues (2021), community sensitisation was conducted on individuals with symptomatic eye problems alerting them to use related local services. Although the report did not provide further details into how the sensitisation was conducted, the purpose of such an activity was to reduce the suffering of local residents

by communicating the service available and familiarising them with the health system. There seem to be many different approaches to the sensitisation process; regardless of the format, such a process shares the same purpose with that of the liberal ironists' in the sense that they both have the intention of encouraging communications between individuals, establishing a stronger liberal society by building the social tolerance level, and they both strive towards reducing cruelty by eliminating problematic actions, especially discriminations that generate cruelty and pose a threat to human solidarity.

Similarly, not much detail was given in the THET report (2017) regarding the 'Kenyan process of sensitisation' that was adopted later for the South Devon – Nanyuki partnership; the report only briefly mentions that:

> [T]he first step is to make all stakeholders aware of the project, the partnership, and what is entailed; and the second step is to ensure that all parties have a common understanding of the aims of the project, the need for it, and the problem that it is addressing.

This version of sensitisation emphasised the communication between all collaborators and building a new reality for all stakeholders involved. It was different to the sensitisation activities discussed above in a manner that the primary goal was not to avoid discrimination towards certain social groups, nor to promote a type of service towards the local population. Instead, it encouraged the local staff to get involved in the process of identifying the problems that needed addressing and determining the steps to take to amend the problems. More importantly, the partnership adopting the sensitisation process was to break off from the traditional development discourse by giving the 'subaltern' a voice. Traditionally, the 'subaltern' role was the country that needed help and accepted assistance from more financially advanced countries, but it did not get much to say about the type of

support it would receive due to the 'dominant' being in charge of the global partnership. By adopting the Kenyan process of sensitisation, the previously 'dominant' and 'subaltern' have gained equal status where both of their voices can be heard. Although the style and focus of sensitisation activities vary from one to another, the core idea of such a practice is intrinsically liberal ironist considering it fosters communication between multiple realities to avoid one reality being dominant over others. The improvement strategy of the GRASPIT Project represents a positive turn in global health collaboration.

Furthermore, encouraging conversations between realities can inspire new ideas. As Crisp (2010, p. vii) points out, the more financially advanced countries, which are always assumed to have more advanced health care, can always learn from other countries about health and health services. The concept of health is not universal; instead, it sits within a certain social, economic, and political context that differs from one country to another. Therefore, there is no one-size-fits-all solution to all health-related issues for all nations regardless of how well the country is doing financially; richer countries with "powerful health services" can also experience problems such as the existing system getting in the way of necessary changes. Crisp is also an advocate for the idea that less financially advanced countries should be designing and building their health services, and that healthcare is teamwork in bringing various skills and perspectives together for a common purpose (ibid., pp. 200-3). In short, combining knowledge from all can provide mankind with new insights into the concept of health; refusing such an opportunity not only creates cruelty at the private level as some of the voices from individuals may not be heard, but it also hinders the public sphere from being truly liberal by limiting discourse exchange and new discursive construction, which means that less possible forms of healthcare will be explored. In the case of the GRASPIT project and many other future cases of health collaborations or

knowledge exchange, applying the thinking of radical constructivism and liberal ironism is one of the pragmatic methods that can ease the collision between different healthcare realities to improve the current setting.

The same principle can be applied to development discourses; because there are ongoing debates regarding what development should be in both theory and practice, researchers were able to come up with their own interpretations based on unique case studies, and new ideas were constantly being generated. Only in this way, the concept of development can keep evolving according to emerging discourses and open up possibilities to conduct new practices; if it were not for the efforts of Fanon, Said, Spivak and post-colonial scholars, development would still be an excuse to gain power over less advantaged nations. More recently, the economics versus freedom debate between neoliberal economists and state-planning supporters certainly brought new insight into the topic. Nevertheless, the purpose of opening up a space for debate is not to find the one-and-only true definition or the best means to achieve development; the purpose is to be pragmatic about how to effectively alleviate the sufferings of other human beings. This liberal ironist thinking acts as a theoretical framework supporting the multiplicity of development as well as a guideline for future practices under its name, by avoiding generalisation and supporting local solutions.

As a direction for future research, the thesis would like to point out the possibility that this theoretical framework contributes to the building of post-development theory. Some scholars see the idea of development as a problem that needs alteration because of its association with unpleasant discourses in the past. For example, Sidaway (2014) summarised a couple of obvious flaws: development always shared a correlation with

different epochs of Western hegemony; it was a set of discourses contributed by knowledge, interventions, and worldviews that had the power to rule (Pieterse 1991). It was also geopolitical that the Western strategy was implemented through local elites, which was associated with the so-called 'modernisation' rooted in the United States (Ekbladh 2010; Sewell 2010). Many critics who were considered 'outsiders' of the 'West', such as Kay (1989), Dabashi (1993), Mohanty (1984), and Escobar (2011) expressed the same concern (Sidaway 2014).[30] To 'correct' the development discourse, some suggested deconstructing 'the West' in other to deconstruct development so that other sets of visions could emerge (Pieterse 1991). Yet, others preferred a more radical solution by coming up with a new term 'post-development' as a complete departure from traditional development discourse (Pieterse 2000). However, one of the criticisms of 'post-development' is that the concept was flawed because it lacked instrumentality as it failed to offer a programme for development practice (Pieterse 2000; Nustad 2001; Brigg 2002). As Pieterse (2000) states:

> In the end post-development offers no politics besides the self-organising capacity of the poor, which actually lets the development responsibility of states and international institutions off the hook. Post-development arrives at development agnosticism by a different route but shares the abdication of development with neoliberalism. Since most insights in post-development sources are not specific to post-development (and are often confused with alternative development), what makes post-development distinctive is the rejection of development. Yet the rejection of development does not arise from post-development insights as a necessary conclusion. In other words, one can share post-development's observations without arriving at this conclusion: put another way, there is no compelling logic to post-development arguments.

[30] More of this discussion can be found in Chapter 1 The Ever-Changing Development Discourse.

Due to the limitation of space, the thesis cannot expand on the development versus post-development debate, as the meaning of 'development' is ever-changing.[31] However, the liberal ironist framework can potentially be the foundation of post-development practices due to its principle of reducing cruelty as much as possible; for this reason, no states nor international institutions should feel relieved from their responsibility as it should also be in their interest to reduce sufferings of the world population. The less economically advanced countries should indeed be more involved during the process, but it is not the equivalent of richer countries sitting back and letting their partners do the work as the richer countries are capable of providing experience and resources to help with planning. In short, the part of the liberal ironist framework that promotes 'cruelty is the worst thing we do' could be an aligning pole for future activities under the name of development. A further research direction could be comprehensive discussions of how to implement collaborative protocols in reality based on the theoretical framework on a case-to-case basis, considering no two partnerships are alike and the denial of any universally shared knowledge, as well as how to ensure that all stakeholders involving in the partnerships can pick up such a mindset following the protocols.

[31] Further discussions please see Sidaway (2014, pp. 148-150) "Post-development" in *The Companion to Development Studies*. Some argue that the concept of 'post-development' was never really beyond the development discourse thus less original than the theoretical frame of discourse analysis. Others argue that the supporters of post-development themselves cannot represent the 'Third World' as they live relatively affluent lives. There are a couple counter arguments, the first one being that there is a consistent collection of literature under the theme of post-development, and they are distinctive enough to be put under a category. Secondly, critiques such as Escobar (2011, p. 39) stresses that development is always about power which "created a space in which only certain things could be said or even imagined", whereas post-development literatures teach us not to take this space for granted; in other words, Escobar argues that post-development has taken a different set of perspective that is distinctive enough to be separated from the traditional development discourse.

Conclusion

The introduction of the thesis brought attention to three seemingly unrelated problems: a clinical training global health collaborative project that failed to achieve the expected result, the inconsistent scientific discourse of face coverings under the context of early COVID-19, and the relevance of development discourse in terms of its current practices. Yet, all of them alluded to the possibility of having incompatible knowledge supporting multiple realities existing at the same time. Through these examples, the thesis has shown that the interaction between various privately established realities could produce frictions that cause conflicts, cruelty, and undesirable outcomes of collaborations. Therefore, a theoretical framework was built through the analysis of secondary materials that are not usually brought together, in order to offer a means of mediation that was parallel to scientific practices to increase the efficiency of knowledge sharing as well as the post-operative outcome of collaborations.

The structure of this theoretical framework borrowed ideas from several philosophers. To start with, the thesis dived into the works of Michel Foucault focusing on the concepts of the subject, discourses, knowledge, and power. Human beings were made into subjects who behaved in certain ways under different modes of objectification. Foucauldian philosophy overlooked the agency of individuals as well as their freedom of thought; instead, it focused on how the minds were shaped within a system of limited understanding – the *episteme*. The *episteme* is how Foucault referred to the epistemological field in which knowledge was organised through discursive regularities at a given period of time. In other words, the thought was defined by this discursive relation, determining what

can be said; discourse did not originate from the speaker, it defined the speaker. Through unpacking the two questions a doctor would ask a patient at two separate times in history – "What's the matter with you" and "Where does it hurt" – the thesis suggested that clinical knowledge was time-related and subjected to changes. However, this transformation was not guided by rationality, but due to many little contingent causes.

Additionally, the transformation of the relationship between a doctor and a patient, the physician, and the surgeon, further implied that the change in discourse had a profound social effect beyond language. Such a characteristic of discourse was picked up by Foucault in his later genealogical work, which broadened his analysis to include social practices instead of solely focusing on the linguistic aspect of discourse. The concept of power was introduced as the equivalent of knowledge, and it was in discourse that knowledge and power were joined together. This modern form of power was subtle yet pervasive and targeted the mind to create docile bodies that reinforced the power structure. Therefore, knowledge was never seen as the objective truth in Foucauldian philosophy; the analysis of knowledge was not to uncover the metaphysical truth, but to assess the limitation of thoughts and actions, knowing it was restricted to a certain period of time and space and subjected to changes. The contribution of Foucault to the theoretical framework was to flag the contextual characteristic of knowledge, as well as its power effect on human decision-making and behaviours.

The second part of the theoretical framework involved the discussion of the book *Laboratory Life: The Construction of Scientific Facts* (1979) by Bruno Latour and Steve Woolgar. The purpose of choosing this entry was because of its ethnographic approach to an established science laboratory, revealing the generally concealed side of scientific

research as well as arguing against the dichotomy of the social realm and the scientific realm. Such an approach challenged the objectivity of scientific knowledge that science must be recognised as occurring in specific contexts. In Guillemin's laboratory, all the activities were for the purpose of obtaining literary inscriptions; they had less to do with discovering the truth about the universe, but about the social activity of making statements, convincing and being convinced by their fellow scientists. The later processing of statements eliminated all temporal quality of claims, and then the newly established knowledge was introduced back to relevant institutions as an objective truth. In addition, by using the case study of TRF, the book brought to light the contribution of smaller social causes in constructing scientific knowledge, such as the material situation and the cycle of credit. Therefore, the epistemological quality of an object is inseparable from social factors and interactions in particular settings where that knowledge was produced.

Similarly, without the previous practical experience and academic accumulation of Latour and Woolgar, the book *Laboratory Life* (1979) would not exist; this was to suggest that every event, regardless impactful or insignificant, counted toward the final result. Although it was undeniable that such a controversial view on scientific knowledge unintentionally undermined its validity, the book has not lost its relevance as it emancipated the public from objectified knowledge and introduced subjectivity which must be recognised. This stage of the theoretical framework was built on top of the previously laid Foucauldian foundation. The reading of Foucault engaged with discourses from different historical periods; his work has shown that there was a time and space limitation to knowledge, which denied the claim that knowledge is the equivalent of objective truth. In comparison, *Laboratory Life* (1979) offered a paradigmatic analysis of daily scientific

practices of its time in much detail, further enquiring into the nature of knowledge through more current and tangible objects and activities.

These theories were then applied to understand the variation of truth claims regarding public masking at the early stage of COVID-19. Through the review of various health policies and scientific papers available at the time, the thesis revealed to its audience the inconsistent nature of a collective of discourses on the subject. Again, the purpose of such a review was not to display all the textual material available for the time being, but to highlight the disparity. The theoretical framework thus far was able to situate the story of face covering in the context of epistemology and power relation; the theoretical and practical hybrid analysis further consolidated the constructive nature of knowledge. The epistemological quality of face coverings can be understood through the lens of *Laboratory Life* (1979) in a number of ways. Scientific papers on face covering were literary inscriptions produced in laboratories with unique settings, whilst their material setting determined the types of experiments conducted. Each country had a distinctive standard for PPE regulation, which subsequently affected the knowledge regarding the efficacy of certain types of masks. The credibility of the researcher as well as the research method adopted in journal articles affected how seriously the statements would be taken by the science community. Lastly, because COVID-19 was a very new crisis at the time, the temporal quality of all claims had yet to dissipate, resulting in contrasting scientific claims existing simultaneously that remained unstable and challengeable; this can link back to Foucault's concept of the *episteme*, in which the idea of science was a formation of selected discourses in a particular context.

From the power relation point of view, the information released by social institutions affected the minds of individuals as well as how they conducted actions. As the early face covering policy review of Public Health England and the National Health Commission of the People's Republic of China pointed out, individuals were put into different risk groups which determined if they should wear masks and what type of masks. The thesis argued that such a division was based less on science and more on states maintaining control and the stability of healthcare systems. In this way, the docile bodies were created through subjectification and techniques of controls, and individuals became self-formation beings according to knowledge disseminated by social institutions. Furthermore, having incompatible national health guidance was a sign of rejecting the power influence from other states. Thus, the epistemological quality of face coverings was inseparable from social factors, influenced by various powerful entities in the form of multiple institutions. The metaphysical truth alone was incapable of accounting for the inconsistent knowledge of face coverings. Although much health-related knowledge was often presented in an absolute form, it must be seen as a contextual and circumstantial being.

Thus far, the theoretical and practical analysis using the semi-finished framework revealed the malleable quality of scientific knowledge. More importantly, it brought forth the possibility of having multiple versions of reality from an individualistic point of view based on the discourses to which one was exposed. As a theory of knowing, constructivism supported such a possibility; seeing realities as constructions explained the inconsistent scientific knowledge people held. Constructivist epistemology emphasised subjectivity, that individuals constructed their own realities through unique experiences. Among the constructivism continuum, radical constructivism was the best theoretical tool to pragmatically understand conflict and inconsistency focusing on internal cognition rather

than the objective truth. Knowledge could be a means of controlling the thoughts of individuals, but it was down to the individuals who were responsible for constructing their realities.

However, having multiple realities undermined the significance of communication and knowledge sharing. As the previous analysis has shown, the realities of the pandemic were deeply compartmentalised. Or in layman's words, how do I know the apple in my reality is the same apple in yours? For this reason, the rest of the theoretical framework needed to focus on finding a means of mediation for conflicting knowledge and realities to foster connections while reducing struggles. The thesis proposed Richard Rorty's liberal ironist way of thinking as the last piece of the puzzle to complete the theoretical framework by offering a way to proceed. The Rortian philosophy was built on a strong anti-representationalism which was shared by radical constructivism, asserting knowledge was not mirroring nor representing the objective world. Rorty's neopragmatism focused on the linguistic aspect of truth and suggested that human beings were never in the position to prove what was the objective truth. The objective world exists with or without human interpretation, but 'truth' was a description that cannot exist independently of languages; thus, it was a creation of the human mind. There was no intrinsic nature of language beyond being a human creation, but there were contingencies to linguistic constructions.

Although Foucault and Rorty both utilised language and discourse to show that truth was a status that could be acquired by statements and that human beings simply cannot perceive the objective reality, they held distinctive attitudes towards individual autonomy. Foucault's docile bodies were incapable of escaping the power relation, whereas Rorty proposed the possibility of individuals being liberal as well as having space for self-creation

by being liberal ironists. Liberal ironists recognised the contingency of their vocabularies and constantly challenged them to form new discursive constructions. They were aware that there was no common sense, and their knowledge could never be the reflection of objective truth as there was no way of verifying it; therefore, their mission was never to seek the absolute truth but to sustain a liberal society that individuals care about the suffering of each other. Liberal ironism was not supposed to be the only metaphysical truth nor a moral obligation; it was a choice that was capable of acting as a mediation for conflicting realities through the acknowledgement of the constructive nature of knowledge as well as the means to foster the social glue of a liberal society.

The theoretical framework pointed out that liberal ironists could be a way of moving past the three issues listed at the beginning of the thesis; the end of the thesis demonstrated how the framework could be applied to the issues respectively. Concerning the inconsistent scientific discourse on face coverings, liberal ironists were always attuned to the emergence of new vocabularies from all platforms and were prepared to constantly alter their final vocabularies which contributed to their knowledge on the topic. However, this was not to suggest that liberal ironists were the same as conspiracists. This was partly because having the concept of credibility was capable of setting discourses apart in the context of science; some statements appear more reliable than others as they were associated with credible individuals in related fields. For example, published papers with scientists' names and institutions were much more reliable than some random Facebook posts without any name associated with them. Additionally, liberal ironists would also investigate claims in relation to the level of cruelty and humiliation it could potentially bring; they sought the least cruel solution. Discrediting a signed paper would be much crueller than smearing an unsigned internet post with an unknown origin. Even though scientific

communities were generally careful with their words, their statements could still be revoked; the case of face coverings had proven this. In this sense, scientific progression shared similarities with the liberal ironist mindset; science in the eyes of liberal ironists was less about uncovering the absolute truth and more about being pragmatic. It was recognised as a valid system not because it was a reflection of the objective truth, but because it facilitated individuals' interactions with the world. Although liberal ironists could not contribute to the discovery of objective truth, they only wanted their chances to be kind. In this case, they could not offer a definitive answer regarding COVID-19 and face coverings, but they could offer a way of thinking to reduce suffering as much as possible. In comparison, conspiracists refused to accept alternative discourses, which could only bring more cruelty without doing much good. When vocabularies were in conflict, liberal ironists would create a network of reasoning to construct their realities; the network was capable of adjusting itself to embrace new vocabularies, therefore it should be constantly evolving.

Similarly, the issue with the GRASPIT project could be explained with this framework. The assumptions made by the South Devon team failed to match the reality at Nanyuki District Hospital; in other words, the existence of multiple realities as supported by radical constructivism created barriers to communication which undermined the efficiency of the health collaboration. The preconception that the institutional culture of all hospitals must be similar was proven false, which complied with Latour and Woolgar's argument in *Laboratory Life* (1979) that each laboratory had its own version of 'culture' and 'mythology'; a course that did well in some hospitals might not necessarily do well in others. Additionally, Foucault's power structure of the institution had also played a non-negligible role, which affected the implementation of the "Train the Trainer" course; not having a clear picture of the hierarchy within the system as well as the existing responsibilities of staff contributed to

the inefficiency of the project. To avoid participants from making assumptions about each other, there is a need to establish a new embracing reality that could accommodate both separate realities through communication. Such an action was taken by the South Devon team and the Nanyuki team through the action of signing a Memorandum of Understanding as well as adopting the Kenyan process of sensitisation. Having these measurements in place was the opposite of making assumptions, as the participants took the liberal ironist approach of updating their final vocabularies and discarding any assumed 'common sense'.

As previously discussed, the multiplicity of development did not allow the concept to be immediately transferable as a unified idea. Nevertheless, development discourse was perfectly compatible with the liberal ironist way of thinking in the sense that they were both constantly adapting according to contexts and the latest knowledge; there are multiple development realities, and liberal ironists were fully aware of that. To break free from the stereotypical 'development as a form of domination' discourse, being liberal ironists in contemporary global collaborations without political aim could establish a common space for communication between collaborators; instead of one taking the lead, it would be much more efficient that everyone involved participating in the process. In this way, everyone's voice could be heard, and much cruelty could be avoided. The Kenyan process of sensitisation was a brilliant example of maintaining this common space as a newly established reality for all. Although such a process could take many forms, it always embodied the liberal ironist thinking of establishing a stronger liberal society by building tolerance levels and eliminating cruelty as much as possible to achieve solidarity. Furthermore, encouraging conversation can generate innovative ideas and insights into the areas of concern; refusing to explore these possibilities was the equivalent of undermining

the liberal society. The theoretical framework supported the multiplicity of development as well as functioned as a guideline for future development practices.

The discussion on the development discourse opened up the possibility for future research, that this theoretical framework could potentially contribute to the building of post-development theory. Post-development theorists looked for a complete departure from the traditional development discourse as a means of domination by emphasising equality as well as defending the locals. As post-development theorists such as Escobar have been using Foucauldian philosophy on knowledge and power, the framework could supplement this branch of thought and provide an outline for alternative development practices.

The knowledge contribution of the thesis was indeed the theoretical framework that was summarised above. When there was no satisfactory scientific solution, the thesis looked into humanity to seek a parallel solution alleviating roadblocks to improve post-operative outcomes of knowledge sharing. The framework was a product of textual materials analysis as there was a limitation of not having an ongoing project to apply the framework for evaluation. Future research can focus on applying the framework in other frictional settings that require collaborations to solve problems, preferably involving in-person observations analysing how a common space can be formed to facilitate interactions. However, because of this textual nature of the analysis, the thesis also explored the connection between Foucauldian philosophy, *Laboratory Life* (1979), radical constructivism, and liberal ironism. Despite the primary aim of discussion varying from one to another, all of them shared the common ground of challenging the objectivity of scientific knowledge. Through the study of discourse, Foucault released that scientific knowledge only

gained such a status due to how the *episteme* was organised; it also acted as a form of power regulating human behaviours. *Laboratory Life* (1979) proposed that scientific knowledge was produced in laboratories rather than being found in nature as there were social factors involved during the production process. Radical constructivism emphasised the internal cognitive process rather than focusing on external factors; these external factors and encountered knowledge could affect human behaviours, but individuals were responsible for constructing their own realities and it was possible to have multiple versions of realities existing at the same time. Lastly, liberal ironists simply gave up the task of uncovering the objective truth; they pragmatically dealt with multiple realities by focusing on building a liberal society.

Finding such a connection between theories was important because they were not only complimentary of each other in certain ways, but also acted as solid building blocks that led to the unique framework explaining why one should care for what others had to say. *Laboratory Life* (1979) can be read as an in-depth practical observation of the activities in a laboratory that Foucault was missing from his analysis of historical readings on how knowledge was formed. Radical constructivism supported the point of view that knowledge was a construction meanwhile opening up the space for personal creation of reality; liberal ironists then went into the details of how and why one should care for new vocabularies as we construct our own realities. There are much more advanced technologies available nowadays facilitating communication compared to the past; the advancement from sending letters or telegraphs to mobile phones and the internet has greatly increased the speed of communication. However, such an improvement has not necessarily contributed to a more peaceful world as the frequency of interaction rises; extreme views and conflicts constantly appeared on television and social media, which further encouraged people to take stances

and condemn whoever failed to support the same view. Although technology had a significant role in communication, it was the people who fundamentally determined the outcome. Bringing together these different bodies of literature opened up the possibility of making society a better place; the theoretical framework acted as a mediator of conflicts so that people could understand each other better, their actions and where they were coming from.

Whilst this thesis is unapologetically theoretical, there are certainly some practical values and ramifications on how the theoretical framework can alleviate friction. The application of the framework can easily branch out from the GRASPIT programme to other development-related non-political projects. For example, a British charity The Brilliant Club (TBC) strives to achieve education equality by providing opportunities to students from less advantaged backgrounds to access university-style tutorials delivered by PhD researchers; the aim is not only to teach knowledge but also to share the passion for learning. Knowing that the PhD tutor may come from a completely different background to the pupils in the classroom, the framework will encourage an open dialogue between the tutor and the pupils to exchange ideas as well as establish a mutual understanding of the purpose of tutorials and an aim to achieve at the end. In this way, the tutor no longer takes the lead but works with the pupils instead to support their needs; at the same time, the pupils have the agency to experience higher education and decide whether they would like to engage. Further research of this case study can focus on how to conduct such a dialogue so that everyone's voice can be heard.

Furthermore, this framework can be for everyone and not just for academics. For example, it is capable of easing the tension between people if there is another round of

unprecedented pandemic happening in the future. In the early stage of COVID-19, there were unfortunate racist and discriminatory behaviours towards individuals which caused much suffering. Being aware that scientific knowledge is contextual rather than a faithful reflection of the objective truth as well as the process of how it could potentially be produced, people who adopt the liberal ironist mindset will not immediately condemn those who behave differently. They would gather as much information as possible to create their networks of reasoning, always stay tuned to new discourses, and pragmatically seek the least cruel solution. Indeed, such a theoretical framework is unable to identify the universal truth, but this is not the point; it is capable of bringing people with different realities together and uniting people to face upcoming challenges, and this is the hope that humanity needs by allowing liberal ironist to make space for new vocabularies for the construction of new visions.

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