THEORISING THE INTERNET AND ITS GOVERNANCE

Fuad Khan Baloch
B.Comp., PGDipComp., M.Comp.

A thesis submitted to
Auckland University of Technology
in fulfilment of the requirements for the degree of
Doctor of Philosophy (PhD)

2014

School of Computing and Mathematical Sciences

Declaration

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a University or other institution of higher learning, except where due acknowledgement is made in the acknowledgements.

.....

Fuad Khan Baloch

To Annie and Aania

Acknowledgements

This section cannot truly begin unless I acknowledge my late father Mohammad Khan Baloch as the most significant influence and inspiration behind this study. It is interesting how we continue to seek the approval of our fathers for our substantial endeavours, no matter what stage in life we reach. Although, he is not around, I know that he would have been very proud had he been able to see this thesis. Also, in another comforting way, this study is a continuation of his expectations of me, and I take solace in continuing to meet them.

I remain ever grateful for the support my wife Annie gave me during the times I shut myself from the world to finish my writing. That support has been invaluable in letting me complete this thesis. And yes, we do get to go on vacations now. Also, little Aania, you have been a constant source of joy and escape for me. I will always remember the countless times where we sat together, I on the laptop writing my chapters, and you babbling ‘abishay’ watching YouTube videos on the iPad.

My thanks to my mother who always keeps me in her prayers, and to the extended family for constant encouragement.

Many thanks to Prof Ajit Narayanan for his helpful reviews. Lastly but certainly not least, I thank Dr Brian Cusack for taking me as a student all those many long years ago. I feel incredibly grateful for the way in which he has guided and encouraged me towards the completion of the thesis. The constant support, gentle pushes and nudges have indeed worked, and for that, I am truly thankful.

Abstract

The assumption found in the literature that the Internet is a well-defined entity is challenged in this study. It is argued that despite apparent agreement on aspects of the Internet, such as the technological components, the Internet remains ambiguously conceptualised, inappropriately addressed and often misrepresented. Consequently, it is asserted that the underlying opacity results in the construction of auxiliary theories that increasingly arrive at incommensurate positions, and thus exacerbate problem areas. The case is supported by a careful review of the literature on the prevailing ontology and subsequent constitution of the Internet.

The argument is developed by starting with the bigger philosophical question; what is reality? This question pushes the scope of the research wider than the Internet artefact and into a context of its emergence and visibility. The Internet is subsequently established as a problematic within many points of view, interpretations and appreciations. The problem of conceptualising the Internet as a physical or a real space or both is elaborated so that the complexity of the artefact and its appearance in reality are made apparent. Underlying the debate is the central concern of the thesis, the Governance of the Internet.

The Governance of the Internet is a contested issue that has moved from governmental avenues to commercial and now to the United Nations forums for resolution. There are no simple answers and this thesis elaborates not only the complexity but also the difficulty in the gaining of consensus. The primary motivation of the study is to understand why governance attempts on the Internet continue to be ineffective. The primary premise is that the Internet is poorly defined and consequently isomorphic correspondences fail to engage the actual reality. The mix and match definitions deliver fallacies and fictions that prevent serious attempts to construct models, protocols and negotiating guides for resolving Internet related issues. The multiple incommensurate theories developed around the definitions further confuse constructive attempts to agree on core shared positions. Subsequently, three substantive questions are asked:

1- What is the Internet?
2- Is it possible to develop an authority tasked with governance of the Internet?

3- How could such an authority tasked with governance of the Internet enforce its decisions?

The thesis concludes by asserting that aspects of the Internet can be governed by a weak form of authority that derives codes of conduct, laws, regulations, and presents them to the stakeholders as recommendations or guidelines. Furthermore, it is argued that such an authority tasked with governance of the Internet cannot rely on any foundational support for its continued existence and legitimacy except through continual acts of legitimating that justify its mandate of governance and existence as a respected arbitrator at times of discord. Additionally, it is proposed that the composition of the Internet makes it impossible for an authority to coerce its will over stakeholders without destroying the underlying interconnectivity of sovereign networks based on consensual co-operation and guided by motives of self-preservation and advantage. The work concludes by summarising the previous analysis into a Framework of Effective Governance (FoEG).

The method of philosophical argument is applied to dissect the literature and the relevant assumptions found in the literature. No attempt is made to collect empirical data or to stray from theoretical research. Second order appeals are made to core positions in the disciplines of metaphysics, ethics, and political theory to sustain the discussion. Furthermore, relevant literature from fields such as Information Systems, sociology, and political theory is utilised to present the arguments. The contribution of the research is for the re-thinking of current assumptions about the Internet and to advise potential solutions for conflict resolution and governing bodies.

Publications

"On Where the Internet Is"	19th Americas Conference on Information Systems (AMCIS), Hilton Chicago. 14-17 August 2013
"Implications of Internet Governance Issues for End Users"	17th UK Association of Information Systems Conference (UKAIS 2013), Oxford University. 26-28 March 2013
"A Discussion on Internet Governance"	IEEE Computational Aspects of Social Networks (CaSoN), University of Sao Paulo, Sao Carlos, Brazil. 21-23 November 2012
"Arguments for the Adoption of a Heuristic Approach to IS Research"	32nd International Conference on Information Systems (ICIS), Shanghai. 4-7 December 2011
"Exploring the potential of Dooyeweerd's aspects and Critical Realism for evaluating robustness of ontology in information systems"	22nd Australasian Conference on Information Systems (ACIS), Sydney, 30 Nov – 2 December 2011
"Utilizing Philosophical Critical Realism and Actor Network Theory to Develop the Construct Internet"	16th UK Association of Information Systems Conference (UKAIS 2011), Oxford University. 11-13 April 2011
"Cyberspace: The Ontological Frontier"	Conference of Association of Australasian Philosophers (AAP), University of New South Wales, Sydney. 4-9 July 2010
"Re-visualizing Cyberspace: Using Quasi Objects for Spatial Definition"	20th Australasian Conference on Information Systems, Monash University, Melbourne. 2-4 December 2009

Table of Contents

List of Figures

Chapter 1 – Introduction

1.0 INTRODUCTION

The intent of this chapter is to introduce the research problem and questions for the study. The chapter also explains the manner in which the thesis is structured, introduces the key motivations behind the study, and outlines the vital ideas and concepts that are utilised throughout the rest of the thesis. Furthermore, the chapter provides a brief outline of each chapter in the thesis and highlights the key ideas that are discussed therein.

1.1 MOTIVATIONS AND RATIONALE OF THE STUDY

The first primary motivation behind the research is to examine why governance attempts on the Internet continue to be ineffective. An analysis of the literature reveals divergent solutions to the issues of governance of the Internet that cannot be easily reconciled. Many of these advocacies become lost in particular details and only serve to aggravate already contentious problem areas. Consequently, this research adopts a second order level of abstraction as the starting position so that the debate is theoretical and flexible, unmarred by a vested interest. There is freedom to develop wide-ranging perspectives to examine the problem areas without being restricted by the inherent limitations of a chosen methodology or worldview. The detaching from usual IS world approaches to research, in this instance, allows the examination of fundamental underlying causes and a creative exploration of possibilities for bringing improvement in the processes for resolving conflict. Consequently, the thesis aims to contribute towards decision making, conflict resolution and appropriate governance styles for the Internet.

In order to explore the primary motivation of the thesis, an examination is carried out of the way in which the Internet exists as an entity in its own terms. Care is taken not to impose pre-dispositions and methodological assumption so

that the artefact can be brought into view from many different perspectives. The imposing conflict is between models of the physical Internet and those more ambiguous ones for the cyberspace or what is often termed the data. Also by way of exception, many models of the physical Internet not only poorly represent abstract matter of data but also human realities such as ethics and morals. These exclusions provide important substance for considering better ways of governing a comprehensive Internet and the protocols and practices that would benefit inclusive governance. The intent of the thesis then is to produce a definition of the Internet that can provide a core shared position for researchers to utilise as a foundation upon which their subsequent works may be based.

The second primary motivation of the thesis is to explore whether the Internet can be governed, and if it is possible, to then determine the way in which the Internet may be governed. The literature to date is riddled with assumptions and assertions that the Internet can be governed but one line of inquiry taken in this thesis is to question the assumption. An examination of contemporary governance attempts over the Internet is made to identify the difficulties and the causes.

In summary, the thesis makes contributions to four major areas in the literature: it explores the reasons that leads towards the continuing ambiguity of the Internet as an artefact, develops a holistic theory for the Internet, carries out a comprehensive investigation on why governance attempts continue to fail on the Internet, and lastly presents an approach for governance.

1.2 THE ROADMAP AND THE STRUCTURE

The thesis comprises nine chapters, which are further divided into sections and sub-sections. The sections and sub-sections are numbered and referenced throughout the thesis to provide linkages between disparate ideas across chapters. Within the literature review chapters 2 to 4, propositions are highlighted and numbered so that the key points can be carried forward from chapter to chapter. The propositions are not used in the logical sense where they denote a truth value, but instead understood as highlighters of key findings. Suppositions are derived in Chapters 6 and 7 to assert key points based on earlier defined propositions.

Chapter 1 titled ‘Introduction’ introduces the primary motivations of the research and identifies the manner in which the thesis is structured. It also

identifies the scope of the study and outlines its limitations. The general ideas presented in chapter 1 pave the way for later chapters where they are expounded and reported in detail.

Chapter 2 titled ‘On Reality’ introduces the various ways in which attempts have been made to conceptualise and define reality. The question of reality is an important one because the Internet can be defined and positioned on a continuum of beliefs about reality and defined in many ways (see figure 2.1). The primary intent in the chapter is to introduce the key concepts that are utilised in disparate fields of knowledge to grapple with the things (real and otherwise) that humans engage. The chief contrary and contradictory positions on reality are defined on the Reality Continuum model (figure 2.1), which is thereafter used throughout the thesis. The Reality Continuum highlights the main theoretical views of realism and anti-realism, and those non-realist positions that also position on the continuum. The chapter also discusses the way in which methodological approaches towards understanding how scientific theories may be accurate in relation to reality are guided by the underlying foundational positions drawn from the Reality Continuum (figure 2.1). Furthermore, the way in which theories of inquiry grow increasingly incommensurate is examined in detail. It is argued that answers to fundamental question such as whether there is an objective reality, or whether scientific theories can be proven to have latched onto aspects of reality, is increasingly difficult to resolve. The foundational positions of reality are axiomatically incommensurate and do not naturally lead to resolution. To this end, key positions such as Natural Ontological Attitude are examined to locate thinking that has already been done to bridge such incommensurability and to establish mediation. The discussion provides a foundation for later chapters and the analysis of the philosophical underpinnings of various theories of the Internet.

Chapter 3 titled ‘Governance in Reality’ explores the literature in the field of ethics and political theory to examine the way in which governance is carried out in human organisations such as states, cities and institutions. The chapter examines the manner in which meta-ethical theories and perspectival political positions are utilised in unison to construct coherent governance regimes. Furthermore, the chapter argues that by the virtue of being the underlying foundation for any discourse has a position on the Reality Continuum and also

plays a fundamental role in the way theories of governance are formed. Therefore, the chapter suggests that the manner in which reality is understood and interacted with, the way in which reality ought to be interacted with, and the way reality is enforced provides a guideline for governance practices. Chapter 3 also carries out an investigation on how authorities are formed and tasked with governance tasks. The various ways in which an authority acquires legitimacy and the mandate for continued governance are also examined. The chapter concludes by discussing the impact that advances in technology have historically had on attempts at governance. The key insight is that the difficulties for governance attributed to technological advancements is not a new phenomenon, and yet one that has both benefits and requirements for a recalibration of governing mechanisms.

Chapter 4 titled 'The Internet in the Literature' provides a historical account of how the Internet was formed in the 1960s where it was developed by the United States Department of Defence to provide redundancy of data and connectivity of nodes in case of a disaster. The chapter chronicles the way in which technological advancements have led towards the development of the contemporary Internet. In addition to the evolution of the technological Internet, the chapter also examines the evolving ways of its oversight: for instance, the manner in which the governing authorities were increasingly made more inclusive and diversified. As part of the study, the various authorities that are tasked for the governance of disparate aspects of the Internet are identified. The chapter then carries out a detailed discussion that examines issues and problem areas that arise as a result of the technological advancements on the Internet, and the proliferation of various governance authorities. It is argued that such issues are fundamentally raised either as a result of the technological choices or the diversification of the stakeholders with competing worldviews formed on contrary meta-ethical and perspectival political positions.

Chapter 5 titled 'Methodology' formally introduces the three research questions of the thesis, which are:

Question 1: What is the Internet?

Question 2: Is it possible to develop an authority tasked with governance of the Internet?

(and if the answer to Question 2 is affirmative, then)

Question 3: How could such an authority tasked with governance of the Internet enforce its decisions?

The chapter then carries out a review of the various ways in which research programmes within the discipline of Information Systems have utilised research methodologies to explore both the Internet as an artefact and the problem areas. It is argued that like other disciplines of research, IS methodologies are also derived from the worldviews explored in chapters 2 and 3. Similarly, a primary reason for the incommensurate results of IS research programmes is the invocation of incommensurate positions on the Reality Continuum. The chapter then defines the research methodology chosen for the thesis. The choice of the second order philosophical method that utilises the position of Critical Realism on the Reality Continuum and adapts it towards a revised realist position is outlined and justified.

Chapter 6 titled 'Re-visualizing the Internet' makes two primary contributions to the literature based on the building blocks introduced in the preceding chapters: a critical review of the reasons behind why the varying definitions of the Internet in the literature are inaccurate, and a re-visualised definition of the Internet. The chapter argues that the key reason behind the rise of incommensurate views on aspects of the Internet is the failure to acknowledge that the Internet is both a technological artefact as well as a sociological sphere of stakeholders. Consequently, research programmes utilising one major aspect of the Internet in isolation to the other give rise to results that cannot be reconciled with the results of research programmes that utilise the other aspect. The problem is further exacerbated through the usage of underlying worldviews that lead towards contradictory normative models. Furthermore, it is argued that while the course of the debate gets concentrated at lower level attempts of resolving the issues between such competing research programmes, the ambiguity on the artefact Internet is perpetuated. The first research question, 'What is the Internet?' is answered in this chapter.

Subsequent to the discussion, the second part of the chapter re-visualises the Internet as a whole that is comprised of the underlying technological aspects, that is termed the physical Internet, and the sphere of existence for stakeholders, which is termed the Cyberspace. Furthermore, it is argued that the Internet is a

new kind of existence that obliterates the traditional physical-space centric models of understanding reality, and allows the proliferation of stakeholders that need not be understood in physical space terms. It is also contended that re-visualisation of the Internet allows for the development of a core shared position on the Internet that can be utilised to provide a point of departure for subsequent research programmes. The chapter concludes by discussing the ramifications of the re-visualisation of the Internet and similar phenomena in the future.

Chapter 7 titled 'Governance of the Internet' makes two primary contributions: it discusses the reasons behind the continued failure of governance attempts over the Internet, and proposes a way in which the Internet can be governed. The chapter utilises the key ideas on how governance models are built that was developed in chapter 3 to construct a Framework of Effective Governance (FoEG). The factors are identification of the scope of governance, recognition of the stakeholders, deriving a legitimate authority tasked with governance, and setting up the means with which directives of the governing authority may be enforced. Based on the findings of chapter 6, it is argued that the primary reason behind the failure of governance attempts over the Internet is due to the continuing ambiguity of the artefact Internet. Thus, the argument made in chapter 3 that effective governance models are intrinsically linked with the underlying foundational clarity on the domain of governance is re-asserted to put that vagueness cannot benefit the resolution of shared positions. Similarly, it is argued that in the models of governance explored in chapter 4 the stakeholders are artificially limited and subsequently the justification for authority and the mandate for governance may be inadequate to for example, enforce decisions.

Subsequent to the above discussion, the second part of the chapter offers a way in which the Internet may be governed. To this end, the re-visualised definition of the Internet is utilised to argue that the manner in which the Internet is constituted limits the ways in which it may be governed. For instance, it is outlined that the Internet is a network of networks that is formed on the basis of voluntary union. The networks that join are ultimately sovereign in the way their internal workings are managed and join the larger internetwork in order to further the cause. Similarly, it is argued that the only manner in which a governance authority on the Internet may claim legitimacy, is through continued acts of

legitimation, through which it continually offers justification for its mandate and existence. It is contended that such governance authority would also lack the ability to coerce its will over the stakeholders when it is weakened both due to the way it is constituted and in its inability to coerce.

Chapter 8 titled ‘Critical Reflection on Method’ reviews the effectiveness of the chosen research methodology in meeting the research objectives. Moreover, the chapter carries out analyses of propositions and suppositions to explore their role in problematizing issues of governance.

The final ninth chapter of the thesis titled ‘Conclusion’ provides a summative account of the thesis. It also summarises the major contributions that the thesis makes to the wider pool of knowledge. The chapter concludes by identifying areas for further research.

1.3 CONCLUSION

The chapter has identified the structure of the thesis and outlined the key ideas that are presented in the chapters. It also gives an overview of the rationale and motivations behind this research and paves the way for later chapters to elaborate the core debate.

Chapter 2 - On Reality

2.0 INTRODUCTION

This chapter examines the various ways in which scholars have understood and explained reality through appealing to philosophical foundations. The intent of the overview is to evaluate contrasting views on what is it that constitutes reality and how the human interact with reality. Whilst issues and problem areas lying on the outer edges of a field of knowledge can be explored through appeal to the relevant established discourse, complex areas that challenge the traditional understandings of reality require in-depth analysis and to be examined in a more rigorous manner.

The quest to discover the nature of reality is axiomatic as researchers search for a truth rather than an untruth. Aristotle gave a criterion for truth, through his suggestion that truth is to say of something what it is and nothing else (Aristotle, 2006). However, considering *"that however sincere and careful we are, we are trapped in partial or perspectival or outright illusory and fictional views, with little or no chance of realizing our plight'* (Blackburn, 2005, p xvi), it becomes imperative for the researcher to acknowledge the strengths and weaknesses of the perspective they utilise. Exploring the truth of a complex reality and its artefacts demands pre-conception of definitions and perspective views.

Chapter 2 surveys the literature from second order multi-perspectival views on reality in the areas of realism, anti-realism, and non-realism, and examines positions such as the Natural Ontological Attitude and Structural Realism. These views are plotted over a dialectical continuum of realism and anti-realism; and discussed in relation to how the content is justified. This foundational chapter sets up understandings of a problem context, its ontologies and introduces the pivotal question of how incommensurable theories are approached. The problematic is then further elaborated in Chapter 3 by applying the debate of Chapter 2 to definitions and practices of governance.

2.1 REALITY AND HUMAN UNDERSTANDING

Reality is the totality of everything that has ever been or is, observed or undetected, understood or incomprehensible, tangible or intangible, and material or immaterial (Fine, 1986). It is explored in either of two ways: how it appears and relates to the observer, and what it is in terms peculiar to itself in order to understand its nature and ontology. All explorations of reality, whether to explore its ontology, or its perception, rely on human involvement and participation. In other words, it is the human-led description of reality, which is comprehensible to another through utilisation of their mind as a mirror capable of reflecting and representing reality that provides for a bounded understanding of reality. Ultimately, understandings of reality draw from the human mind with all its inherent strengths and limitations. Blackburn (2005) acknowledges some of the problems with this relationship and warns that that it is impossible to determine if a belief or description of reality accurately represents the world independent of thought. To this end, he adds:

> "*... even the idea of a 'resemblance' between an idea and something that is not an idea seems preposterous: how does our idea of solid things resemble then? How does our idea of spatial distance resemble spatial distance?" (Blackburn, 2005, p. 141)*

Hart (1997) builds on the concerns and contends that as complete descriptions of reality are required for accurate representation of it, all descriptions of reality must be brought to a close, however, as that is impossible, it follows that all descriptions of reality will be necessarily incomplete.

Claude Levi-Strauss (1974), the French anthropologist and ethnologist, laments the infirmity of the human in accurately representing reality and suggests that the human observer is not only unable to accurately understand the reality of an event that happened to another observer, but is also unable to fully experience and understand the reality that he himself is currently living in (Hart, 1997). Ibn Khaldun (2004) agrees with Levi-Strauss (1974) and argues that all records and accounts, by their very nature, are liable to error. In Ibn Khaldun's (2004) view, this is due to the human's inability to place an event in its correct context amidst a plethora of competing contexts, and the difficulty in being objective while guided by base desires to exhibit partisanship towards a creed or view.

Ibn Khaldun's (2004) observation of the human's inability in placing an event in its context hints at the complexity of phenomena in reality. By way of illustration, an exploration into the causes of a tornado that wreaked havoc on land can lead to an infinite multiple series of regressive causes, where one cause in a chain could be the flapping of a bird's wings a thousand miles away. Any explanation of the tornado will be necessarily incomplete. An arbitrary line is drawn through the chains of causes, and extraneous variables such as the bird's flapping of its wings discarded. An understanding of reality in itself and of how it appears to the humans has the human's involvement. These questions require exploration through human conceptualisations in tandem to each other. Secondly, it appears that the ordering of events and their causes takes place in the human mind and matched against perceived reality, rather than learned in their entirety. As such, it leads to the following proposition:

Proposition 2.1

The study of reality is both metaphysical and epistemological.

2.2 THE REALITY CONTINUUM

As part of the two general quests for understanding reality, reality in itself and the human relationship with it, philosophers of science seek answers to the following questions:

- Is there an objective reality?
- How do we know our scientific theories are true in relation to reality?
- What does it mean to say something exists?

As reality comprises all there is, debates on objects of reality do not remain limited to physical objects only, but extend to non-physical entities as well such as morals, mathematics, other minds, the future, the past, and universals. The inability of a single comprehensive view of reality in helping answer the important questions has resulted in a variety of different and often opposed philosophical perspectives on reality.

Two fundamental key positions in debates regarding the nature of reality in philosophy are that of Realism and Anti-Realism. As they are opposed to each other, they are placed on either ends of a continuum spanning a variety of perspectives including those that attempt to bridge the two extremes. The figure

2.1 below outlines the continuum with the key positions located, and the scope defined.

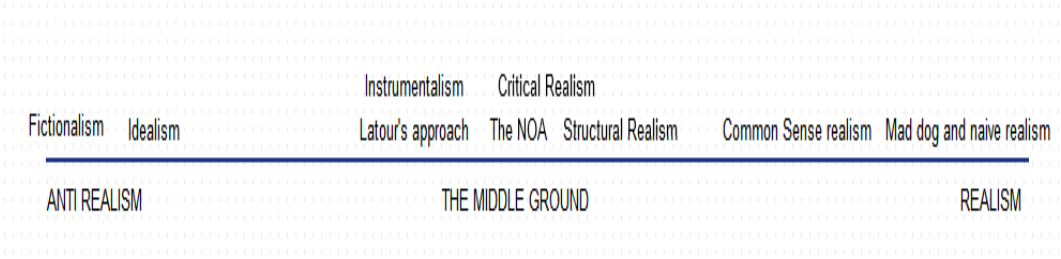

Figure 2.1 Reality Continuum

The key aspect in realism is the claim for existence. In other words, most forms of realism allow for the existence of an object regardless of whether the human is able to comprehend or prove it, and thus regard them ontologically independent of the human thought (Miller, 2012). For instance, realism insists that existence of an object, such as the sun, is independent of the human's subjectivity, and therefore the human's lack of understanding of reality does not constrain or negate the existence of objects that exist in their own right.

However, some forms of realism argue that a mental understanding of reality may not actually or accurately correspond to reality (utilising the Correspondence theory of truth that suggests that truth has a relational property to a portion of reality). However, the human inability still does not diminish the independent existence of reality. In his online essay, Miller (2012) summarises the position as:

> *"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, 2012)*

Marsh and Furlong (2002, p. 530) argue that realism also emphasises the importance of human structures, such as socio-cultural, political and economic. For instance, as realism allows for the existence of a real world, existing that is observable; the study of social structures can be carried out to discover what real entities influences human behaviours. As an example of the variance in the realism beliefs on human ability to describe reality, Marsh and Furlong (2002) suggest that although deep structures such as the social interweb of human

interactions cannot be accurately measured or detected through the scientific methods that explore causality, they exist regardless. In their contention, they deny the possibility of an accurate correspondence of these structures in the human mind and their existence in reality. Furthermore, they agree with Ibn Khaldun (2004) and observe that it is impossible for the researcher to be completely free from personal values and biases when exploring such complex structures.

Mad-dog realism is an extreme position within realism which holds that "*there really are such entities as current science claims there to be and ... what current science tells us about such entities is true*" (Musgrave, 1992, p. 20). The claims of Naïve Realism are similar to Mad-dog realism in suggesting that the senses enable direct awareness of the external world, and the world experienced and perceived by the human is as it really is. For instance, most forms of Naïve Realism support the contention that objects holding properties such as size, shape, texture, and colour are usually perceived correctly and as objects-in-themselves without the depiction being distorted by the subject.

Naïve and Mad-dog realists hold that objects continue to obey the laws of physics, continue to exist in themselves and retain their properties even without observation, and are observed correctly when examined by the subject. In their contentions, naïve and Mad-dog realists agree with the two contentions in the realism position, that there is existence for entities independent of the human, and our perception corresponds accurately to it. Musgrave (1992) is one of those academics who perceive weakness in the position and cautions against supporting the position by suggesting that it is incorrect to accord unwarranted metaphysical commitment, and instead cautions for a belief that is proportional to the evidence supporting it.

Common Sense Realism attempts to defend naïve and mad-dog realism from paradox and scepticism through an appeal to the common sense and intuition, and suggests that it is reasonable to acknowledge the existence of objects and the self as axiomatic. By way of illustration, unlike Mad-dog Realism Common Sense Realism can be utilised to defend the general realist positions against the anti-realists who utilise inductive logic to argue that as older theories of aspects of reality continue to be proven false, newer theories will share the

same fate, and therefore realism is but a highly idealistic goal. Furthermore, it is not possible to use finite amounts of data to distinguish between an infinite number of theories. In response to these arguments, common sense realism argues that due to the virtue of being in the domain of common sense, certain statements such as the claim for a real world can be regarded as facts, even if they cannot be proven otherwise. As an argument for the validity of the human intuition, it contends that common sense beliefs govern the lives and thought patterns of even those who hold non-commonsensical beliefs, and that this suggests an inherent human inclination to regard as true that, which cannot be always empirically proven so.

The overarching principles of the realism position provide foundations for many applied methodologies, where the course of building a scientific theory is guided by assumptions about reality, which determine how the gathered data is categorized and understood to construct a larger picture of the universe. One of the more popular realist approaches in the sciences derived from the realist foundations is Scientific Realism, where scientists aim to uncover reality and its aspects gradually. As Scientific Realism is guided by realism, it inherits the strengths and weaknesses of the foundations. For instance, Boyd (1983) offers a precise definition of scientific realism, in which through his usage of terms such as *'putatively'*, and *'approximately true'* he acknowledges the difficulty that Scientific Realism faces. He explains:

> *"(i) "Theoretical terms" in scientific theories (i.e. non-observational terms) should be thought of as putatively referring expressions; scientific theories should be interpreted "realistically".*
>
> *(ii) Scientific theories, interpreted realistically, are confirmable and in fact often confirmed as approximately true by ordinary scientific evidence interpreted in accordance with ordinary methodological standards.*
>
> *(iii) The historical progress of mature sciences is largely a matter of successively more accurate approximations to the truth about both observable and unobservable phenomena. Later theories typically build upon the (observational and theoretical) knowledge embodies in previous theories.*

(iv) The reality which scientific theories describe is largely independent of our thoughts or theoretical commitments."(Boyd, 1983, p. 45)

Marsh and Smith (2001) offer Positivism as another applied methodology that derives from the realism beliefs of treating reality. They say that the methodology gains its foundationalist inclinations from realism in that its major aim is the discovery of general laws that are pre-supposed to exist in the real world (Delanty, 2005, p. 11) and which can be positively verified through a circular dependence of theory and observation (Marsh & Smith, 2001). Taking a cue from Marsh and Smith (2001), even extreme forms of positivism such as logical positivism that only regards those atomic statements as true when their truth value can be established, and attempts to discard all unprovable propositions as useless metaphysical babble; can be regarded as a realist methodology due to its underlying assumption that the truth value of statements can be verified through observation in the real world.

In contrast to realism, the key argument in anti-realism is against the claim for existence of some entities in reality. While extreme forms of anti-realism such as Idealism outright deny the existence of any reality that is independent of the human thought, other milder forms may allow existence but deny that such existence can be understood epistemologically. As an example of the anti-realist position, Fictionalism suggests that "*various entities presupposed by scientific and common sense discourse [are] merely "useful fictions", or that we cannot, at any rate, possibly know that they are more than "useful fictions" (and so we may as well say that that is what they are)*" (Putnam, 1971, p. 63). Neumann (1978) notes that positions such as Fictionalism are excessively sceptical in that useful explanatory tools for explaining an entity are bound never to be considered as more than mere tools (Neumann, 1978).

The primary difference between the anti-realist and realist methodologies is that while realism contends that a theory can latch on to some aspect of reality, the anti-realist positions aim to strike a balance between such metaphysical claims and extreme scepticism. In other words, anti-realism is generally unburdened by the requirement to build elaborate ontologies. Delaney (1995) confirms the difference by suggesting that theories are built as calculating devices designed to

provide predictions based on a set of initial observations and are "*not candidates for truth or reference, and the theories have no ontological import" (Delaney, 1995, p. 367).* Other methodologies such as Instrumentalism and Constructive Empiricism that derive their foundations from the anti-realist perspective focus on the concept of empirical adequacy that establishes the bounds of the theory where prediction and experimental results are adequately close (Robertson, 2011). Furthermore, there are subtle differences in the conjectures they make through the explanatory power of a theory. By way of illustration, Van Fraassen (1991) and McMichael (1985) suggest that while the question of whether the quark exists or not may be discarded as unanswerable by the instrumentalist through focussing on the efficacy of the theory, a Constructive Empiricist can suggest that such may exist but may not be provable.

The above discussion leads to the proposition:

Proposition 2.2

The primary difference between realism and anti-realism is whether there is a reality outside of perception, and whether theories can accurately describe it.

Anti-realism also provides the basis for research on the interweb of human behaviour. Positions that employ post-modernistic perspective and techniques such as interpretive research attempt to define a reality that is socially or collaboratively constructed by the human. For instance, interpretive research denies that the real world exists outside of human knowledge and in the claim clashes with the realists in general and positivists in particular by denying that there is an underlying real foundation. Similarly, as there is no divide in the domains of the social and political phenomena between the subject and the object, and the subjective and objective, most interpretive research suggests that the reality without the human does not exist in its own right. However, despite the claim against a real world, most interpretive work in a field specifies a fixed range it imposes on the bounds for the explanation of a phenomenon.

There are positions on the Reality Continuum (figure 2.1) that attempt to shun the extremes of the realism and anti-realism divide. In that, they may adopt the scepticism that anti-realists utilise to argue against awarding unwarranted metaphysical commitment, and the realist contention that there is a real world

independent of the human. For instance, Latour (1991) adopts a modified post-modernist (while denying post-modernism) object-based-approach that calls for reflection and the application of methodological principles to guide empirical research. He denies naturalism (that nothing exists beyond the natural world) as a valid philosophical position and regards divisions between components of reality such as nature and human, subjectivity and objectivity, facts and interests, to be arbitrary and misguiding (Harman, 2009).

Harman (2009) suggests that that the key insight is that something is real if it has consequences and reflects actual reality. In this contention he sets the stage for an implicit nod to the realist strive for a human-independent existence of phenomena. The insight leads to the proposition:

Proposition 2.3

Tangible effects hint at an underlying entity as a cause, regardless of whether it can be proved or not.

Latour (1991) suggests that an examination of reality must allow for the linking of actors that may be human or non-human, which are capable of forming associations, and holds that this enables an understanding of their assemblage through a translation of their mutual interests without requiring philosophically ambiguous concepts such as essence or accident (Harman, 2009). He offers the example of Louis Pasteur and claims that his scientific work cannot be understood by merely examining the sterilized scientific components that he used, but through its examination through the lattice of relationships that he formed with other actors (human and non-human) with a shared interest in the success of his enterprise (Latour, 1999).

Latour (1999) further contends that a shunning of realist reality that anti-realists call for does not remove its influences. Human attempts to bracket off reality or set up arbitrary bounds to a theory (as is the anti-realist methodological practice) only leads to a proliferation of quasi objects that come to being as a result. The proliferation hints at the inherent disability on the part of humans to introduce and maintain false divisions. He therefore contends that the humans have never been modern as the basic premise of modernity (as understood by him) is a complete division between human and nature, which has not been achieved. Furthermore, the growing numbers of quasi objects that attempt to bridge the

divide show the futility of such an approach. In this claim, he echoes the Dutch philosopher Dooyeweerd (1955) who also warns against the reification that proliferates as a by-product of upholding false divisions on entities like facts and values.

Despite following the realist inclination for acknowledging aspects of reality that may be discarded as metaphysical by the anti-realists, Latour (1999) adopts the anti-realist distrust for overarching ontologies. He denies the notion of an essence or an overall ontology and suggests that actors (humans and non-humans) are non-durable, act in ever shifting ontologies and start up in isolated instants that are cut off from each other in a reality that does not exist until it is researched (Harman, 2009). Harman (2009) finds in Latour's overall secular conception of the isolated actors requiring acts of translation for relationships, a parallel in the Islamic tradition of Occasionalism that suggests God mediates relations between two entities, and therefore all other accounts imply incompleteness.

The above discussion leads to the proposition:

Proposition 2.4

Inductive logical reasoning that forces the acceptance of a causative link between two entities without examining the works of translation that occur side by side is a fallacy.

Similarly, for Latour (1999) an entity is considered real in his conception of reality that forms through attachments of the human and non-human actors that have effects in reality and result in a remoulding of any previous ontology. In his insistence for democratic actors in a flat ontology who manufacture their own versions of reality, and the advocating of epistemological relativism to all actors ranging from an atom to the Eiffel tower; Latour (1999) challenges both scientific realists who regard the function of science to construct an approximate truth of reality, and the anti realists who decide to set arbitrary limits on their ontologies.

Other perspectives such as Structural Realism and Natural Ontological Attitude (NOA) also attempt to find a middle ground on the Reality Continuum (figure 2.1) between the extremes of realism and anti-realism. This raises a question: Is it possible to reconcile the fundamental differences outlined in Proposition 2.2 between competing positions? Worrall (1989) attempts to

establish a position on reality that can be adopted by both the realists and anti-realists through Structural Realism. This is attempted through a denial that the Correspondence theory of truth is valid marker for reality. He acknowledges that a theory may latch on to an aspect of reality, thus appealing to the realist tenets, while maintaining that success of a theory may not actually prove its success in discovering truth. Fine (1986) has a similar view and presents his Natural Ontological Attitude in order to reconcile the differences between extreme positions in a similar manner to Worrall's Structural Realism. Fine suggests that the NOA (Natural Ontological Attitude) should be adopted as an attitude rather than a firm philosophical position with foundations from more than two of the positions on the Reality Continuum. He argues that just as one may gain everyday experience without adopting a philosophical foundation to guide the process, experience of the world through science can be in the same fashion without appealing to a realist or anti realist foundation. Through a denial to stamp a certain philosophical regime on a scientific theory through the NOA, Fine (1986) contends that both the realist and anti-realist positions of thought may be reconciled to the core shared position of a theory, to allow the theory to present what it does, without being influenced by an underlying philosophical agenda.

Critical Realism is another significant attempt to bridge the chasm between realism and anti-realism. Critical Realism proposes the division of reality into three spheres being Real, Actual, and Empirical (Collier, 2004). By proposing a division of reality, Critical Realism aims to allow for co-existence of competing paradigms and methodologies within the strata. Bhaskar (1978) explains the three divisions of reality by suggesting that Real structures may not be easily discernable due to the independent existence they enjoy. Furthermore, events happening on the Actual strata of reality may appear to be out-of-phase of the Real structures upon which they are dependent. He explains the out-of-phase phenomenon by arguing that events can happen independent of experience, and that there is a possibility they are misidentified through the usage of incorrect causal chains. Mingers (2004) provides a useful diagram of the way in which Critical Realism divides reality:

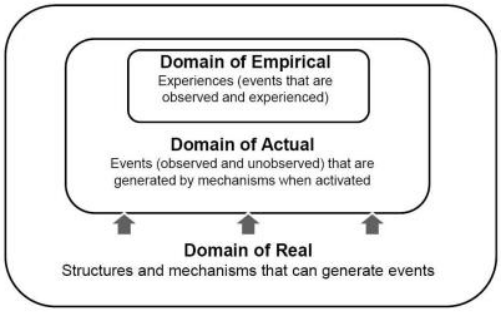

Figure 2.2 Three domains in Critical Realism (Mingers, 2004, p. 17)

Bhaskar (1978) further suggests that a phenomenon may have one or more manifestations in the strata of reality. For instance, as per the figure below, the cause of event A may result in experience E that can be investigated within the Real, Actual and Empirical strata. The cause C of A however may only be investigated within the Real strata.

	Real	Actual	Empirical
Mechanisms	X		
Events	X	X	
Experiences	X	X	X

Figure 2.3 The linkages in Critical Realism (Bhaskar, 1978, p. 26)

Bhaskar (1991) argues that it is a mistake to analyse statements about ontology (being) in light of statements about what is known about them through epistemology (Dobson, 2001). A core idea of Critical Realism is the contention that causality may lie in the unobservable world (domain of Real) and may not be subjectable to empirical methods. In this insight, a proposition can be drawn to support proposition 2.3:

Proposition 2.5

Perspectives similar to Critical Realism extend existence to realities that may not be subjected to empirical methods.

However, it may be possible to investigate the causal agent by initiating an empirical investigation in the domains of Empirical and Actual leading towards the cause (Bhaskar, 1978). Miles and Huberman (1994) propose that Critical Realism can allow for the co-existence of core theories of both positivistic and

realist philosophical traditions by accepting that facts can be laden with value, yet may be used to depict stable relationships.

As a research philosophy, Critical Realism has gained considerable currency especially within the field of Information Systems (Carlsson 2005; Morton 2006; Raduescu and Vessey 2009). However, Carlsson (2006) suggests that while Critical Realism is well suited as an overarching philosophy of science that can be used within IS, it is not as developed on the methodological level. This argument is further taken up in section 5.4.

2.3 ONTOLOGY AND ITS ROLE IN REALITY

Even though anti-realists argue against painting a comprehensive picture of reality, scientific theories that set limits on their explanatory potential still provide a framework wherein entities and their relationships can be mapped and explored. Theories of phenomena that utilise realist foundations also provide such frameworks. The presence of these frameworks in scientific theories enables the construction of ontologies to help guide the scientific discourse through sharpening of concepts and clarifications of thought. The question then arises: How to guide the systematic process of building such comprehensive frameworks?

Taylor (1959) proposes that a search and investigation of the set of concepts that comprises entities and their properties, entities and their inter-relationships with others in a complex reality can be termed ontology. Uschold and Gruninger (1996) echo the view. A theory of reality paves the way towards an exploration of what these objects are, through an acceptance or denial of an objective reality. To this end, Deleuze (2004) contends that the ultimate aim of philosophy is to grasp the thing according to what it is. The view is supported by the works of prominent philosophers like Heidegger, Spinoza, Plato, Averroes, and Kant where they too grapple with fundamental questions of “What is there?”, “What kinds of objects exist?”, and “In what manner do these objects exist?” The insight leads to the proposition:

Proposition 2.6

The ultimate aim of theories of inquiry is to describe an entity accurately.

Just as scientific methodologies, such as Scientific Realism, gain their worldview based of their foundations in the Reality Continuum (figure 2.1), an ontology proposed through a scientific theory is influenced by the types, number and nature of entities that it permits. For instance, as an early ontological conceptualisation, realist philosophers of the Platonic school of thought contend that all nouns (such as horses, colours, even abstract nouns) refer to existent and true realities. Furthermore, that the horse that is referred to in language and the physical world refers to an ideal universal horse, and as such shares his horse-ness with other horses. Similarly, the view posits that as the colour red can be found in the sky and roses, a universal red exists which manifests itself in the physical phenomena. In such an ontological conception of reality, existence of a realm where the universal entities such as red, horse, and so on reside (the realm could also be the Mind of God for some Neoplatonists) is acknowledged and supported through an appeal to the underlying metaphysical realist position on the Reality Continuum.

The application of contrasting views on reality on a contentious area leads to the emergence of fundamental dichotomies such as substance and accident, being and becoming, abstract and concrete, essence and existence. As the metaphysical positions on the Reality Continuum may have significant differences and variations even if they are grouped in a location, such as Realism that allows for a real world, ontologies derived from these varying positions demonstrate their differences. For instance, in contrast to the original contention of the Platonists that mandates a realm of the abstract ideals, moderate forms of realism may deny such an existence and argue that the universals only exist in space and time where they then manifest. In the same way, another realist position such as nominalism may deny the existence of universals altogether as is supported by the Platonist philosophers, while those following a naturalist view of reality may claim that such a realm is impossible on the basis of their claims that nothing exists except what is in nature. The variations of ontologies are as significant between the realist positions as when compared to the other Continuum positions for example post-modernism that regards reality as a social construct and would hold that redness of the red exists because of the human desire to believe it so and does to its utility value as an arbitrarily accepted concept. The inclusion of an entire realm of existence from an ontology is therefore dependent on a metaphysical position

on the Reality Continuum (figure 2.1) that allows it, and faces exclusion when examined through the perspective of another. The discussion leads to the proposition:

Proposition 2.7

The contentions and tensions between the various realist and anti-realist understandings of reality are magnified when applied to devise ontologies.

The construction of ontologies is a human enterprise, and as such influenced by the subjective views of those involved in it. Just as the choice of scientific methodologies follows the general inclinations of a researcher in the understanding of reality from a metaphysical position on the Reality Continuum (figure 2.1), Husserl claims that it is similarly difficult to divorce such a priori constructs while involved in constructing an ontology (Fine, 1982). In other words, an anti-realist's proposed ontology of a given system would reflect his a priori beliefs through disallowing existence for entities that a realist ontologist might have. To this end, Hofweber (2013) says that there is a danger of begging the question through the way a question is structured; for instance, in the question 'In what manner do numbers exists?', the question of their existence could be assumed to be a given. In his online essay, he explains:

> *"What is the question that we should aim to answer in ontology if we want to find out if there are numbers, that is, if reality contains numbers besides whatever else it is made up from?"(Hofweber, 2013)*

Heidegger (2008) acknowledges the difficulty for the researcher in divorcing apparent a priori constructs and suggests that the issue arises as the subject is deeply immersed in the world having been *thrown* into it and finds it difficult to extricate from the state of *thrownness* to examine the world (Fine, 1986a). The insight leads towards the proposition:

Proposition 2.8

It is difficult to construct objective viewpoints that are drawn from subjective foundations.

Heidegger (2006) and Taylor (1959) offer a way out for an ontologist to escape their thrownness in the world through their suggestion to focus his research on the clarification of "being" before beginning the exploration of "What is there?" (Heidegger, 2008; Taylor, 1959).

Complex systems such as those that Ibn Khaldun (2004) warns about are difficult to visualise in full and describe in their entirety. One of the practices that is employed to construct ontologies for such systems is Reductionism. The perspective insists that complex systems are the sum of their parts and therefore an understanding of the parts in isolation will lead to an understanding of the whole. This manner of dividing reality and choosing fragments at a time for exploration to arrive at a grand conclusion is not a recent practice. For instance, Descartes (1985) suggests that non-human animals would eventually be explainable through the usage of reductive studies to explore causality in automata. He hopes that the complex phenomena of non-human animals can be explored through constructing a parallel ontology where through a step by step process of the relationships between distinct kinds of entities, an understanding of the whole can be gleaned.

There are other advantages that reductionism offers; for instance, a reductionist approach towards building discrete ontologies can be useful in the exploration of a domain that has hitherto remained unlinked with others, or if there is a requirement to devote further attention to it. By way of illustration, an ontology of computer database languages can be set up in isolation to other related computer ontologies such as computer networks, or other domains such as the global equities market, in order to amplify effort towards the progression of the field and focus on the resolution of issues through ignoring the apparently unrelated ones. Through his examination of the state of ontology construction, Lyytinen (2003) shares the sentiment that Levi-Strauss (1974) expresses about the limits of the human and declares that a search for "ultimate foundations" or ontological certainty is hopeless (Musgrave, 1978). The search for an overarching ontology, a meta ontology that cannot be subjected to regress ad infinitum, becomes more difficult when the subject matter is covered in disparate fields such as mathematics, biology, sociology and politics; for instance, an ontology that combines quarks, the fictional character Harry Potter, national currencies, and the agricultural industry. Therefore, it becomes vital that instead of focusing one's enterprise on a general ontology, the focus instead is placed on constructing specific ontologies through the application of reductionism. However, it is also important to examine the difficulties raised by reductionism.

Despite its advantages, the practice of reductionism towards constructing ontologies carries certain risks, such as loss of the rich context of a complex network, where a myriad of relationships the entity forms with other entities during its course of being are swept away in order to focus in isolation on a single aspect of the entity. Fine (1986b) shares the risk and insists that attempts at reductionism result in losing the lifeworld-ness of the studied phenomenon, and leads to an understanding that remains incomplete. Dooyeweerd (1955) also warns against reductionism as an enterprise and argues that a suitable possible theory of phenomenon may have explanatory powers if it doesn't result in a further narrowing of the world through ignoring aspects or creating more divisions (Dooyeweerd, 1955). Basden (2009b) builds on Dooyeweerd's (1955) warning on divisions and suggests that unintended artificial divides get created within a lifeworld or ontology, when an attempt is made to divide subjective values from objective facts thus creating a reductionist world with the associated risks (Basden, 2009b). At this stage, it becomes vital to explore the problems raised by reductionist attempts at redefining the boundaries of reality.

Latour (1998) also warns against reductionism and argues that attempts to draw opposing poles, such as nature and human, or culture and science, as a reductionist exercise result in producing constructs that cannot be sustained in reality. He contends that such artificially constructed poles result in a proliferation of quasi or hybrid objects that are a result of increasingly complex interaction in ways that were not originally devised or anticipated. The proliferation of these quasi objects reflects the inherent failure of keeping the two (or more) poles of reality apart from each other in a strictly regulated manner. When it comes to building ontology, a division intended to help reduce the scope, instead helps create more entities in the ontology that remain undefined and unacknowledged.

Holism is an approach towards building ontologies that argues against the usage of reductionism to fade away entities from an ontological horizon. Quine (1969, 1980) acknowledges the concerns shared by Fine (1986) and Dooyeweerd (1955) on effects of reductionism, and insists on holism for investigating and considering scientific statements. He says:

> *They have a taste for 'desert landscapes.' They attempt to express everything that they want to explain without using universals such as "catness" or "chairness." (Quine, 1980, p. 4)*

One of the consequences of a greater emphasis on the discourse is its ability to create reality and therefore shift focus away from the referent or object to the discourse. For instance, intense scrutiny of an ontology under a myriad of metaphysical positions on the Reality Continuum (figure 2.1) may result in the focus getting diverted from the general system to the discussions on its ontology. To Dobson (2001) such a removal of the referent results in a research process in which the underlying reality or the analysing perspective is ignored. The question then arises: what is the impact of such diversion on the agenda for ontologies?

One of the primary tasks set for ontologies is to determine the manner in which entities are and continue to be. For the discovery of the lattice of relationships that such entities form with others, one must be able firstly to describe them in a meaningful manner. For instance, in an ontology that explores that what is perceived to be redness, which it derives from any of the metaphysical positions on the Reality Continuum, it must first address the question of what it is that it refers to when redness is addressed. For instance, it may be argued that redness is a universal with an immutable essence that manifests in particulars such as an apple that exhibits the essence so long it exists, and when it does not exist anymore, the essence is unchanged. In such a case, essence precedes existence. However, another ontologist may argue that as there is no metaphysical essence, when an apple perishes, everything associated with it including its redness that was peculiar to it alone perishes as well. Therefore, the ontologist may argue that existence precedes essence.

The debates on whether essence precedes existence, or if the opposite is correct are not recent, and have held tremendous transformative powers for systems built on them. For instance, the 17th century Persian philosopher Mulla Sadra anticipates Jean-Paul Sartre in the 20th century and argues that something has to exist as a principle before it may possess, acquire or develop an essence (Razavi, 1997). Moreover, in his project, Mulla Sadra argues against 10th century philosopher Avicenna who contends that essence is the primordial entity that entails existence (Irwin, 2002).

Through his ontological framework wherein existence is the primary reason for all that happens, Kamal (2006) says that Mulla Sadra brought a new insight to the manner in which reality was understood and fundamentally influenced the direction of Islamic Philosophy (Kamal, 2006). In his translated works, Mulla Sadra (2013) contends that redness, as an immutable essence does not exist, and that it exists in many forms through the variations of its intensity in various manifestations before it may be regarded as a commonality. Therefore, essences form or are discovered once they exist. Mulla Sadra's (2013) fundamental difference with later existentialists like Sartre (1993) lies in his non-denial of the metaphysical essence and insistence that essences exist in many ways. The existential view leads to the following proposition:

Proposition 2.9

Essence of an entity is discovered after the accident of its existence.

2.4 REALITY IN THE CURRENT AGE

Most positions on the nature of reality as discussed in the Reality Continuum shown in figure 2.1 are not recent inventions, but instead can be treated as refinements built over time on the fundamental human intuitions on what is there. For instance, the original Platonist position where the reality of an abstract realm of the universals is granted, serves to pave the way for theorists such as Marsh and Smith (2001) where they contend that the social web of human interactions may not be empirically visible but regardless exists. Similarly, other forms of realism in the Reality Continuum adhere to the Coherence Theory of truth, much like Platonism, in insisting that some portion of their theories and ontologies does manage to latch onto an aspect of reality.

The discussion so far, begs the question, "Are there realities of a new kind that require a new set of philosophical perspectives?" Therefore, if the entire scientific and philosophical project so far has been geared towards building refinements in human understanding of reality based on the perceptions gained from senses and experimental data, does it need to be rethought and recast if there is an aspect of reality that has remained hitherto unexplored and undiscovered? Furthermore, is there a set of constitutive tensions and fundamental dichotomies that has not been encountered before?

As the human knowledge about the world has increased tremendously in the last few hundred years, coupled with scientific advances that serve to shorten geographic distances and compress time, the complexity of the world has become immense where more individuals are increasingly knowledgeable about an ever increasing set of actors in their midst. The question then is whether there are problems of a new kind in the current age where none of the positions on the Reality Continuum can suitably grapple and provide an explanation. Some of these problems are now to be explored.

Ibn Khaldun (2004) observes that it is part of human nature to sensationalize events, and exaggerate facts. He examines his contemporary and past historical accounts of the number of soldiers in opposing armies and alongside finding exaggerated numbers notes inaccurate outlays of extravagant spending, and impossible riches. The reason such accounts gain currency is because of others' inclination to willingly believe in the fantastic and improbable. Chomsky (1975) has a similar view to Ibn Khaldun (2004) and contends that great power can be wielded through such propaganda into constructing a make believe reality through the powers of suggestion. Baudrillard (1983) notes the advance into his times and complains about the increasingly manufactured nature of reality:

> *"Disneyland is presented as imaginary in order to make us believe that the rest is real, when in fact all of Los Angeles and the America surrounding it are no longer real, but of the order of the hyperreal and of simulation."(Baudrillard, 1983, p. 282)*

At this stage it becomes vital to explore whether there are difficulties raised as a result of treating reality primarily as a social construct.

Baudrillard (1983) suggests that through power of the simulacra, new social realities can be constructed. Although, places such as Disneyland have materially existed only since the 20th century, support for Baudrillard's views on the simulacra can be found in Algazel, the 11th century philosopher who says that the world is presented to the senses as an illusion of the highest order in order to distract one from his ultimate goal to prepare for the hereafter (Algazel, 2006). While on one hand, Baudrillard (1983) builds on Ibn Khaldun (2004) and Chomsky (1975) in agreeing that propaganda can shift and influence perceptions,

he also has a similar view to Algazel (2006) in the power of the perception. It appears that in this case, problems spread across time and space share common philosophical stands to explore the problem area.

Recent advances in the sciences, specifically the discovery of fuzzy quantum mechanics on the micro scale pose a challenge to the traditional definitions of reality. The view of quantum physics holds light as both particle and wave and supports the state of a quark as both existent and non-existent. Similarly, it can be held true that the sun does not exist if it is no longer being observed or cheering for one's favourite Cricket team at home affects them in the stadium. These contradictions or absurdities, while consistent within the mathematical and physical frameworks of quantum theory, appear difficult to conceptualise through traditional philosophy. Quantum mechanics also inverts the way that natural philosophers have studied objects, for example, in a study of the moon the traditional modus operandi is to detect the observable and then observe its behaviour, in the case of quantum mechanics the study begins by observing the behaviour and then asking the question "What concept can be used to explain this?" The divorce of the traditional relationship where objects-in-themselves led research to a state where research work attempts to locate and explain objects-in-themselves has forced a rethink of the nature of reality. A question may be posed here: "Are such challenges a new phenomenon?"

The challenge to rethink what reality is as posed by fuzzy quantum mechanics is not the first one, as such may be compared with another historical precedent in the mind-body problem described by Avicenna (2013) and Descartes (1985) in the Middle Ages (Lagerlund, 2010). The latter argue that attempts of the subject in investigating its relationship with reality through the senses and adapted methods forces a relationship between subjective meaning and individual conscious experience with a physical world and therefore doubt is raised of the objectivity of the findings. The problem is similar to the classic question in realism when investigation is carried out on whether a Coherence theory of truth can be adhered to in scientific theories by latching onto aspects of reality. Attempts at the reconciliation of the alleged Cartesian divide between mind and matter, consciousness and physical matter utilise the different beliefs of Dualism and Monism. Whilst Dualism holds that the object and subject are inherently

dissimilar in kind and as such operate in different ontological planes, Monism allows for a singular reality of one kind, which is all there is. Through developments and refinements, both Dualism and Monism have subtle variations on their central themes. For instance, the Physicalism form of Monism holds that reality is the result of a peculiar arrangement of mind's matter, the Idealism form of Monism declares that reality is a product of the mind or subject (Idealism), and Natural Monism allows for a third unknown substance that mediates between the mind and matter.

A response may be provided to challenge the Cartesian and Quantum physics views by accepting the arguments laid by Baudrillard (1983) and Claude Levi-Strauss (1974). The Coherence theory acknowledges that reality is constructed instead of given or obtained and suggests that the exploration of truth thus becomes an exercise in determining how accurately a given theory adheres or coheres to reality. Carrying out a research programme within the bounds that Coherence Theory sets on the researcher and reality need not force a decision on the nature of reality itself, but merely function as a limiting agent on the explanatory power of the programme. The above discussion poses a question: "What happens to the notions such as truth and causality when examined through the competing paradigms of viewing reality?"

Fine (1986b) invokes his Natural Ontological Attitude in order to find a middle ground between the extreme positions on reality and suggests that traditional philosophers' attempts at maintaining the notions of determinateness, causality and locality to the specific domain of quantum mechanics does not carry a philosophical justification, and that insistence to apply realist principles on reality may not be pragmatic (Fine, 1986b). He finds support in Einstein (1997) who also notes the eroding of space and time as traditional philosophical poles that historically bounded and situated reality and suggests that the requirement of general covariance "*takes away from space and time the last remnants of physical objectivity*" (Einstein, 1997).

Fine (1986b) suggests that tenets of anti-realism appear better suited for usage in quantum mechanics. For instance, he offers Heisenberg and Schrodinger as two scientists who develop their quantum theories through an adoption of the anti-realist position. Robertson (2011) suggests that while Heisenberg spoke in

terms of the observables, Schrodinger gave up the realist idea upon discovering the difficulties in assigning a reality to the wave function. Fine (1986b) contends that that radical departure of realism from the early 20th century physicist research work prompted scientists such as Einstein (1997) in working toward a realist position for their theories by adopting the mind-set of a motivational realist who realises the difficulty in maintaining realism, yet continues to strive towards it. Moving towards a neutral ground between the two extremes, Fine (1982) cautions against a complete disavowal of realism and suggests it may still be possible to keep realism afloat in the sciences. He also identifies with Einstein's motivational realism and makes a personal acknowledgement of the longing for the realist position that he still finds harder to maintain philosophically:

> *"Just as the typical theological moralist of the eighteenth century would feel bereft to read, [in the present day,] say, the pages of Ethics, so I think the realist must feel similarly when NOA removes the "correspondence to the external world" for which he so longs. I too have regret for that lost paradise, and too often slip into the realist fantasy. I use my understanding of twentieth-century physics to help me firm up my convictions about NOA (Natural Ontological Attitude)". (Fine, 1986b, p. 134)*

From the above discussion, the question arises: "Are there other entities that are increasingly harder to describe?"

Some scholars argue that as world is becoming increasingly complex, some of its artefacts are hard to describe and understand in their entirety due to the involved complexity. For instance, Grenon and Smith (2011) raise issue with the failure of prevailing current philosophical ontologies in adequately explaining entities such as "collateralized debt obligation" (Grenon & Smith, 2011). They argue that classical ontologies proposed by proponents of realism such as Plato fail in explaining an entity that is not physical, is seemingly not subject to cause and effect, yet has an existence tied to change and time. De Soto (2000) also refers to these new types of entities, such as Capital, that are seemingly born through mere representations, in form of a title, contract or other such records, and have the power to change the world (Soto, 2000). De Soto (2000) echoes Dobson's (2001) argument and suggests that the act of focusing towards the

Referent, instead of the Referenced, shifts the discourse to the ontological domain where the Referent lives, and adds that it is the Referent domain that is not well understood. The above insight leads to the proposition:

Proposition 2.10

Focussing on the entities in a system concentrates the discussion on the former at the expense of the latter.

The idea that a finite human mind or a collectively finite humankind, cannot grasp in its entirety an infinite and chaotic world in which thousands of coin tosses are flung into the air at any given time with no sure way of measuring all their tumbles is not new. For instance, the traditional Islamic Asharite view holds that it is beyond the capacity of human reasoning and sense experience to obtain a complete comprehension of even the unique names and attributes of God, much less understand His nature and being. A recent example can be found in the technological world which exists largely as an abstraction in the mind of those who establish and participate in it. As each individual interacts with a different form and instantiation of components of the whole, his abstracted version of the actual whole differs from that of another. The fundamental insight is that while the whole of reality has been historically deemed too complex for the human to understand in its entirety by both the realist and anti-realist positions, there is an increase in the number of sub-systems in reality that offer the same challenge to the human. The challenge then is not merely with the difficulty of describing a complex system, but the abundance of such systems within reality.

Examining the evolution of technology, Poster (2001) suggests that the traditional definition of technology which was taken as machines that could be used for acting upon elements of nature is no longer accurate and is misleading for dealing with the new kind and order of machines that have proliferated since mid-twentieth century. The primary difference between machines understood through the traditional definition as against the new kind of machines is the latter's operations in the domains of symbols, information and the virtual (Poster, 2001). Poster's views on technology stand in stark contrast to Marx and Engels (1998) who suggest that technological machines must be considered no more than what they are which in their opinion are means of production. As a further example of

how machines were held in the philosophical view before the advent of computers and Internets, Heidegger (2006) denied the right to autonomy for machines.

Poster (2001) supports Fine's (1982) critique on the limitations of the realist and anti-realist positions and suggests that philosophical approaches such as instrumentalism that may be useful when applied to the context of traditional machines fail to recognise the transformative potential of the new kinds of machines, and that "*the substantialist position gears its critique of technology to process that have little play when acting upon matter is an issue" (Poster, 2001, p. 23).* Poster (2001) suggests that the simultaneity of email and instantaneous chat modes on technologies such as the Internet have eroded the spatial factors and imploded time and forced a reconfiguration of these parameters in the philosophical discourse. Poster (2001) is not alone in positing this argument and finds references in Robertson (2011), Fine (1982), Latour (1991), and Einstein (1997) who suggest that the advances of sciences have changed the manner in which humans regard space and time. The insights lead to the proposition:

Proposition 2.11

The re-definition of building blocks of reality shape the understanding of reality.

An anthropologist who embeds himself in a newly discovered primitive tribe to investigate the manner in which they live may end up observing a reality that has been influenced through his insertion. Fine (1986a) suggests that the same applies in the sciences as well, for when an object has been measured, it has been interacted with and no longer remains objective and terms it the issue of reciprocity. While Musgrave (1992) does not agree with Fine's (1986b) contention and suggests that Fine's insistence is pedantic (for instance, he suggests that the act of observation of the moon can be objective), Robertson (2011) suggests that advances within the field of quantum physics such as the Einstein-Podolsky-Rosen (EPR) experiment that attempt to address the inadequacies of quantum mechanics lend weight to Fine's (1986b) argument. Robertson (2011) attempts to add historical support to Fine's (1986b) argument by suggesting that Kant's metaphysics also make a similar differentiation between the object in itself and the object that is perceived. Fine also (1986b) clarifies his argument and contends that an examination of objects that interact with each other

provides measurements and information about the interaction, but not of the objects in themselves. For Fine (1986a), the answer to this conundrum is to adopt the Natural Ontological Attitude that allows a release from the philosophical trappings of realism and anti-realism. However, at this stage, it is vital to explore the role such adoption plays upon descriptions and understandings of reality.

As realism acknowledges the difficulty in establishing its validity in being successful in approximating reality, and anti-realism argues against overarching ontologies, it would appear that in both scientific and non-scientific academic discourse, reality is often agreed upon, and appears as an abstracted version of the whole. Through an examination of Einstein's (1997) theories of relativity and Gödel's (1992) incompleteness theorems that show no system of a sufficiently powerful kind is entirely internally consistent or complete, the quest for realism in mathematics and sciences appears to be in the crisis that Fine (1986b) addresses. To this end, Chomsky (1975) insists that science's true mission is one of explanation, and not concerned with preparing mechanistic explanations of how things work. As such, the focus should be on the frameworks that are utilised for producing hypotheses instead of the apparent discoveries that are made. However, Chomsky (1975) warns against the efficacy of post-structuralist and post-modernist practices of negatively critiquing the usage of logic and reason to aid projects on reality. In his opinion, an over-reliance on postmodernist polysyllabic discourse that does not contribute to the pool of human knowledge leads towards a muddying of reality. His key insight is that science may appear to be successful at times when it is concerned with exploring that which lies at the edge of the human understanding as it is simpler to isolate and explain than examine the framework of human experience.

Incompatibilities between theories on nature drawn from the realist and anti-realist positions on the Reality Continuum are commonplace in ontologies, questions of classical philosophy, such as whether ontology rises from epistemology or exists in an abstract or real form also manifest in such debates (Basden, 2009a). By way of illustration, the requirement of verificationism is difficult to establish in the field of Information Systems where controlled experiments cannot be carried out as a result of the nature of the investigated phenomenon. It is alluded to by Lee & Hubona (2009) where they accede that not

all IS theories may be verifiable to the level that a logical positivist perspective may require. Walsham (1993) suggests that subjective understanding of reality in IS research is an accepted factor that needs to be regarded in the research process.

> *"Interpretive methods of research start from the position that our knowledge of reality, including the domain of human action, is a social construction by human actors and that this applies equally to researchers. Thus there is no objective reality which can be discovered by researchers and replicated by others, in contrast to the assumptions of positivist science" (Walsham, 1993).*

To this end, Orlikowski & Baroudi (1991) add:

> *"The interpretive research approach towards the relationship between theory and practice is that the researcher can never assume a value-neutral stance, and is always implicated in the phenomena being studied' and 'There is no direct access to reality unmediated by language and preconception" (Orlikowski & Baroudi, 1991)*

The increasingly disparate theories that have been used under competing models of reality and have explanatory powers for their specified domains pose another challenge to the grand realist quest for a single coherent philosophical view. Furthermore, one may not adopt the same position on Reality for all disciplines, for instance, a scholar may be scientific realist about scientific statements aiming to latch onto a real element of reality but adopt a post-structuralist guise for the field of anthropology where the act of observation determines what is displayed and observed. In his online essay, Miller (2012) adds:

> *"Although it would be possible to accept (or reject) realism across the board, it is more common for philosophers to be selectively realist or non-realist about various topics: thus it would be perfectly possible to be a realist about the everyday world of macroscopic objects and their properties, but a non-realist about aesthetic and moral value." (Miller, 2012)*

2.5 BRIDGING THE INCOMMENSURABILITY

Building on the discussions in the previous sections, the proposition is proposed:

Proposition 2.12

One of the major tasks for philosophers of science is to reconcile theories of phenomena.

As identified in figure 2.1, theories of phenomenon by the virtue of possessing explanatory power within their specified range complement or contradict each other due to how they are drawn from competing models of reality on the Reality Continuum (figure 2.1). To this end, Fine (1986) suggests the task is of particular import to the realist philosophers because of their axiomatic belief in a reality that human advances in science slowly unveil. Whilst the strict instrumentalist or post-structuralist may accept the issue moot, the absence of a central plane where such differences may be explored creates the issue of incommensurability. By way of illustration, Miller (2011) suggests that philosophers who subscribe to quietism (an approach to philosophy that regards it as therapeutic) deny the possibility of a substantial debate between the realists and anti-realists in their denial of either there being substantial questions about existence to begin with or denial that there are substantial questions about independence (Miller 2011). Rosen (1994) acknowledges the incommensurability:

> *"We sense that there is a heady metaphysical thesis at stake in these debates over realism—a question on a par with the issues Kant first raised about the status of nature. But after a point, when every attempt to say just what the issue is has come up empty, we have no real choice but to conclude that despite all the wonderful, suggestive imagery, there is ultimately nothing in the neighborhood to discuss" (Rosen, 1994, p. 279)*

The question that arises then is whether there are any significant issues that manifest as a result of examining contradictory theories that share little in common. Furthermore, the secondary question that requires exploration is whether there are legitimate benefits that can be gained through reconciling different theories on a given phenomenon.

Utilising the empiricist position, Popper (1959) suggests that through the usage of "*falsifiability as a criterion of demarcation*, it is possible to separate empirical sciences such as mathematics and logic from the metaphysical systems. The intent behind the contention is that metaphysical systems are issues of a

different kind than the scientific ones and as such need to be treated separately. By way of illustration of Popper's claim, ontologies that are created utilising a *'mathematization of nature'* through a Positivist view of phenomenon (Delaney, 1995; Harman, 2009; McMichael, 1985) tend to share little with ontologies created using the Realist view and methods such as Interpretive Research. To this end, Musgrave (1978) suggests:

> *"Positivists [think the assertion of] the existence of [theoretical] entities is false. Instrumentalists think that scientific theories are tools or rules which are neither true nor false. Epistemological anti-realists ... insist that no theory should be accepted as true." (Musgrave, 1978, p. 383)*

Latour (1991) acknowledges the incommensurability and contends that the involvement of the human actor with technology creates issues of a new kind that cannot be explored through those models that have been derived from an understanding of nature that is subject to mathematized empiricism (Latour, 1991). In this, he acknowledges that in contemporary times, issues of new kinds are discovered due to the rise of complex systems that are equally as confusing for the human mind as is the whole of reality. Furthermore, incommensurability appears to proliferate as humans attempt to develop more complexity on an increasing number of systems.

By extension of the incommensurability of the research paradigms, the proposition is proposed:

Proposition 2.13

The research outputs derived from competing research ideologies face the risk of being incommensurable and difficult to reconcile.

Fundamentally opposed views of reality, such as Philosophical Realism that allows for portions of reality that may need to be acknowledged epistemologically yet bracketed off from empirical investigation, and Positivism that calls for the adoption of empiricism and verifiability as the fundamental criterion for deriving physical models of reality (Popper, 1959), produce research methods and results that can be contradictory at worst and irreconcilable at best.

Utilising the recommendations made by Lakatos (1980) the following two propositions are made:

Proposition 2.14

Theories of phenomenon consist of a core of hard propositions and a periphery of protective propositions.

And,

Proposition 2.15

A negative heuristic in a theory can be understood as the maintenance of the hard core of a theory, and the positive heuristic as the construction and defence of the periphery propositions.

A theory of a phenomenon can thus be understood to make progress when it demonstrates a positive problem shift, for instance, when a series of hypotheses contribute to the pool of knowledge through replacing each other with the passage of time (Lakatos, Feyerabend, & Motterlini, 1999). Increasingly, single research programmes span more than one field of research, for instance, in the field of Information Systems research programmes can involve researchers from other fields. Mingers (2001) contends that this is due to the IS providing a nexus for fields as diverse as semiotics and technology.

Lakatos (1980) contends that the sourcing of theories from the different traditions poses a risk for the overall progress of the research programme, particularly where one theory drawn from a tradition threatens to replace a theory from the other. For Lakatos (1980), such an ad hoc theory becomes a mixture of core and periphery theories that cannot be reconciled. It cannot utilise language and terms that are similar yet not the same, and yet manage to superimpose results in an overall theory. This exhibits a negative problem shift where it can no longer be as predictive or descriptive as the individual theories were in isolation (Lakatos, et al., 1999).

Fine (1986b) shares the misgivings of Baudrillard (1983) and postmodernists on the quest for truth in science. By contending that truth is a semantic concept instead of an ontological certainty, he attempts through his Natural Ontological Attitude to bridge the incommensurability of contradictory positions by going beyond the divide between the realist and anti-realism positions of thought. The contention leads towards the following proposition:

Proposition 2.16

Truth of a proposition is not necessarily dependent on underlying ontological certainty.

Fine (1986b) begins his argument by observing that both extremes (realism and anti-realism) share a core position about entities in that the evidence of their senses can be trusted regarding the existence of entities such as tables or people before us. He suggests that differing interpretations and embellishments of that shared core position by the realists and anti-realists result in the widening of the chasm between the positions. As such, he criticizes the limitations of both the realist and anti-realist positions in relying on "*metaphysical or epistemological hearing aids*" and metaphysical commitments to aid their understanding of a phenomenon. He contends that, "*metatheoric arguments must satisfy more stringent requirements than those placed on the arguments used by the theory in question, for otherwise the significance of reasoning about the theory is simply moot*" (Fine, 1986b, p. 114). To Fine (1986b), it is these metaphysical foundations of the paradigms of reality that result in the confusion. The question that arises then is regarding the validity of metatheoric arguments in their ability to lead towards clearer descriptions of reality.

Fine (1986a) further argues that the realist desire to connect truths about an entity to the entity itself is flawed, and that successive advances in human understanding resulting in a closer approximation of the entity cannot be confused with the entity itself. He explains his argument by suggesting that the epistemological commitment in a realist theory about an unobservable entity such as the quarks requires the metaphysical commitment for the existence of the entity. Furthermore, Fine (1986b) contends that scientific realism (the form of realism he analyses) is unable to provide an overarching description of the practice of science through its insistence on using fuzzy philosophical notions such as approximate truth or through begging the question. For him, the notion of a fuzzy truth or an approximation of truth in theory in explaining the blue prints of the universe is disturbing because it is not possible for the scientific realist to show whether a theory has reached the level of approximately true due to such blue prints being inaccessible to the realist. Furthermore, He makes the claim that had the realism mind-frame in the sciences held sway in the early 20th century

physics, advances in sciences such as relativity and quantum theory would not have come about (Robertson, 2011).

Developing his argument against employing the metaphysical commitment to an epistemological method in realism, Fine (1986) recalls the works of Hilbert and Gödel, the early 20th century mathematicians who worked on establishing the consistency and completeness of a mathematical theory where Gödel (2012) proved such consistency was not possible (Hofstadter, 1979). Fine concludes that "*one must not beg the question as to the significance of explanatory hypotheses by assuming that they carry truth as well as explanatory efficacy." (Fine, 1986b, p. 115).*

Fine (1986b) further suggests that there is another issue of conjunction with realist theories of reality where two conjoined realist theories may not produce reliable predictions. For instance, if there are two theories T and T' that are held to be approximately true, that are not mutually inconsistent, have explanatory power for the phenomenon they explain and produce reliable prediction, and have a shared term that is not ambiguous, then for the realist, the conjunction should be empirically verifiable. He argues that the realist position cannot provide a deductive argument that a conjunction would always work, instead the conjunction of more theories renders the explanation of a given phenomenon more difficult. Robertson (2011) provides an example in support of Fine's contention:

> *"We can look at an historical example where T is Maxwell's electromagnetism and T' is Galilean relativity, both of which were well confirmed in their day. However, applying Galilean relativity to electromagnetism should mean that the speed of light changes depending on your own speed, i.e. c'=c±v where c' is the observed speed of light, c is the speed of light for a stationary observer (i.e. stationary with the ether) and ±v is the speed through the ether. The Michelson-Morley experiment showed that such a conjunction is false." (Robertson, 2011, p. 24)*

Having identified the difficulties that realism faces in regards to its approach towards reality, the question is raised whether similar problems manifest for other positions on the Reality Continuum (figure 2.1) as well.

Fine (1986b) critiques the anti-realists' position as well for utilising terms such as acceptance, empiricism among others to aid in seeking a foundation. He suggests that in adoption of what he terms 'truth-mongering' anti-realist theories, the truth of their position becomes difficult to decipher through a distortion of the concept of truth (Robertson, 2011). Fine (1986b) explains his argument against the anti-realist practice of pinning the concept of truth on acceptance that there is no warrant for imposing this constraint on the basic concept of truth which gets distorted as a result.

Fine (1986a) also objects to the practice in constructive empiricism of drawing sharp dividing lines in science where none exist, such as the case of laying the criterion for observability. He takes issue with constructive empiricism's notion that science determines what is observable for a given theory by pointing out that there is no physical 'observable' property that can be measured, and that an arbitrary fuzzy limit imposed on what is observable or measurable for a given theory is not helpful.

Fine's (1986a) insistence that the explanatory success of a phenomenon has nothing to do with the truth of an entity has led him to be accused of not taking up a position on reality and sitting on the fence between the two positions through a distortion of the realist and anti-realist positions (Musgrave, 1978). Musgrave (1978) suggests that instead of the realist or anti-realist positions requiring metaphysical commitment for an explanation of an entity, they require a pragmatic commitment to explain further phenomena using the concepts of the current theory. In his defence, Fine (1986b) offers a third alternative to be considered beside realism and anti-realism, an attitude that does not attempt to reach out to a truth ideal that cannot possibly be reached or attempts to distort truth and thus removing the need to venture outside arbitrarily set boundaries:

> *"It seems to me that when we contrast the realist and the anti-realist in terms of what they each want to add to the core position, a third alternative emerges—and an attractive one at that. It is the core position itself, and all by itself." (Fine, 1986b, p, 129)*

For Fine, the Natural Ontological Attitude (NOA) is more an attitude rather than a philosophical position that is neither realist nor anti-realist (Robertson, 2011). Fine (1986b) further explains the NOA:

> *"It is to take them [scientific theories] into one's life as true, with all that implies concerning adjusting one's behavior, practical and theoretical, to accommodate these truths. … When the homely line asks us, then, to accept the scientific results "in the same way" in which we accept the evidence of our senses, I take it that we are to accept them both as true. I take it that we are being asked not to distinguish between kinds of truth or modes of existence or the like, but only among truths themselves, in terms of centrality, degrees of belief, or such." (Fine, 1986b, p, 127)*

The key insight then is that both realist and anti-realist positions of thought subscribe to the above contention as a core shared position. However, Fine (1986b) insists that the knowledge that is gained through the scientific enterprise about reality is not different in kind that that which is gained through everyday experience. Furthermore, Fine (1986b) suggests that his Natural Ontological Attitude does not attempt to add to the core knowledge by either stamping a brand of truth as done by the anti-realists or to prove more than is possible about an object as done by the realists. The Natural Ontological Attitude aims to establish facts without being tainted by values; for instance, he recommends the results of what science produces and then developing the required values from that focus on the context instead of being moulded by an overarching general normative frame. Fine's (1986a) key insight is that by allowing norms to develop through scientific work, a generality may emerge across similar problems which allow for philosophical coherence, but that should not be the goal of the scientist.

By granting to scientific knowledge the status of everyday knowledge through his proposed philosophical position of NOA, Fine (1986a) opens the work of science to criticism to those in other areas of inquiry. Through this openness and non-essentialism of science, what is established is the agenda for philosophers of science to meaningfully engage with those from other disciplines, such as sociology, political sciences, economic theory. Fine's (1986a) philosophical position also disregards the notion of an overarching science that could tie all possible explanations of theories together; and instead casts the aims of science to provide an explanation that is applicable to local and specific contexts.

The idea that emerges from the review of the Natural Ontological Attitude is its promotion of a generic view of science where the strengthening of a particular theory, say that of the quarks, which may risk the strength of the overall web of the scientific theories does not lead to alarm. Such an attitude is in stark contrast to that of a realist who expects for the theories on reality to become progressively closer towards a truth or universal blue print, and thus would find the advances in the quarks theory to be troubling. Consequently, theories developed through a Natural Ontological Attitude are adequate in their explanatory power, open to later revisions, allow no extraneous additions to the core position and renders their addition moot. However, a further question is raised: "How do approaches such as the NOA reconcile the incommensurability between competing positions?"

The other advantage that the NOA brings is for the possibility to bridge the chasm of incommensurability can be crossed through its adoption. In other words, as NOA offers a core position that anyone can accept, a bridge can be made for an understanding to be used by competing positions. Fine (1986b) explains the NOA's attempts at establishing truth as:

> *"NOA sanctions ordinary referential semantics and commits, via truth, to the existence of the individuals, properties, relations, processes, and so forth referred to by the scientific statements that we accept as true." (Fine, 1986b, p. 130)*

Worrall (1989) attempts to build on the Natural Ontological Attitude and states that Structural Realism provides a more refined manner of reconciling the realists and anti-realist positions while denying the correspondence theory of truth. He begins by suggesting that the success of corroborated theories in accounting for known phenomena and ability in predicting new phenomena leads to the reasonable position that such theories must have latched onto an element of reality in their approximation of truth (Worrall, 1989). He then acknowledges that the reverse is not necessarily true; empirical success does not necessarily imply approximate truth, such as the theories involving ether or phlogiston. The insight leads towards the proposition:

Proposition 2.17

The predictive success of a theory supplies a prima facie plausibility argument that it somehow may have latched onto the truth.

Worrall (1989) examines the case of the conjectural realist (Popperian realism with verisimilitude) who regards theories as genuine attempts at explaining reality itself but finds himself unable to prove whether a displaced theory is closer in approximating truth because of its greater explanatory power than the theory it eventually refines. Indeed, Worrall (1989) contends that the theory which has been displaced may be a closer approximation of truth with a lesser explanatory power, but as there are no universal blue prints to compare a theory's ability to latch onto reality, the realist is never able to conclusively prove a theory's success in depicting reality.

Worrall (1989) suggests that an anti-realist position that attempts to create truth finds itself in difficulty when a previously held theory about a phenomenon is replaced by another and it shares nothing with the theory it displaces. By way of example, he points to the previously held theory of light as a mechanical wave propagating through when it was displaced by Maxwell's theory on light as being oscillations in a disembodied electric field. He finds common ground with the pragmatist position within the anti-realist perspective, which allows for the carryover of useful components of the displaced theory to the ascendant theory, for the value they provide in their application. The question then is whether it is possible to retain useful results from competing theories.

Through a combination of the above positions the structural realist for Worrall (1989) adopts the 'continuity of useful components' elements from the anti-realist position and the 'attempted description of reality' while denying a correspondence truth form the conjectural realism. Thus, Worrall suggests the structural realist recognises that useful components, the relationship lattice of concepts from the displaced theory of light that allowed for ether remain:

> *"Although Fresnel was quite wrong about what oscillates, he was, from this [formal] point of view, right, not just about the optical phenomena, but right also that these phenomena depend on the oscillations of something or other at right angles to the light." (Worrall, 1989, p. 118)*

The key insight for the structural realist is that finding a part of the theory wrong does not render the whole theory wrong and justifies the empirical adequacy that it maintained. In addition, the adoption of structural realism allows for an

explanation of the problem of conjunction, the adequacy of two or more theories remains unknown unless empirically verified. Through allowing focus on the structure of relationships and theories for their attempts at explaining phenomena, structural realism (much like Natural Ontological Attitude) allows for refinement of scientific knowledge while skirting the issues of incommensurability through an abandonment of particular scientific outlook.

Musgrave (1978) was one of the first scholars to disagree with Fine's attempts at bridging the incommensurability through the Natural Ontological Attitude. He disagrees with Fine and suggests that the refusal of the anti-realist positions in ascribing truth to a theory means that not all positions share a core position as assured by the Natural Ontological Attitude. Fine (1986b) responds by suggesting that NOA does not allow for an association of 'truth' with 'correspondence' and as such follows the Traskian theory of truth that states "*a sentence (or statement) is true just in case the entities referred to stand in the referred-to relations" (Fine, 1986b, p. 130)*. In other words, the epistemological link between two theories of electrons and charge can be held as true under the NOA, however, that truth does lead towards a metaphysical position where both the electron or charge are understood as objects existing in the real world. The Natural Ontological Attitude does not state that because scientific explanations of electrons work well in explaining behaviour, electrons exist. However, as an attempt at avoiding the entanglements of ontology, for Fine (1986a) the NOA allows for a study of the electrons that results in practical benefit, without getting tainted by the additional values impost on the facts through the realist and anti-realist positions.

Examining the issue, Quine (1948) offers a way to escape incommensurability in an ontology through allowing for the existence of bound variables. He recommends the usage of parsimony and Occam's razor to ensure the ontology does not contain redundant metaphysical entities. By way of example, he suggests that while a theory involving Homer's gods may also help explain the movements of heavenly bodies, another theory with a lesser number of undefined bound variables (such as the theory of gravity) offers a better explanation of reality. Musgrave (1991) introduces a scenario wherein four different theories (ranging from gravitational potential field to curved space) can

be utilised to explain classic Newtonian physics, and suggests that an attempt at reductionism can help in judging between theories.

There is perceived beauty in a simpler and parsimonious solution against a solution that allows for a metaphysical dimension with entities that may escape human attempts at explanation or reduction. However, the risk that such parsimonious solutions carry by bracketing off the unexplainable, results in research outputs that provide correct answers for aspects of an entity, but fail to grapple with the entity as it is in accordance to its entity-ness (as Quine warns through his exhortation for a holistic approach). This is the risk that Fine (1986) cautions of where he contends that the attitude of the realist and anti-realist positions results in the non-bridging of their positions which in result make a theory of reality non-parsimonious. Furthermore, in a state of reality where entities are in a constant flux with beings perpetually being remade as a result of re-negotiations of relations with other entities, the task of setting boundaries on a theory's explanatory potential (as Fine (1986a) argues the anti-realists do) does not result in a closer approximation of truth.

Arguing against false divisions setup to aid human understanding of a complex phenomenon, Quine (1969) echoes the argument of Fine (1986a), Latour (1991), Basden (2004) and Dooyeweerd (1955). For instance, Quine (1953) disagrees with the Kantian and logical positivists' claim for a firm distinction between analytic (those statements that are true by the virtue of definition and experience does not need to be invoked to establish the truth value) and synthetic statements (whose truth value must be obtained using experience). Quine (1969) then offers a way out of ontological incommensurability through promotion of the ontological commitment. He suggests that by accepting there is something, which is a bound variable, that ties properties of objects such as redness of houses and sunsets, allows for a state where competing models for depicting reality may co-exist without having incommensurability thrust upon them through an insistence on explaining the bound variable (Quine, 1948). Based on the insight, the proposition is proposed:

Proposition 2.18

To be is to be the value of a bound variable that grants being to the bound variable.

Such a bound variable may remain ontologically non-challenging in a schema of reality until it is adequately explained (Quine, 1969). For Quine, the ontological commitment allows for a theory to meet Popper's criteria for a robust theory through meeting positivist research maxims, such as *"falsifiability as a criterion of demarcation"* in the form of modus tollens to "*distinguish between the empirical sciences on the one hand, and mathematics and logic as well as 'metaphysical' systems on the other" (Popper, 1959, p. 11).* This permits a metaphysical allowance to be made for non-explainable entities.

Herman Dooyeweerd (1955), the Dutch philosopher, proposes another framework that allows for an escape from incommensurability through the usage of fifteen modal aspects of reality. He contends that the fifteen aspects are transcendental in nature, and allow for a holistic examination of an entity through the provision of extra spheres of meaning (Dooyeweerd, 1955). The aspects are Quantitative (dealing with amount), Spatial (projection and extension), Kinematic (movement, flow), Physical (energy), Biotic (life functions), Sensory (dealing with the senses and emotions), Analytical (logic), Formative (history, contextual), Lingual (syntactic, discourse), Social (institutions), Economic (resources), Aesthetic (harmony), Juridical (balance of rights and responsibilities), Ethical (moral), and Pistic (vision, goal). Dooyeweerd (1955) argues that his proposed aspects are ontologically irreducible as modes of being, and study of one or a combination of these aspects to explore the being of a thing cannot be held authoritative, unless a holistic examination is carried out using all of the aspects.

Latour (1991) holds that theories of science explaining reality utilise false divisions of truth that are utilised as the markers for incommensurability between competing theories and argues that such a theoretical division does not exist in actuality. The natural bias on the part of humans is to try to codify things in separate categories and then control the set of relationships from one to the other in a strict manner that can be governed using moralistic or legalistic models. This allows for some random interactions to take place between different poles, and is the primary motivator for the incommensurability (Latour, 1991). In suggesting this Latour (1991) firms places himself against those who suggest that the adoption of an anthropomorphizing perspective or by using human experience on physical space to make predictions is a useful innovation such as (Hofstadter,

1979). Poster (2001) suggests that the forcibly upheld primacy of the human experience in debates over technology rises out of a 'residual dread' of the machines that challenge the humanist assumptions about human relations with technology and as such act as an impediment to the recognition of a new plane where humans interact with new kinds of technology. Latour (1991) further contends that even where a forced division between nature and the human is upheld in the theory, in practice attempts at bridging these gaps proliferate, which he terms works of purification and works of translation. Based on the discussion:

Proposition 2.19

Purification occurs between the extremities of poles or absolutes such as society and nature and creates pseudo incommensurability (quasi objects) and spatial proximities of distance between absolutes.

Translation is the process whereby mediatory actions (that create quasi nature-human hybrid entities of mediation) occur in an infinite manner to bridge the spaces. The system would allow the humans to design works of purification (categorizing and limiting functions for definition), and simultaneously allowing works of translations and mediation (wherein it is accepted and anticipated that some rules will never be enforceable). Latour's (1998) model for examining a human-nature collective (remaining within physical space at all times) introduces limitations. For instance, it does not suggest what poles need to be investigated, and as such exposes the theory to Fine's (1986a) argument against setting up false divisions of any kind and to focus on the core research findings themselves. An admission of non-absolute poles that may need to be replaced dependent on the context of a study, and hence only tentative and strictly conditional results may emerge. In Lakatos's (1980) terms, a meta theory conjoining the research of competing theories on a phenomenon runs the risk of manifesting a negative problem shift due to the arbitrarily setup poles advocated by Latour (1991).

Despite Latour's (1991) insistence on utilising poles that do not masquerade as approximations of reality, incommensurability may be bridged through enabling a plane where useful insights can be learned about complex artefacts such as human-nature collectives. These proliferate when distinct and incommensurable poles, such as nature and human, come into interaction in ways that were not originally devised and catered for. The task of codifying and

formalizing complexities such as the Cyberspace remains difficult but quasi objects therein appear useful in the exploration of solutions. Current definitions for complexities are built on a multitude of material and semiotic relationships. A potential infinite number of stakeholders and infinite number of technologies may collaborate in infinite ways forming transient relations (or quasi objects in Latour's terms) that bridge incommensurability.

2.6 DISCUSSION

The preceding sections have raised and developed philosophical concerns regarding the elementary building blocks for scientific and Information Systems research. The implications of underlying foundations were highlighted in the manner they influence upon research findings. The fundamental insights of the chapter can be summarised in the following propositions:

Proposition 2.20

Reality is the totality of all there is.

And,

Proposition 2.21

As all human events happen within the sphere of reality, reality ultimately bounds the way in which humans engage with it, and within it.

It has been argued that research attempts within the sphere of reality implicitly engage in metaphysical as well as epistemological pursuits (proposition 2.1), due to the aims of such attempts to understand a given phenomenon (proposition 2.6). Furthermore, if the underlying foundations are unknown and research proceeds upon unjustified assumption then the enterprise of knowledge creation in the chosen areas is weak due to the adoption of weak building blocks of reality (proposition 2.11). Similarly, the findings of research programmes grow increasingly difficult to reconcile with each other (proposition 2.12) when their foundations are axiomatically contradictory (proposition 2.13).

The chapter has introduced the Reality Continuum (figure 2.1) that outlines the key positions within a spectrum ranging from realism to anti-realism. The key question raised by the examination is: "Why do such incommensurate positions exist in the first place?" (proposition 2.2). Additionally: "What impact does such divergence of views have on the human goals to understand reality?"

The questions are explored to provide the underlying blocks in order to position the thesis for an examination of the Internet and its problem areas in chapters 6 and 7 (creating a core theory based on proposition 2.14).

It is vital to summarise the key positions discussed in section 2.2. Realism argues that it is crucial to both report what is observed and how it is reported. This leads to the insight that the enterprise of knowledge creation is multi-perspectival when the various positions on the Reality Continuum (figure 2.1) are utilised to explore a given phenomenon. If it is argued that an observed regularity (e.g., things falling) happens because there is an underlying mechanism (e.g., gravitational force), then the observation makes an appeal to a (real or otherwise) thing that is described by the theory. Furthermore, if the gravitational force is held as the thing that causes the regularity, the question arises as to why the force acts the way it does.

The example can be examined through various ways, such as the no-miracle position of scientific realism within the realism view. A realist can say objects act that way (falling) because there really is a gravitational force. The 'no-miracles argument', named after Putnam's (1971, p. 73) claims that realism '*is the only philosophy that doesn't make the success of science a miracle*'. The argument begins with the widely accepted premise that our best theories are extraordinarily successful: they facilitate empirical predictions, retro-dictions, and explanations of the subject matters of scientific investigation, often marked by astounding accuracy and intricate causal manipulations of the relevant phenomena. What explains this success? One explanation, favoured by realists, is that our best theories are true (or approximately true, or correctly describe a mind-independent world of entities, properties, laws, structures, or what have you) (Putman, 1975)(proposition 2.17).

The sceptical response is to question the very need for an explanation of the success of science in the first place. For example, van Fraassen (1991) suggests that successful theories are analogous to well-adapted organisms; since only successful theories (organisms) survive, it is hardly surprising that our theories are successful, and therefore, there is no demand here for an explanation of success. This analogy provides example of the depth of inquiry required for better understanding the foundations of Information Systems research theory.

All matters of academic research and human activities happen within the totality of reality and employ the human subjective consciousness with its strengths and weaknesses as the fundamental tool for all metaphysical and epistemological explorations (proposition 2.8). Algazel notes one of the primary weaknesses in his book "The Incoherence of the Philosophers" where he contends that it is beyond the capacity of human reasoning to advance from an abstract understanding of the whole to understanding the totality of reality (Naim, 1966). Second order conceptions of reality reside uniquely in individual minds before a correspondence is sought with the supposed component of reality, and that consciousness itself is primarily consciousness of something reveals the chief reason for why there is little agreement between competing positions on the Reality Continuum (figure 2.1). Answers to primary questions such as "Is there an objective reality?" become contradictory or contrary when examined through different positions with presupposed assumptions. For instance, traditional continental philosophy allows for forms of realism, but empiricist traditions lend support to verificationism, and alternately, post-modernism regards Reality as a social construct.

The philosophical landscape is littered with tensions and apparent contradictions between competing paradigms of reality; for instance whilst constructing ontologies realism offers a metaphysical commitment to components of reality or reality itself, anti-realists argue against such an allowance and distrust the realist agenda, and the post-modern techniques inspired by Latour (1991) hint at the futility of such endeavours through reductionist practices. By way of explanation, realist ontology allows for autonomous existence of entities independent of the human mind and disregards deep-seated anthropomorphism, which regards only such as real that which is observable. However, Hofstadter (1979) contends that the adoption of an anthropomorphizing perspective is useful in making predictions unyoked by the requirement to provide a metaphysical commitment to entities that may not be easily situated in the predictive model.

The resulting landscape is the setting wherein research programmes, scientific and non-scientific, are situated and tasked with constructing ontologies for systems and exploring relationships between entities. Issues of incommensurability arise when a scaffolding designed to guide discourse on a

problem area through a realist foundation is dismissed through a denial of the inherent assumptions of the realist basis. As such, the direction of inquiries face the risk of being diverted to the discourse or referents instead of the thing or the referenced.

The increasingly complex sub-systems of reality that humans interact with (thus discovering it as per proposition 2.9), delivers uniqueness through constant mediation of differential relations that therefore create spaces, times and sensations (Deleuze & Guattari, 1991). The question arises whether philosophical problems of a new kind are encountered as a result of interactions with a new kind of reality. As the possible combinations in which components of reality may form relationships with each other is infinite, is it possible then to find the need to develop a new position on the Reality Continuum (figure 2.1) to address that which has not been encountered before? Alternatively, can the current positions be suitably adapted to address the new reality? An example of such a complex artefact is the Cyberspace where some declare it to be redundant, illusory, metaphysically confusing, or paradoxical (Bukatman, 1993; Delaney, 1988; Koepsell, 2003; Lee et al., 2002; Mueller, 2004), whilst others offer various explanations ranging from it being an interplay in symbolic dimensions (Zizek, 2000) to Cyberspace being a new kind of species (Dreyfus, 2001). Another question that arises then is: "What impact does the concentration of discourse on the entities in the system have on the exploration of the wider entity?" (proposition 2.10)

Furthermore, advances in sciences such as quantum mechanics have increasingly challenged traditional understandings of reality (propositions 2.3, 2.16). To this end, Fine (1986b) contends that a new position is necessary for complex areas such as quantum mechanics where traditional methodologies utilising realism and anti-realism come up short. In acknowledging the limitations of current positions on the Reality Continuum, Fine (1986b) has support in the works of Poster (2001), Grenon and Smith (2011), and De Soto (2000) where the argument is made to acknowledge an existence even if cannot be accurately described (proposition 2.18).

In summary, it is vital to begin a second order examination of a complex reality utilising the latticework of contrary philosophical positions introduced in

figure 2.1. The danger of beginning a normative inquiry into an aspect of a complex reality without acknowledging the fundamental tensions risks the research programme to degenerate and develop a negative heuristic (proposition 2.15). Whilst, such inquiries can lead to successful explanations of some regularities, their results retain fragility due to the absence of support by a coherent abstract scaffolding.

2.7 CONCLUSION

The chapter has explored various conceptions of reality through plotting them on the Reality Continuum (figure 2.1). The tensions between competing views have been followed from their theoretical basis to the incommensurabilities that arise between different ontologies, and suggestions by Fine (1986a, 1986b), Latour (1991, 1998) and other academics have been examined to bridge these fundamental differences. The field of Information Systems spans multiple research fields, and an IS research programme contains core ideas from many other disciplines due to the sub-fields of Database Modelling, Artificial Intelligence, Computational Linguistics, and others (Bunker, Cole, Courtney, Haynes, & Richardson, 2005; Harman, 2009; Quine, 1948). Consequently, the variance of core ideas within a discipline due to the incommensurability between competing paradigms on reality, and their conflation with other core ideas into a single research programme drives a necessity to create mediatory steps to ensure no negative problem shift is developed in the research programme. The following chapters are to build on the contentious points raised in this chapter 2 and to critically evaluate concepts such as governance, Cyberspace, Internet, and IS research.

Below is a summary of propositions identified in the chapter.

Proposition 2.1 The study of reality is both metaphysical and epistemological.

Proposition 2.2 The primary difference between realism and anti-realism is whether there is a reality outside of perception, and whether theories can accurately describe it.

Proposition 2.3 Tangible effects hint at an underlying entity as a cause, regardless of whether it can be proved or not.

Proposition 2.4 Inductive logical reasoning that forces the acceptance of a causative link between two entities without examining the works of translation that occur side by side is a fallacy.

Proposition 2.5 Perspectives similar to Critical Realism extend existence to realities that may not be subjected to empirical methods.

Proposition 2.6 The ultimate aim of theories of inquiry is to describe an entity accurately.

Proposition 2.7 The contentions and tensions between the various realist and anti-realist understandings of reality are magnified when applied to devise ontologies.

Proposition 2.8 It is difficult to construct objective viewpoints that are drawn from subjective foundations.

Proposition 2.9 Essence of an entity is discovered after the accident of its existence.

Proposition 2.10 Focussing on the entities in a system concentrates the discussion on the former at the expense of the latter.

Proposition 2.11 The re-definition of building blocks of reality shape the understanding of reality.

Proposition 2.12 One of the major tasks for philosophers of science is to reconcile theories of phenomena.

Proposition 2.13 The research outputs derived from competing research ideologies face the risk of being incommensurable and difficult to reconcile.

Proposition 2.14 Theories of phenomenon consist of a core of hard propositions and a periphery of protective propositions.

Proposition 2.15 A negative heuristic in a theory can be understood as the maintenance of the hard core of a theory, and the positive heuristic as the construction and defence of the periphery propositions.

Proposition 2.16 Truth of a proposition is not necessarily dependent on underlying ontological certainty.

Proposition 2.17 The predictive success of a theory supplies a prima facie plausibility argument that it somehow may have latched onto the truth.

Proposition 2.18 To be is to be the value of a bound variable that grants being to the bound variable.

Proposition 2.19 Purification occurs between the extremities of poles or absolutes such as society and nature and creates pseudo incommensurability (quasi objects) and spatial proximities of distance between absolutes.

Proposition 2.20 Reality is the totality of all there is.

Proposition 2.21 As all human events happen within the sphere of reality, reality ultimately bounds the way in which humans engage with it, and within it.

Chapter 3 – Governance in Reality

3.0 INTRODUCTION

In chapter 2 the philosophical foundations of reality were explored and a problematic area located that has implications for research in fields such as Information Systems. The philosophical beliefs of academics from different disciplines and fields of study were reviewed in order to scope this research wide enough to include many of the contributing approaches for IS studies. The views showed varied understandings of reality and the role of the human as the subject. As reality is the totality of all there is (proposition 2.20), and comprises things such as physical entities, laws of physics, conceptual models and structures, the sphere of human activity falls under the generality of reality. As such, the manner in which reality is regarded and understood by a subject influences the manner in which the human behaves within a social sphere and in relation to hybrids of things part human and part other things (proposition 2.8). In this chapter 3, the human activity of governance is to be explored from the perspectives of realism developed in chapter 2. Excluded concepts such as politics and ethics are to be rationalised within the debate of this chapter as meta-constructs of human behaviour. The impact and contribution to research is to be explored and the case argued for inclusion in inquiry. The benefits of such conceptual inclusions are to be evaluated and then used in a framework in chapter 4 to critique some of the issues arising from Internet Governance.

3.1 GOVERNANCE

Aristotle (1939, 1999) observes that man is a social animal, and offers the insight that unlike other social animals (elephants or ants) the rules governing one man's conduct with another on a micro level and of a community with others on a macro scale are not hard-coded. In other words, the structure and form of relationships that govern the conduct of humans and define the rules of engagement are not

inflexible and are adopted by humans as a result of their social inclination to live the good life. For instance, as an extension of the argument Aristotle offers his vision of the polis (ancient Greek city state) as an ideal form of legitimate authority that succeeds in enabling the good life for its citizens through effective governance. The insight raises the question: "What impact do the social needs have on concepts such as governance?"

Aristotle's (1939) reported observation on the need for humans to form communities has recognition in writings of other scholars such as David Hume (2006) who says that "*tis utterly impossible for men to remain any considerable time in that savage condition, which precedes society; but that his very first state and situation may justly be esteem'd social" (Hume, 2006, p. 94).* While scholars such as Hume (2006), Aristotle (1939), Nozick (1974) and Rawls (1999) agree that the act of governance happens as a human affectation, there is considerable variance on the forms of governance that they propose and justify. For instance, Rawls (1999) disagrees with Aristotle's (1939) contention on the polis being an ideal form of governance but agrees the contingent nature of Governance.

As the form and application of a governance regime affects all those within a domain of reality who are governed, an exploration of the variations acquires a degree of urgency greater than what would be accorded to a theoretical debate. Just as the preceding chapter identifies and explores the chief questions in academic discourse on reality, the variations of approaches on governance raise fundamental questions for further investigation such as:

- What is meant by governance and what are its constitutive attributes?
- How is effective governance defined and measured?
- How is authority legitimised and tasked with the responsibility of governance?

3.2 FROM THEORY TO PRACTICE: REALITY CONTINUUM, META-ETHICS AND POLITICAL THEORY

Chapter 2 introduces the Reality Continuum (figure 2.1) wherein different approaches towards reality (the sum totality of all there is, including abstractions such as governance) are positioned. As an extension of the arguments made in the previous chapter, a key proposition can be made:

Proposition 3.1

Governance is an abstraction.

Just as fundamentally different pictures of how the world is configured and operates guide the process of forming scientific theories for the physical phenomena; they likewise influence the efforts for developing and clarifying abstract concepts such as good, virtuous, and human practices such as devising moral and political codes. The insight leads towards the following proposition:

Proposition 3.2

A clarification in the abstract and of the abstract justifies the adoption of theories and the application of theory to practice.

By way of explanation, a theorist who believes in the actual existence of ethical norms and truths even when not subject to human perception, may deny the validity of the Correspondence Theory of Truth. However, such a contradiction does not preclude the theorist having a moral code, which derives from a meta-ethical view that justifies the usage of real ethical principles as moral judgements and facts in a logical and consistent manner. In such a moral code, the validity of decisions on moral issues would be determined through an appeal to real ethical principles. Similarly, another theorist who views concepts in reality such as ethics and justice as social constructs open to constant refinements might aid the construction of a political theory that detests the identification of moral judgements with supposed moral facts, and therefore promotes a relativistic stance on issues without the obligation to follow a defined moral code.

A moral code that is enforced or appealed to requires the support of an authority usually. Whilst, it is possible to allow for reason as an enlightened concept to guide the construction and adoption of a moral code, rationality does not entail enforcement. The insight that is also supported by Aristotle (1999) at the end of Nicomachean Ethics leads to the following proposition:

Proposition 3.3

Inquiry into ethics involves politics and vice versa.

Kant (1998) challenges the supposed division between metaphysics, meta-ethics and political philosophy and notes a significant relationship between meta-ethics and their application through a governance model. He suggests that the human consciousness of the moral truths is a fact of reason and argues that it is the

application of these truths in the form of codified law enforced through governance that evokes intuitive reverence and following for humans. Whilst Rawls (1999) disagrees with Kant's (1998) meta-ethical realism and denies moral facts can be codified and applied, he appears to agree with Kant's (1998) proposition that meta-ethics and their application through governance are inter-linked.

While there is agreement between Kant (1998) and Rawls (1999) that meta-ethics and political theory are inter-twined, they disagree on whether meta-ethics entails political theory or if the reverse is correct. While Kant (1998) draws his political theories from a meta-ethical position, Rawls (1999) develops his ethical positions through an examination of political positions. For instance, Rawls (1999) outlines his disagreement with Kant (1998) through his insight that the conception of objectivity should be political instead of metaphysical (Rawls, 1999). In stating this idea, he argues that through moving the discourse away from a search of foundations for the nature of ethical properties, it is possible to justify core concepts in a governance regime such as justice without resorting to the meta-ethical debates on nature of ethics. On the hand other hand, Kant (1998) begins his observations by noting that as all previous ethical theories have failed in capturing the freedom of reason that ought to lead towards objective moral truths, all such theories have failed as theories of practical reasoning. Therefore, any moral norms that are not derived from reason that ought to produce objective moral ends cannot be authoritative for a political code.

The contention that apparent disparate fields such as metaphysics, which is the study of existence, meta-ethics, which is the study of action, and political theory, which is study of force are intrinsically linked; and that research work in one area influences and is in turn influenced by another, is implicit in governance projects similar to those carried by Rawls (1999), Aristotle (1999) and Kant (1998). For instance, the tenth century medieval philosopher Farabi derives the moral and political code for his Virtuous City through an appeal to the early Islamic Caliphate (Farabi, 1998), which was founded on divine authority with appeals to a realist world where concepts such as goodness, justice exist in the meta-ethical sense. Farabi's (1998) manner of deriving both the moral and political foundations for his society from his understanding of reality is similar to

that of Aristotle's (1999) who also precedes to his polis initially through a denial of Plato's realist world and then leads to his theories on governance inspired by virtue ethics that do not attempt to correspond to moral absolutes.

The inter-linking of the fields results in the conflation of the strengths and weaknesses of their theories. Therefore, just as issues of incommensurability arise between the significant perspectival positions on reality (see section 2.5), similar issues also manifest in meta-ethical positions and political theories tasked with the application of governance. Aristotle (1999) acknowledges this when he explores the question of whether ethics can be treated in a consistent and accurate way. He recommends that it is unimportant to demand precisions from things that are hard to derive empirically, and adds that these controversial abstractions can be best studied through ethics and politics where people of good upbringing and character can agree upon them. To this end, he observes that the primary role of politics is to deal with the discord, disagreement that arises concerning those things that are considered desirable and beautiful in a society as a matter of convention instead of due to natural inclinations (Aristotle, 1999). Rawls (1999) too acknowledges the difficulty in dealing precisely with abstract concepts as raised by Aristotle (1999), and suggests that meta-ethical positions tasked with finding moral truths should be discarded and the focus be applied on political application of concepts such as governance.

Based on the discussion, the following proposition can be advanced as an adjunct to proposition 3.3:

Proposition 3.4

The fields of metaphysics, ethics, and politics are intrinsically interlinked.

Proposition 3.4 can be visually depicted as per figure 3.1.

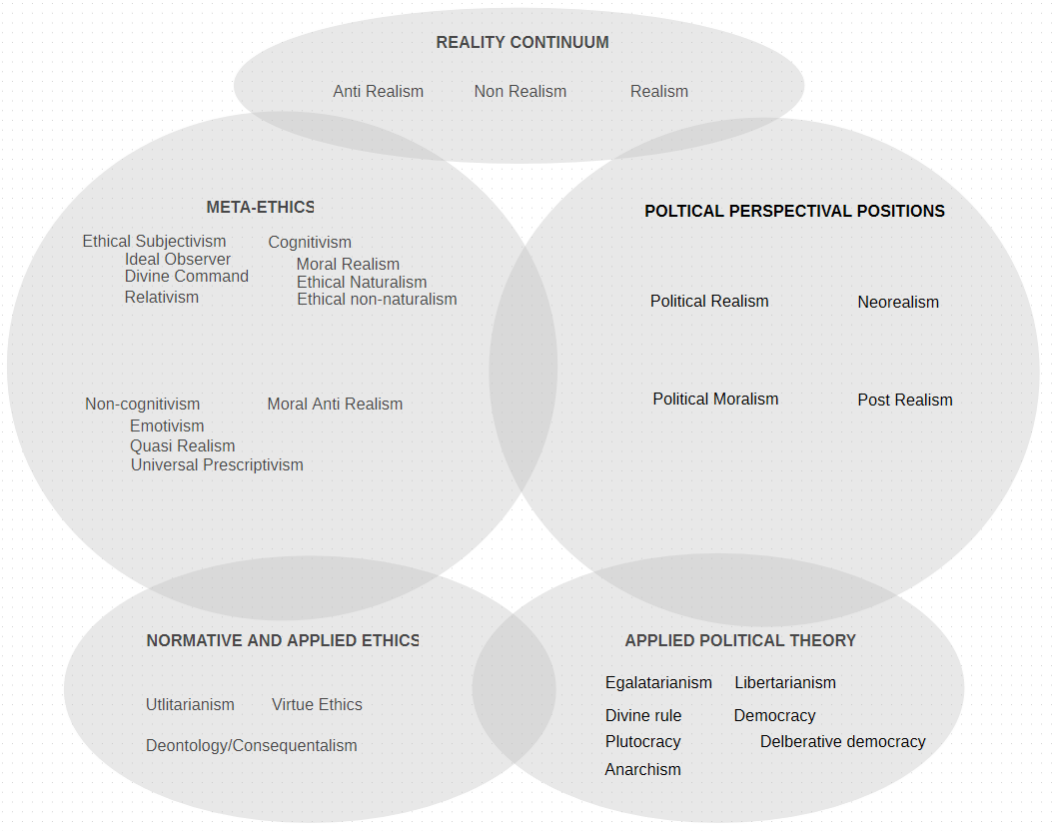

Figure 3.1 Relationship between metaphysics, meta-ethics, and politics

As political and moral theories draw their foundations from different positions in the Reality Continuum (figure 2.1), and reflect the underlying fundamental dichotomies, conflicts and tensions prevalent in the latter's discourse, an explanation of concepts such as governance becomes imprecise and confusing as Pierre (2000) and Rhodes (2006) observe due to the difficulty of extricating it from the rich surrounding context. Therefore, it appears that a search for answers to the fundamental questions surrounding governance ought to begin once the various strands that influence its form and mission have been identified.

Figure 3.1 draws a matrix of relationships that perspectival positions on reality, ethics and political theory engage with each other in increasingly complex combinations. Meta ethical positions and their normative codes are discussed followed by major positions in political theory. The intent is to briefly explore the abstract interconnections that lead to normative guidelines of human conduct in the shape of applied ethics and political theory, and through this provide the explanatory mechanisms to enable an investigation of Governance.

At this stage, the fundamental question is raised: “In what manner do meta-ethical theories gain the ability to exert significant impact on human lives”? Furthermore: “What is the impact of incommensurable meta-ethical positions on human affairs?”

3.2.1 Meta-Ethics

Realism positions on the Reality Continuum (figure 2.1) allow for the existence of abstract concepts such as goodness and justice. Whilst there is considerable variation between positions, for instance, the Naïve and Common Sense Realist positions differ in how much metaphysical commitment they offer to entities not receptive to empirical methods, almost all realist positions furnish an epistemological commitment to the discovery and understanding of such entities. In other words, while these positions may disagree on the nature of objects-in-themselves and on whether human perceptions can latch accurately to aspects of them, they still hold that abstractions such as moral truths may exist independent of human perception or knowledge. The key insight here builds on the propositions 2.1 and 2.3 and be advanced as:

Proposition 3.5

Abstractions with tangible effects can be explored as causative agents.

Cohering with the realist positions on the Realism Continuum, Cognitivist meta-ethical positions such as Moral Realism contest that there are normative meta-ethical views and ethical facts. The position shares the major contention of the realist position that abstracted truths such as ethics, and numbers exist, and that there are general laws that the humans can discover and utilise. A hallmark position of moral realism is the claim that ordinary laws of logic ought to be applicable to moral statements, for instance, if there appears to be a moral contradiction, the conflict ought to be resolvable through the application of logical laws such as that of non-contradiction, which holds that two contradictory statements cannot both be true.

Plato (1997) can be regarded as a moral realist as a result of his contention that entities such as goodness exist in the realm of forms, and that all good in the physical world is a manifestation of an actual entity. Similarly, Kant (1998) can be classed as another moral realist based on his development of the ethical theory

of deontology, which holds that moral truths can be wielded as facts of human reasoning through appeal to an intuitive and actual moral code. However, just as an inability to grasp reality completely and unerringly results in differences between positions in the realism view, for instance, in whether the correspondence theory of truth (that a proposition can accurately describe an entity) is valid, similar differences manifest in the meta-ethical positions that support moral realism. By way of illustration, there are significant variations between the manners in which Plato (1997) and Kant (1998) regard the existence of moral truths such as "Do unto others what you expect for you yourself!", and virtues such as goodness and kindness. The differences also exhibit themselves in positions such as ethical naturalism and ethical non-naturalism. Ethical naturalism argues that moral propositions can latch onto a moral truth as the result of the validity of the correspondence theory of truth. Therefore stating 'Stealing is wrong!' describes a moral truth due to the statement's correspondence to a fact in the world that stealing is wrong, ethical non-naturalists argue that moral truths are irreducible, indefinable and do not correspond to the world.

On the other hand, Moral anti-realism (or the Error theory) meta-ethical position holds that moral discourse involving ethical concepts such as wrongness is ultimately erroneous and advocates for the adoption of moral scepticism (Mackie, 1977). For instance, while the statement "Stealing is wrong" may imply and project the views of the speaker, the property of wrongness that is being referred to remains non-existent, and therefore the statement is ultimately meaningless. By extension of the position's argument, ideas such as moral truths, moral values, and moral obligations are also baseless. In its vociferous opposition to the metaphysical and epistemological realism of abstract notions such as goodness, moral anti-realism position argues in a manner similar to the atheist position on the existence of God, in that they both contend that offering metaphysical commitment to abstractions such as God or moral truths creates articles of belief and not descriptors of reality. As an example of the variations in the position, Joyce (2009) argues that a few variations of moral anti-realism may only deny the instantiation and manifestation of an ethical property rather than its existence. Despite the variations, for the supporters of the moral anti-realist position, acceptance of a moral code may be promoted with the understanding that

there are no ethical atomic truths to act as foundations, and therefore suggesting that "One ought not to steal" does not reflect a moral ought about stealing, but a useful rule that provides social utility.

The Ethical Subjectivist meta-ethical position denies the primary contentions of meta-ethical positions such as non-cognitivism, and moral anti-realism. It also denies there is value in the debate in moral realism on whether ethics are mind-independent or mind-dependent, and simply allows for a realist existence of ethics (Joyce, 2009). To this end, Joyce (2009) argues that the ambiguity on the terms mind-independence and mind-dependent is not easy to clear and shares Rosen's (1994) view on the difficulty of setting precise boundaries between the objective and subjective. In his online essay, he says:

> *"The objectivist sees his inquiry as a process of detection, his judgments aiming to reflect the extension of the truth predicate with respect to a certain subject; the subjectivist sees his inquiry as a process of projection, his judgments determining the extension of the truth predicate regarding that subject*." (Joyce, 2009)

Joyce (2009) suggests that the ambiguity arises when concepts like the 'mind' are used in determining the manner in which another entity exists when the former is difficult to define in a decided fashion. For instance, the mind-dependence or mind-independence of ethical facts can be understood differently if the mind was understood as mental activity in the literal sense, and differently when it was considered as a conceptual schema that holds theories, follows conventions and utilises linguistic practices.

Ethical subjectivism allows consideration of a variation of mind-dependent relations against ethical theories such as utilitarianism. For instance, Kant (1998) argues for only one moral fact as existent in its own, the good will, that determines which maxims can be willed as universal laws through an application of Categorical Imperative. Similarly, the ideal observer position is defined as one with the power to determine ethical properties while having the powers of omniscience, omnipercepient, and unbiased (Firth, 1952).

Quasi realism is a meta-ethical position inspired by the non-cognitivist view of ethics that draws its anti-foundationalist sentiment from the anti-realist position on the Reality Continuum (figure 2.1). Non-cognitivism suggests that the

ethical discourse is inspired, maintained, and guided by non-cognitive attitudes. These do not correspond to cognitive facts. For instance, Hume (2006) suggests:

> *"Take any action allowed to be vicious: Wilful murder, for instance. Examine it in all lights, and see if you can find that matter of fact, or real existence, which you call vice. In which-ever way you take it, you find only certain passions, motives, volitions and thoughts. There is no other matter of fact in the case." (Hume, 2006, p. 300)*

Some forms of non-cognitivist view of ethics such as emotivism hold that moral sentences, such as "Do not steal!" are not propositions and as such cannot be used as descriptors for truth or falsehood. For instance, to Ayer (1936) the statement "Do not steal!" projects the emotional expression of the utterer to influence the emotions and ultimately actions of another. In other words, the ethical statement could be interpreted as the utterer's declaration that he does not approve of stealing, instead of hinting at an underlying moral truth. David Hume (2006) offers an example of a similar human activity:

> *"....taste [as opposed to reason] has a productive faculty, and gilding and staining all natural objects with the colours, borrowed from internal sentiment, raises in a manner a new creation"(Hume, 2006, p. 90)*

Simon Blackburn (1993) acknowledges the limits of emotivism and suggests that non-cognitivist quasi realism provides a better explanatory model for guiding a discourse on ethics. He builds on Ayer's (1936) argument and suggests that through according the right for the truth predicate in a moral sentence, such as "Stealing is wrong!", even if it is established only propositionally through language, it may be possible to accord a realist status to ethics in its discourse only (such as discuss their usefulness) while maintaining a metaphysical anti-realist stance (Joyce, 2009). For instance, the acceptance of a quasi realist origin for the moral sentence "Stealing is wrong!" can be used in its application in conditional statements.

Blackburn (1993) argues for the adoption of the realist component only in the human notions of ethics that still allows the disavowal of a realist existence, on the basis of the insight that two different ethical responses cannot be offered

without referring to the situation itself. Despite the call for a quasi-realist understanding of ethics, the continuous evolution of ethics through gradual development and refinement over time is evidence for Blackburn (1993) of the anti-realist nature of ethics (Joyce, 2009). Through his observation of this anti-realist nature, Blackburn (1993) holds a view similar to Fine's (1986a, 1986b) that the lack of a foundation and allowance for setting arbitrary limits on a theory (metaphysical for Fine and meta-ethical for Blackburn) allows for its constant development without requiring it to remain within a rigid set of rules, or exist coherently with other theories on aspects of reality.

3.2.1.1 Normative and Applied Ethics

The meta-ethical abstractions on morals and reality explored so far take on a normative persona when they are applied on particular issues of human import such as "Should abortion be legal?", or when they are used to set patterns for human conduct such as "When is lying morally acceptable?" In other words, meta-ethical positions are those that influence the form of applied rules of conduct. The insight then is:

Proposition 3.6

Normative and applied ethics are translations of meta-ethical positions from conceptual models to normative applications.

By means of illustration, the Golden Rule that suggests we should do to others what we would want others to do to us is a normative ethical view that can be derived from meta-ethical positions such as moral realism and calls for everyone to adhere to moral realities.

Stephen Darwall (2006) notes the interdependency between meta-ethical and normative positions and suggests that that "*there do seem to be affinities between metaethical and roughly corresponding ethical theories*" (Darwall, 2006, p. 25). However, supporters of the same first order normative ethical view may justify support for their positions from competing meta-ethical and Reality Continuum (figure 2.1) positions. By way of illustration, the normative code of Golden Rule may also claim derivation from the meta-ethical view of moral anti-realism that calls for the creation of normative codes in order to promote social harmony without acknowledging actual moral truths. Similarly, Berkeley (2009), Mill (1879), Moor and Bynum (2002) and Mackie (1977) support variations of

utilitarianism as an applied and normative ethical position, despite disagreeing on the nature of reality and ethics. For example, Berkeley (2009) supports idealism within the anti-realist position on the Reality Continuum where great scepticism is laid on claims for the existence of a realist world.

Some of the key normative and applied ethical positions are virtue ethics, deontology and utilitarianism. Aristotle (1999) exhorts virtue ethics as an effort to achieve the perfect mean between competing human inclinations, for example, cultivation of the virtue of courage requires achieving a mean between the two vices of recklessness and cowardice. In his view, virtues act as good habits that once rooted enable the practitioner to make mostly correct moral decisions and achieve the state of Eudaimonia (well-being, happiness, flourishing) (MacIntyre, 1984). Despite his meta-ethical position of moral realism, Plato also recommends cardinal virtues such as wisdom, courage, temperance and justice as desirable character traits. Virtue ethics puts forth the obligation on everyone to actualize, conserve and defend the virtues that are identify after self-examination. As it is not possible for a single person to possess all the cardinal virtues in their perfect balance, he can recognise and align himself with another with better virtues. Therefore, the interdependence of those who seek out others with virtues in a better alignment than themselves helps create a society where in humans get to act in a social manner.

While virtue ethics eschews Platonic ideal forms that the self-actualized virtues would otherwise need to correspond to, it promotes the effacement of the boundaries between subject and object due to the insistence that knowledge of a virtue is tied with self-knowledge, which is not easy to impart to another. For the practitioner of virtue ethics, the overarching question for a code of action for a situation ‘x’ is “How to act when ‘x’?” instead of “What to do when ‘x’?” In other words, virtue ethics promotes the virtue over a value, and normative ethics over institutionalized ethics. By forcing the focus of the subject on action rather than mere abstraction, a virtue ethicist applies his beliefs on the world in attempts to learn how to live when faced with issues of human significance, such as love, hatred, envy, anger, and sexuality. As an illustration of the application in recent times, Rosalind Hursthouse (2013) applies virtue ethics to the debate on abortion rights to examine the right of a woman to make the decision. She shifts the focus

of the debate away from the metaphysical stature of the unborn foetus towards the mother's ability to be a virtuous agent. She argues that so long as the foetus cannot survive on its own, the mother retains the right to choose on account of her responsibility to herself to live a meaningful life through self-actualization of virtues (Hursthouse, 2013).

Through the heuristics that virtue ethics provides to the individual and society, their transformative potential is enhanced and can be harnessed to construct and implement into practice codes of conduct as a result of expanding self-awareness and self-actualizations without the requirement to constantly seek affirmation from meta-ethical positions such as moral realism. Furthermore, a greater flexibility is also achieved in deciding a course of action that other normative positions such as deontology or utilitarianism may not be able to match. For instance, whilst virtue ethics enables a multitude of views on the rights of a woman to abort a foetus, a deontological view that holds sanctity of life as an obligation would not provide the moral support to an abortion decision unless the life of the mother herself may be in peril.

Duty-based normative ethical theories such as deontology are rooted in the foundation of an obligation, for example an obligation to refrain from murder, and as such generally eschew a consequentialist view to determine a moral action. The obligations in a deontological code can be derived from a variety of positions on the meta-ethical spectrum and Reality Continuum (figure 2.1). For instance, the Virtuous City of Farabi (1998) is based on the obligation to please God through upholding His moral and legal code as explained through the prophet and practiced by the early Muslim caliphate. Farabi (1998) derives his obligation from the metaphysical realist view and a position therein that allows a Creator. Farabi's (1998) position can be summarised as the following proposition:

Proposition 3.7

Ethical and political codes can be influenced through appeal to an external source.

By way of explanation of proposition 3.7, in Farabi's (1998) visualisation, the obligation to an unchanging moral code would forbid actions such as pornography even if they provide inconsequential amusement to some without harm to any others. The argument against pornography that Farabi (1998) supports as an

obligation to the moral code based on divine command can be similarly supported through different deontological systems. For instance, secular movements may aim to restrict the proliferation of pornography through promoting the obligation to be faithful to one's spouse, and in that deny the need to appeal to either metaphysical realism or moral realism of Farabi (1998).

Where Farabi (1998) supports the creation of an entire moral code based on the obligation to meet God's commandments, scholars such as Locke (1998) inspired by the enlightenment movement argue for the construction of moral code that regards as its obligations for the shifting institutions, the recognition of basic human rights such as right to liberty, life, and health. In their argument for setting obligations as a corner stone for a normative moral code, Farabi (1998) and Locke (1998) find agreement in Kant (1998) who builds on the earlier contentions and suggests that all human beings have a foundational duty towards the self-evident principle of the 'categorical imperative' (Kant, 1998). The categorical imperative mandates that people should be treated as an end, instead of being means to an end. Furthermore, only those acts should be performed and supported that if made universal would do no harm. For Kant (1998), a moral code built around such an obligation would ensure that humans can achieve Eudaimonia (well-being, happiness, flourishing).

In contrast to Virtue Ethics and Deontology, Consequentialist theories of ethics suggest that the outcome of an action determines its morality (Anscombe, 1958). This is a key insight that draws support from propositions 2.16 and 2.17 and can be summarised as:

Proposition 3.8

Morality of an act can be determined through its consequences.

By way of explanation, if the repercussions of an action have a positive impact, it is moral. Theories of Utilitarianism and its forms such as traditional utilitarianism with its emphasis on increasing the happiness for the greatest number of people, rule preference utilitarianism with its focus on setting moral rules, and preference utilitarianism with its emphasis on increasing overall preference satisfaction are the most adopted consequentialist ethical theories (Rosen, 2003). Bentham and Mill (1879) were the earliest scholars to build on Aristotle's (1999) recommendation of Eudaimonia as a moral drive and present a developed theory

of utilitarianism in which they suggest that a tally of the consequences of an act, particularly whether pleasure and happiness were enhanced, can be used to determine the morality of an act (Mill, 1879). Later refinements on the theory add social considerations as a criterion as well for judging moral statements, for instance, if the rule 'Do not steal!' results in more favourable consequences than unfavourable consequences for everyone in the society, then the rule is moral. To this end, Hare (1981) and Singer (1979) add the meeting of preferences of those affected by an act as another criterion to be measured in order to determine its morality in their form of preference utilitarianism.

As the utilisation of utilitarianism as applied ethics on complex issues relies on the measurement of abstract criteria, such as maximizing happiness or meeting preferences or minimizing harm, and lacks metaphysical realist foundations or an agreed obligation, the cluster of utilitarianism theories face criticism against other normative ethical theories. Furthermore, the insistence on primarily following the guiding principle of a utilitarianism theory, such as weighing the preferences of two affected parties, may result in the omission of rights-based concerns. For instance, while some theories of utilitarianism may allow a mother to abort a foetus that would face innumerable medical difficulties if birthed into the world, concepts such as justice or commitment to life upheld by deontological normative theories have little role in guiding the mother's moral decision. To this end, McCloskey (1963) adds:

> "*Surely the utilitarian must admit that whatever the facts of the matter may be, it is logically possible that an 'unjust' system of punishment—e.g. a system involving collective punishments, retroactive laws and punishments, or punishments of parents and relations of the offender—may be more useful than a 'just' system of punishment?"* (McCloskey, 1963, p. 599)

3.2.2 Political Perspectival Positions

Hobbes (1985) suggests that there is an intrinsic link between moral rules and their enforcement and as such supports propositions 3.3 and 3.4. According to him, as the world is inhabited by beings who are inherently selfish, and when given the chance would violate the rights of others weaker than themselves, it is

beneficial to adopt a set of rules and form the Social Contract which enables a civilized community to flourish (Hobbes, 1985). The position can be summarised as:

Proposition 3.9

The primary role of a Social Contract is to ensure participants willingly give up some rights in order to gain privileges.

Moral statements derived from meta-ethical positions and normative theories, such as 'Do not steal!' can thus be setup in the society through means of coercion on those who reside within it to ensure the safety of all. For Hobbes (1985), it is the coercive powers of the state that can ensure ethical practices such as utilitarianism can be applied to issues of political policy.

The interlinking of moral rules and their enforcement is not just causative, but could be examined as two sides of the same coin. For instance, just as normative ethical codes, such as Deontology, base their support on meta-ethical positions that are interlinked with perspectival positions on the Reality Continuum (figure 2.1), the discipline of political sciences tasked with forming principles of governance also derives its concepts such as justice, equality, liberty from the same foundations. A political theorist who allows for an independent existence of justice and therefore strives to develop a political theory where justice may prevail is united in intent and design with the ethicist. It appears then that meta-ethics when translated into norms are normative ethical theories and when enforced theories of politics.

There are differences in how issues are treated within the political and ethical theories. For instance, whilst incommensurability in theories of reality drawn from competing positions in the Reality Continuum does not have a direct impact on those who adhere to the Social Contract, incommensurability between competing normative ethical theories can be difficult to resolve on the political level. Two individuals may agree to adopt differing virtue ethical models so long they find no cause for complaint; however, on occasions of conflict between the two, mediation based on a political code would disadvantage a view and elevate the other. Alternatively, when individuals regard as a right the option to express views without any restraint and incite others against an individual or a group, an allowance for the liberty may put the liberties of those affected at risk.

Through the mouthpiece of Plato (1997), Socrates recommends that clarification of concepts and their meaning through the philosophical method must be carried out as a prerequisite to the construction of political theories. In other words, difficult questions such as whether intolerance in a moral normative code should be tolerated in a society needs to be understood through the examination of concepts such as tolerance, and liberty. Plato (1997) builds on Socrates's suggestion and argues that such a clarification can aid in the journey towards finding the best possible political order wherein moral concepts such a goodness and liberty may be practiced in approximation to the ideal forms.

The theory of Political Realism draws its inspiration from the Hobbesian (1985) perspective that regards the agents in a society as primarily greedy and selfish. When the model of an individual in a society is applied to the league of societies, the theory suggests that the primary motivation of a state agent is security and gain of power through usage of economic and military might. Such a society based on the principles of balance of power and morality is not relied upon to provide determining matters of statecraft. In other words, a political realist society is not value driven in its normative ethical schema and does not derive its moral code from meta-ethical positions such as moral realism. Machiavelli (2005), Hobbes (1985) and Sun Tzu (1994) can be classed as historical examples of political realists where they exhort the need for constant vigilance and achievement of ideals through inherently aggressive and competitive means. The key insight then is:

Proposition 3.10

Means can be justified in order to meet ideals.

Political realists argue against Rawls's (1999) contentions that all human beings are equal and instead contend that humans are not equal in knowledge, experience, or expertise on all matters. Through this distinction, political realists do not argue against an egalitarian system of government such as democracy but instead warn to be aware of the empirical inequalities that policy drafters and those in authority should not ignore. For instance, despite moral and civic equality that all individuals in an egalitarian society enjoy, certain individuals are not chosen for civic duties such as being a MP in a national parliament or being a juror in determining the guilt or innocence of other individuals. As such, a

political realist argues that their stance on how societies are setup is the pragmatic approach against a system that mandates equality between individuals or nation states on all accounts.

For the political realists, Aristotle's (2013) warnings against democracy where rhetoric of a group can sway opinions of the many, and an individual voice may not gain recognition from the many that are disinterested serve as a guide. The view questions the practicalities of suggestions made by Rawls (1999) and Habermas (1989) where they insist that on all matters, a rational and inclusive discourse must involve all participants who can deliberate freely and without bias. Evoking the Hobbesian (1985) and Lockean (1988) manner of the natural state of humans where each is disinterested in the welfare of another and strives for his personal betterment at the expense of others, political realists argue that Habermasian argument for deliberative democracy where he says that *"everyone is required to take the perspective of everyone else, and thus project herself into the understandings of self and world of all others"* (Habermas, 1995, p. 117) cannot be applied in practice as theoretically envisioned. A political realist argues against the usage of Platonic (1997) ideals that are impossible to define in a unanimous manner, and supports approaches such as Aristotle's (2013) exhortation for appealing to the character of wise people for making decisions, or for configuring a moral code for the society with an acknowledgement of the inherent inequality of individuals.

Through an adoption of the anti-realist position on the Reality Continuum (figure 2.1) and meta ethical non cognitivist perspective, Political Realism dissuades the pursuit of utopias and suggests that tranquillity is fleeting and against the natural state where conflict and instability reign. The Hobbesian (1985) manner of the natural human state argues for fear as the foundation upon which societies are built (proposition 3.9) as against Farabi's (1998) Virtuous City (proposition 3.7) that appeals to hope. For a political realist, the certainty of any system is its inclination to return to a state of conflict. Mouffe (2005) provides an example of the political realist attitude when she explains her understanding of politics:

> *"[B]y 'the political' I mean the dimension of antagonism which I take to be constitutive of human societies, while by 'politics' I*

means the set of practices and institutions through which an order is created, organising human coexistence in the context of conflictuality provided by the political."(Mouffe, 2005, p. 9)

Mouffe (2005) further adds that politics act as the ring where rival opinions are contested rather than merely exchanged. Decisions that are taken by an authority therefore are the result of one view's success in coercing its will over the others. The mechanisms for enforcing the decision in a political realist society are therefore not built into the decision, but are a result of the manner in which the decision was evolved.

Political Realism presents the argument that as political ideals are not absolute, those tasked with the authority for their completion are always aiming for their own interests in conjunction with others. Furthermore, human individuals or nation states are unequal on an empirical level, and the natural state of affairs in an organised society is the fear of disrepair and discord (proposition 3.9). This is in contrast to Farabi's (1998) Virtuous City where a disagreement can be mediated through an appeal to the guiding principles of the Quran, or examples of the early Muslim caliphate. Thus, in a political realist society, discord runs the risk of causing fundamental change to the fabric of the society, for example a return to a racist ideology of the past. In this problematic, political realists draw parallels with the metaphysical anti-realist's theories on science. There the presupposition behind each theory is that this may one day be displaced by another theory; if the latter theory does a better explanation of the gathered data, and even if the usurper theory is fundamentally different than the one it replaces, an approximation of a reality is not a criterion to be utilised for upholding it.

Similarly, political realism argues that all consent or agreement between individuals is temporary and illusory. They argue against Rawls's (2001) contention that *"Justice as fairness is realistically utopian: . . . that is, [it asks] how far in our world (given its laws and tendencies) a democratic regime can attain complete realization of its appropriate political values*." (Rawls, 2001, p. 13) Political Realism argues against Rawls' (1999, 2001) insight that Justice is universal and thus can always be returned to in principle and practice, and that all stakeholders would agree on what Justice is on all matters. As a utopia is unrealistic, and efforts to build consent are impractical, the authority tasked with

governance must make all decisions armed with the insight. To this end, Elkin (2006) says:

> *"We do not best grasp the nub of partial compliance theory by focusing on ideal theory. Rather, we can best understand partial compliance when we understand just why there can only be partial compliance, and what we need to do to achieve even this modest state of affairs."(Elkin, 2006, p. 255)*

Many Political Realists argue that utilitarianism acts as the most suitable normative ethical code for purposes of governance. Decisions that an authority need to make are influenced by economic, legal, moral factors. Just as logical syllogism cannot be utilised on most applied ethical instances, political decisions by an authority can also not always rely on principles of logic. Therefore, when an authority is tasked with deciding on a difficult governance issue, the decision must be weighed in terms of its consequences for the different stakeholders from a multitude of perspectives. The key insight for political realists is that a decision that may be beneficial from an economic perspective may not have the same benefits when examined from another such as the legal perspective. As such, it becomes the task of the governance to rise above the limiting perspectives and decide on a course that yields the most benefits. Bernard Williams (2005) states that political realism therefore gives autonomy to a political thought that is distinct in not being concerned with the questions of whether it is moral, immoral or amoral, but instead creates its own appropriate standards of evaluation to gauge its effectiveness independent of other standpoints. By way of illustration, if the soldiers responsible for the civic duty of protecting the national borders desert their posts at time of war, though they be held accountable from the perspectives of the military law and meta-ethical deontology, a political authority may decide to pardon them to achieve the most benefits for a given stakeholder in the particular instant.

In the same way, political realists help lead towards the following proposition:

Proposition 3.11

The set of issues that an authority faces during the course of its governance is qualitatively different from what an individual faces.

As such, an appeal to moral codes of individuals may not aid the authority responsible for governing and making decisions for the many. By way of illustration, while lying may be held as an undesirable virtue in an individual, a state may be justified in engaging in misleading propaganda to gain an upper hand in its perennial confrontation with the other states and safeguarding its national secrets. Similarly, while it may be desirable for an individual to lodge an appeal to the law enforcement agencies in case of a grievance against another individual, a state may be justified to take pre-emptive and vigilante strikes against another nation state.

Political Realism presents an argument against invoking supposedly agreed upon universal values on all individuals or societies. For instance, all recommendations for a normative ethical code for a particular society must be compared against the manner in which the society is configured to establish the effectiveness. In other words, Political realism does not attempt to determine general rules that encompass what anyone may have a right to under all circumstances. The key insights of Political Realists are that there are no right answers, answers agreed to today may be disagreed on tomorrow, and that a right answer for a particular situation may be valid for one society but not another. By way of illustration, political realism allows for the arming of a group of people against an authority if the latter is antagonist to one's society, and then declaring the armed group an anathema should the previously supported group turn against its initial backers. Philp (2007) adds:

> *"Those judgments of political conduct will often have to concede much that a more universalist picture would be reluctant to concede; such as acknowledging that for generations war was considered a glorious activity, or an acceptable and justifiable instrument of policy in relations between states, or recognising the extent to which the social and cultural system of a polity makes the integration or protection of foreigners unthinkable." (Philp, 2007, p. 74)*

Neorealism makes a distinction between the individual and state on account of the latter not being subjectable to any higher authority than itself. In other words, while individuals through the formation of the Social Contract find themselves a

subject to the rules imposed by the state, international states exist in a context where there is no political force above them to coerce and forcibly manipulate their behaviour. In Hobbesian (1985) terms, the natural state of anarchy persists in relations between states. Therefore, neorealism assumes a theatre of politics wherein the emphasis is on the permanence of conflict, and societies function while in a constant competitive stance developing their economic and military resources.

The major contention of neorealism that acknowledges the presence of a society of states on the international level that are not subject to a world state or a global ruler is accepted by Liberal realism. However, liberal realism advocates a middle way between Political Realism and the utopian ideals of the revolutionary theories. It differs from Neorealism in the emphasis that is placed on the effectiveness of the roles of diplomacy and promotion of international law for the betterment of the societies and maintaining order between them.

Post realism theories suggest that global actors, including national states, are joined to each other in a meshed network of actions, desires, discourse and ideologies. The cluster of theories draw from the Post-Realist perspective positions on reality in the Reality Continuum (figure 2.1) and argue for the emphasis to be laid on the network of connections that draw the disparate actors together.

Political moralism offers a contrasting view to political realism and neorealism. Williams (2005) says the difference lies in the insistence of political moralism to *"make the moral prior to the political" (Williams, 2005, p. 3).* Political moralism draws its governance foundation from meta-ethical views such as what is presented by Kant (2007) and insists that for making decisions priority should be given to fundamental ethical principles such as preservation of human life at all costs. In Kant's (2007) words:

> *"Though politics by itself is a difficult art, its union with morality is no art at all . . . . The rights of men must be held sacred, however much sacrifice it may cost the ruling power. One cannot compromise here and seek the middle course of a pragmatic conditional law between the morally right and the expedient. All politics must bend its knee before the right." (Kant, 2007, p. 58)*

In political moral society, the act of governance by an authority becomes restrained by moral boundaries through its reliance on moral premises. Institutions of the authority that enable it to govern become vehicles for the promotion and enforcement of moral norms that have been decided outside of the mechanisms of the governance regime. In regards to the conflicts and disagreements that rise in a political system Williams (2005) says they can be understood as *"rival elaborations of a moral text*" (Williams, 2005, p. 13). Political moralists agree with political realists in that political disagreements are not understood to be purely intellectual, and insist that sentiments, interests, and socio-cultural idiosyncrasies of individuals play a vital part in such conflicts.

3.2.2.1 Applied Political Theories

While the above perspectival positions outline the stage (propositions 3.8, 3.9, 3.10, 3.11) upon which political policy is set, there is a broad variance on determining the details of the social contract that the actors, both individual and nations, form and the mechanism for ensuring its upkeep. The key insight is:

Proposition 3.12

The perspectival positions help set the basic guidelines for a governance regime, however, they do not prescribe the limits of its role as the arbitrating agent in the society.

For instance, if there is conflict between two institutions or actors in a governance regime guided by the principles of political moralism, to what limits may the authority proceed in order be able to arbitrate between them?

Furthermore, as the perspectival positions are malleable into many different forms of governance such as authoritarian monarchy or representative democracy, significant variations arise between competing applied governance models. For instance, political realism as a perspectival position argues that there are no right answers and that governance must be carried out by making astute and pragmatic decisions. It can be utilised equally by an authoritarian regime as well as a representative democracy in providing the ideological foundation for their actions. In their relation, the link between perspectival positions and applied political models is therefore similar to that between meta-ethics and normative ethical models.

Political moralism exhorts the upholding of a moral code in political dealings, the Libertarian cluster of theories advocate the upholding of liberty as the aim and obligation of a political system. As an approach, it is in direct opposition to the principles of an authoritarian political system where absolute authority is concentrated in few actors (Nozick, 1974). There is also a challenge posed to the Hobbesian manner of forming the social contract through coercion in line with Spinoza's (1985) contention that the state should only have rights over a subject in proportion to its mandated power over the subject. With an emphasis on freedom of expression, voluntary association, ownership of property, freedom of trade, and individual liberty, Libertarianism argues for a state with reduced powers where the individual actors retain as much freedom in thought and action as possible (Vallentyne, 2012). Therefore in a libertarian society power is redistributed away from the coercive state to free individuals who are for instance equally able to form either the free market or communal co-operatives (Long, 1998). Vallentyne further contends that libertarianism promotes the adoption of liberty as a basic moral obligation for the state to follow in its normative actions. In this manner, the criterion of any applied ethical rules or matters of governance needs to be measured against their impact on the individual liberty of those it would influence. In the same way, Vallentyne suggests that in a libertarian society no rules would be set which would restrict individual liberty on matters such as homosexuality, consumption of recreational drugs, or choice of religion.

There is variance in libertarian theories on the extent to which a state may play its role in a society. Whilst, anarchist libertarian theories argue for the complete eradication of the state, minarchist theories argue for a state with limited powers to ensure that vulnerable citizens who have formed the social contract, are protected from aggressors. There is also difference of positions between the libertarian theories on the matter of ownership of public resources. While, forms of libertarianism allow the appropriation of a natural resource of the first actors that mix their labour with them, others hold that such natural resources continue to belong to the society at large and thus promote a spirit of egalitarianism (Vallentyne, 2012). In a display of the incommensurability between political theories, political realists deny that an effective co-ordination can ever be achieved in a society through consent that is not obtained through compulsion or a

result of asymmetries of authority. While the libertarianism theories promote voluntary consent to drive decisions, political realism advocates the use or threat of coercion. The key insight then is:

Proposition 3.13

Political decisions can be enforced through consent or coercion.

Democracy is an old form of governance that has been known and researched since the time of Plato (1997) and Aristotle (1939). Habermas (1989) offers a refinement of democracy which he terms pragmatic deliberative or discursive democracy as a means to resolve the incommensurability between the perspectival positions of political realism and libertarianism. A key hallmark feature of the deliberative democracy is its promotion of authentic deliberation, as against mere voting on matters. In other words, a mere aggregation of preferences from the voting actors is not enough to make a decision unless it has been authentically deliberated upon. Habermas (1989) suggests that through the promotion of an inclusive critical discussion between equally empowered actors freed from the social and economic pressures of their positions in the society, an understanding can be arrived at between them on issues of mutual concern that can offer legitimacy to any resultant decisions (Habermas, 1989). Cohen (1997) suggests that utilising the concept of 'reasonable pluralism' allows for the acknowledgement and tolerance of incompatible worldviews and allows for mutually acceptable terms to develop.

Habermas (1989) contends that forming public opinion through discursive democracy is *"historically meaningful, that normatively meets the requirements of the social-welfare state, and that is theoretically clear and empirically identifiabl*e." (Habermas, 1989, p. 244). Laws and policies that are derived from deliberative processes obtain legitimisation on the basis of the justification to the citizens of the society (Cohen, 2002). Habermas's (1989) key insight is that for such a discourse to happen, the public sphere itself needs to be structurally transformed in order to provide the requisite scaffolding. For instance, the public sphere needs to support diversity of opinion, conscientiousness of the participants, equal considerations for divergent views, and accuracy of information.

3.3 AUTHORITY: DERIVATION, LEGITIMACY AND POWER

Nozick (1974) helps formulate the key proposition:

Proposition 3.14

Political philosophy should provide reasons as to why a political authority or state be granted the authority in a society.

Nozick (1974) suggests that the answer to the question should be ideally rational and moral. Williams (2005) agrees with Nozick (1974) and suggests the question is the first political question as it ultimately determines the course of action for providing the conditions to ensure *"order, protection, safety, trust, and the conditions of cooperation"* (Williams, 2005, p. 3) in the society. Williams (2005) says that only once the question of the authority in a state has been justified, can other questions such as the nature of the moral and legalistic codes in the society be determined. In other words, a justification must be provided for the coercive power to justify its later actions of coercion on the other actors in a society. In Hobbesian (1985) terms, the signatories of the Social Contract (proposition 3.9) must be identified and justified to proceed to the details of the arrangement. To this end, Locke (1988) says that to blindly accept that a government or authority is better than the natural state of anarchy is unwise and says "*Men are so foolish, that they take care to avoid what Mischiefs may be done them by Pole-cats, or Foxes, but are content, nay think it Safety, to be devoured by Lions."(Locke, 1988, p. 328).* Locke (1988) finds support in Williams (2005) where he says that the difference between a legitimate authority and unmediated power wielded by an actor is not of mere might but that of justification.

Williams (2005) regards the idea of a justified authority that has legitimacy as a central tenet for his discourse on political standards and says that when a group claims political authority over another, especially where some things are constrained and others are not, the urgency to answer this question becomes manifest that he calls the 'Basic Legitimation Demand'. If the question is not settled, Williams (2005) says that the group that wields the authority may come to be seen as the enemies by other affected segments of the society. Herman and Chomsky (1994) lend support to the argument as well by suggesting that all authority is illegitimate unless it can be justified and therefore it carries the burden of proof to justify its existence or else face disbandment. For instance, if the father

cannot justify his authority in stopping a young boy from wandering into oncoming traffic, he should not be able to claim such authority and if he does then that act should be classed illegitimate.

In their claims for demanding justification for authority, the nuances of arguments made by Herman and Chomsky (1994), Williams (2005) and Locke (1988) are refined by Raz (1986) who begins by observing that power of the authority to control aspects of an individual's life is a mere fact of life as a result of the pre-emption thesis wherein the law only has mediating powers once it is established. He agrees with others that all governments claim morally legitimate authority, but insists that not all of them possess it. Regardless of whether they are legitimate or not, they will likely issue both legitimate and illegitimate directives. Furthermore, he *"denies the existence of a general obligation to obey the law even in a reasonably just society"* (Raz, 1986, p. 90) and observes that legitimation of an authority is a piecemeal affair where it is slowly built. In other words, the legitimacy of a father in stopping his son from wandering into oncoming traffic cannot be deemed illegitimate on the basis of one directive regardless of its legitimacy. The relationship of the governed and the authority, Raz (1986) insists, is constantly mediated and refined through the norms of the law.

Raz (1986) suggests that legitimacy or the lack thereof, is a defining property of a de facto authority. For instance, an authority that does not claim to be legitimate through appeal to either a foundation or through acts of legitimation cannot be considered an authority as to do so would result in a contradiction of the term authority that by definition requires legitimacy for its existence (Raz, 1986). The perceived legitimacy of an authority grants it the justification for issuing directives to the stakeholders to obey the law and the norms it promotes. Similarly, Raz's (1984, 1986) and Parkinson's (2006) argument that it does not follow that all acts of a legitimate authority are legitimate, and similarly not all acts of an illegitimate authority are illegitimate provides a useful insight summarised in the following proposition.

Proposition 3.15

Not all acts of a legitimated authority are legitimate; similarly, not all acts of an illegitimated authority are illegitimate.

The insight poses a challenge to authority which needs to legitimise its existence and mandate over a governance sphere through the promotion of legitimate actions. Similarly, there is the risk of resorting to populist tendencies and rhetoric that Plato (1997) warns about in his critique against democracy. To this end, Sadurski (2008) offers a reasonable compromise through his suggestion that the laws of an authority can draw legitimacy when they reflect the shared ideals of the domain of governance, for instance through appeal to guiding virtues and characteristics such as sanctity of human life, patriotism, freedom of expression. In other words, specific regulations and laws become an obligation for the stakeholders when they are adequately legitimised. Consequently, the key insight then is that while forums like those created through deliberative democracy do not resolve the issue of the lack of their own legitimacy or legality of their action when explicitly supported only by a few, they can achieve legitimation through strengthening the cohesive bonds between the stakeholders.

Those governed through an authority under a governance regime perform their responsibilities under the social contract either because they consent out of obligation or receive benefits for not disrupting the status quo (proposition 3.9). As such, an authority is tolerated as a responsibility or a beneficial utility. Noting the intrinsic link between conceptions of law and authority, and how the social contract is formed, Williams (2005) offers his key insight that the manner in which a state chooses to legitimate its authority defines the state. He says that the justification of the state thus becomes similar to instances of applied morality once the principles of normative ethical theory have been justified. His second key insight is that morality of a state follows when a state has been defined.

The authority can also be justified based on how it is derived. For instance, inspired by the inseparable linking of philosophy, theology and politics in Islam (Aslan, 2005), Farabi (1998) derives the authority of his Virtuous City from God and teachings of the prophet Muhammad as explored in proposition 3.7. The key insight then is that for Farabi (1998), the authority offered to the state is justified through its responsibility to apply the moral, legal and political framework of Islam on the society where individuals gather to form an assemblage of their individual moral codes inspired by the same divine source. In a similar way, Aquinas (2012) contends that it is God's gift of the higher reason to the human

manifested through divine virtues that lays the foundation of the righteous government. The key insight can be summarised as:

Proposition 3.16

The manner in which an authority is derived can be used to justify its existence.

In claiming a divine justification for their version of authority, Farabi (1998) and Aquinas (2012) find some agreement in Kant (1988) who says that humans participate in a civil society not for self-preservation but as a moral obligation. Furthermore, in societies such as that envisaged by Farabi (1998) based on the unchanging divine commandments, law and authority are static entities, and therefore Raz's (1986) claim is denied through the insistence that constant mediations with the governed do not change the law or the individual's relationship with the authority.

Even a liberal authority denies the liberty of some in the society and faces the risk of rebellion. Ibn Khaldun (2004), the fourteenth century historian, anticipates Herman and Chomsky (1994), Williams (2005) and Locke (1988) and suggests in his book Muqaddimah that authority with the powers to govern is a necessary evil that needs to be restrained to the minimum, to ensure a group of humans is not needlessly restrained by others (Weiss, 1995). He contends that such an authority acts as an institution that may commit an injustice itself on an individual but prevents injustice from being carried out by individuals against individuals (Gellner, 1988). Invoking lesser theocratic foundations for understanding the domain of authority, Ibn Khaldun introduces his conception of asabiyyah as the bonds of a society that evolve as the civilization progresses. He contends that the asabiyyah or feeling of cohesion between individuals of a society is strongest in the nomadic culture where the civilization is in its nascence and grows weakest when it is an empire. When asabiyyah reaches the stage where the cohesive spirit between those who form the Social Contract is at its weakest, Ibn Khaldun (2004) suggests the authority can no longer be justified, and thus faces the risk of replacement. Furthermore, as one dynasty of authority is dismantled and replaced by another, the cohesiveness or asabiyyah continues to control the effectiveness and longevity of the usurper authority as well.

The view that authority is necessary for the functioning of a society can be supported through many worldviews. For instance, Hobbes (1985) offers a view of humans which holds each of them as equal in faculties of mind and body, and thus denies a group any exclusive advantage over the rest. A state of existence where the humans do not form an authority to help guide their lives is where "*they are in that condition which is called war; and such a war as is of every man against every man*" *(Hobbes, 1985, p. 44)*. Hobbes (1985) argues that in such a condition, life becomes *"solitary, brutish, and short"* as each individual attempts the safeguard of his liberty at the expense of another. Therefore, he offers a justification for the setup of an authority where *"a man be willing, when others are so too, as far forth as for peace and defence of himself he shall think it necessary, to lay down this right to all things; and be contented with so much liberty against other men as he would allow other men against himself.*" (Hobbes, 1985, p. 112) The key insight of Hobbes (1985) is that the creation of an authority results in the forfeiture of some rights of an individual. For instance, he acknowledges that an absolute sovereign's edicts may be tyrannical but argues that it is a more preferable option when compared to the alternative of anarchy.

Locke (1988) builds on Hobbes's (1985) views and regards the arrangement where individuals decide to forego some of their civil rights in return for a body to ensure peace and a state of order via the Social Contract. He agrees with Hobbes (1985) and Ibn Khaldun (2004) that individuals voluntarily form associations to ensure the safety of their own groups, which evolves to an authority that can set normative rules for the society at large. However, Locke (1988) questions the Hobbesian (1985) suggestion that preservation of a society's citizens is adequate for deriving legitimacy for an authority that may be absolute, and argues that as humans have inviolable freedom and therefore should be able to enjoy as much liberty under an authority. In Locke's (1988) envisioned society, an authority is not legitimate if it fills the vacuum of anarchy through a promotion of peace and order, but only if it also derives its existence through consent of the governed (Locke, 1988).

Locke (1988) argues that the theory of the divine right of kings, that holds a monarch is subject to no Earthly authority and derives the legitimacy of his authority from the will of God, is unnecessary in forming a society that honours

Aristotle's (2013) view on human nature's inclination towards Eudaimonia (happiness) and its pursuit. The key position then is:

Proposition 3.17

Appeals to historical practices for legitimising an authority may not be justified indefinitely.

Furthermore, Locke (1988) draws on his metaphysical anti-realism and meta-ethical non-cognitivist foundations and holds that as the human mind is tabula rasa (a blank slate) no theories on authority (such as the divine right of kings) can be legitimised or supported through metaphysical claims. Thus, Virtuous Cities of Farabi (1998) and Plato (1997) that derive their legitimacy from metaphysical realist foundations, and instances where authority is formed without a realist basis offend the liberty of its citizens needlessly.

The relationship between an authority and its manifestation through institutions has repercussions for governance. The insight can be summarised as:

Proposition 3.18

The act of dismantling the legitimacy of an institution results in weakening the forms of authority it justifies.

For instance, Locke's (1988) theories on deriving and legitimising authority on the basis of contractual obligations between free individuals weakens the power of ecclesiastical bodies from claiming authority on the basis of scripture. In other words, Locke (1988) challenges the ability of theology to meet the condition of "basic legitimacy demand" proposed by Williams (2005). Locke (1988) made his objections in an age where the church faced numerous reformist movements and its influence in controlling the lives of the believers was waning. In Ibn Khaldun's (2004) terms, Locke (1988) mounts his challenge to the church's attempt at deriving authority in an age where the cohesion of the community was changed to the extent that traditional forms of authority were no longer maintainable, which was a result of the weakening of the cohesive forces that kept it in practice.

Drawing inspiration from Locke (1988), founding fathers of the United States argue for a state in which consent of the governed is paramount for deriving authority for the government, granting it legitimacy and the moral right to use the state power. The concept of authority is also enhanced through a mandated division between the institutes of state that provide the coercive arm and the

government that gains the right to wield the authority through consent of the governed. Furthermore, they echo Ibn Khaldun's (2004) observation of the intrinsic link between authority and cohesion of the community and suggest that if a community is to find itself being governed in a manner that is not conducive to its liberty then "*it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security*" (Jefferson, 2010, p. 2). The founding fathers agree with Locke (1988) in according equal rights to all individuals in the society and with Aristotle (1939) in acknowledging Eudaimonia as the goal of a human life and say: "*We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.*" (Jefferson, 2010, p. 1) In a reference to the arguments made by Locke, and the founding fathers of the United States, the United Nations (grouping of independent states of the world) also declares in article 21 of the Universal Declaration of Human Rights that "*the will of the power shall be the basis of the authority of government.*"

The founding fathers of the United States and the United Nations also unite in inclusion of freedom of expression and thought as an important characteristic to determine the legitimacy and justification of a political authority. The attempts to recognise as legitimate authority on the basis of the values they espouse is a fundamental shift from historical justifications of authority that were sought on divine accounts or tradition. To this end, Herman and Chomsky (1994), who advocate a minimal form of government, suggest that the addition of free speech as a basic right for the individuals of a society under the governance of an authority is admirable progress after centuries of power struggle between classes of society vying for supremacy. An example of such a power struggle is that of Karl Marx and Friedrich Engels's (1848) revolution for the advancement of the proletarian causes at the expense of the bourgeois and achieve a state where the authority did not favour nor bias a group over another and class was not used as a mechanism of governance or social interaction. In Ibn Khaldun's (2004) terms, advocates of freedom of speech argue that the cohesion of society members can be maintained, friction between groups can be minimized, and the political authority can remain unchallenged without good reason, when there are forums

for addressing concerns of a group of individuals. Chomsky (2003) notes the relative freedom of expression that the citizens enjoy in United States and suggests that it "*comes closer to classlessness in terms of interpersonal relations than virtually any society" (Chomsky, 2003, p. 399)*

On the basis of their libertarian political philosophy, Chomsky (2003) and Nozick (1974) build on Locke's (1988) warnings against authoritarianism and argue that an authority that utilises its forces of persuasion to achieve compliance, holds humans as means to an end, and facilitates redistribution of goods based on coercion cannot be justified in post-industrial societies that are increasingly living with libertarian value sets. For instance, where individual moral ethical codes do not follow from Kant's (1998) obligations or religious responsibilities and instead derive from individual utilitarian decisions, an arbitrary decision by an authority to set the normative discourse over a society creates tussles between individuals. Nozick (1974) suggests that the role of an authority in such post-industrial societies should be minimal and says that it should be *"limited to the narrow functions of protection against force, theft, fraud, enforcement of contracts, and so on." (Nozick, 1974, p. IX)*

One of the most popular forms of governance is where authority is exercised within the domain of a nation state by a national government. Weber (1978) defines modern governance in terms of procedures that form a state authority wherein bureaucracy strives towards their fulfilment as part of its processes (Weber, 1978). Similarly, Mann (1984) expands on Weber's (1978) definition of governance and observes that regardless of the form of its application, the manner in which an authority exerts its power is through its infrastructure rather than despotic means in a modern domain of governance (Michael, 1984). However, the conception of a nation state as the only legitimate source of authority poses problems in a neorealist world for areas such as criminology where the boundaries are no longer confined to those of a nation state (Pickering & Weber, 2006). Consequently, the inability of restricting problems to a defined boundary leads towards the following proposition:

Proposition 3.19

Identification of an authority is difficult where the extent of its boundaries is unclear.

Furthermore, Biro (2007) argues that non-state actors can acquire the status of an authority and challenge the status-quo through taking on traditional state functions. For instance, if a nation state is incapable in meeting the objectives of its mandate, such as providing healthcare or education to its people, the emergence of a non-state actor that meets those objectives sets up an alternative means of governance as a result of moulding new political norms (Biro, 2007). This is a key insight for an authority tasked with governance over an amorphous sphere of existence, as it faces continual threats to its existence when it cannot meet the expectations of stakeholders through a robust framework.

An authority exercises its power to meet political requirements. To this end, Krasner (2013) builds on the criticism of how authority is understood, and contends that conventional approaches towards locating the basis of power in nation states provides an incomplete view of how power flows in a contemporary society. Power is not merely in the ability of an authority to reward or punish stakeholders to draw obedience towards its directives, but also in moulding the manner in which stakeholders exist and function through identifying their identities (Krasner, 2013). Risse (2013) agrees and contends that modern Western conception of power as best represented through a nation-state based on a conceptualisation of the nation state as an institutionalized structure with legitimate control over the means of violence (M Weber, 1994), is an assumption that cannot always be justified (Risse, 2013). Risse (2013) also offers a key insight:

Proposition 3.20

A limited statehood or authority does not equate with a failed authority.

Just because a state lacks an overt structure of governance that does not meet the criterion set by the modern Western nation state and its apparatus does not determine its legitimacy and efficacy. To this end, Sadurski (2008) insists that equality and legitimacy are intertwined through the latter's dependence on the former. Similarly, Pickering and Weber (2006) offer another key insight when they suggest that borders for issues in fields like criminology are better conceived as events with spaces of political and sociological significance. Through changing the scope of the governance, Pickering and Weber (2006) challenge the assumption that nation states or their derivate models of authority offer useful

ways of conceptualising authority. As a corollary, they weaken the argument that authorities derived with physical-space sensibilities can be adequately adapted for other bodies as well.

3.3.1 Characteristics of an authority: political and otherwise

The field of Political philosophy has historically been tasked with the creation of governance processes that set guidelines for the administration of the coercive and arbitrative force of the government, the construction of the structures that emanate the force, the characteristics of the governance arrangement and the rights and responsibilities of the governed in the form of a social contract. Over time, an authority manifests hallmark characteristics such as justice, equality, and liberty. Different models of government accord variable weightings to such characteristics, for instance a militaristic society may value patriotism and loyalty more than a largely pacifist society.

The public sphere comprises various stakeholders and is subject to many philosophical traditions on reality as explored in the preceding sections. Works of political philosophy that examine an authority and its characteristics face difficulties as a result of the inherent tensions in human societies. Elkin (2006) says the difficulty lies because there is *"a large aggregation of people who (1) have conflicting purposes that engender more or less serious conflict; (2) are given to attempts to use political power to further their own purposes and those of people with who they identify; (3) are inclined to use political power to subordinate others; and (4) are sometimes given to words and actions that suggest that they value limiting the use of political power by law and harnessing it to public purposes.*" (Elkin, 2006, p. 257)

Furthermore, a singular pervasive authority is difficult to establish that could govern most facets of most individuals' lives. In addition, an authority faces the existential threat in the form of attempts to overthrow it. A libertarian society, based on minimal government, finds itself in a difficult place where it needs to maintain its existence even when faced with enmity from some groups. For instance, the founding fathers of the United States note, *"Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes." (Jefferson, 2010, p. 2)*

Locke (1988) recognises some of these difficulties when he notes the formation of groups that enables individuals with similar concerns to band together in order to protect their common interests. With enough power, a group may gain enough authority to dictate their terms to other groups. In the same way, an authority such as a national state faces the challenging task of balancing its state powers with rights of the individuals. Nozick (1974) adds:

> *"So strong and far-reaching are these rights that they raise the question of what, if anything, the state and its officials may do. How much room do individual rights leave for the state?" (Nozick, 1974, p. x)*

Despite the difficulties observed by Elkin (2006), philosophers have advocated the adoption of certain characteristics to be promoted in the domains of governance. For instance, Plato (1997) contends that the primary virtues of wisdom, courage, temperance and justice should be the prevalent traits upheld by the philosopher-king. Following in the heels of Plato (1997), Aristotle (1939) argues for virtue ethics to be adopted on the micro and macro scales. He cautions that just as the golden mean between the states of cowardice and recklessness is the noble virtue of bravery for an individual, the same holds for political states too. For instance, authoritarian arrangements such as royalty and aristocracy can be noble so long they are restrained from getting perverted into negative arrangements such as tyranny and oligarchy.

An important characteristic of a political arrangement is Justice, as it has the potential to bring a balance between the asymmetrical powers of actors such as the state and the individual, and to ensure that one group does not gain undue advantage over another though economic, numeric or other such measures. Plato contends that Justice is in the best class of goods, a necessary virtue that an authority must possess, which remains good both in itself and as a result of consequences that follow as a result of adopting it (Brown, 2009). In saying this, Plato draws from the realist view on the Reality Continuum (figure 2.1) and meta-ethical moral realism foundations to show that abstract concepts such as justice exist in themselves and that we can strive towards its manifestation in the political system. Ibn Khaldun (2004) offers a pragmatic agreement and says that it is important to form a society on justice to ensure the public welfare for the citizens,

and that such a state would transform into a beneficial state even if it does not derive its moral code from religious foundations. Other scholars also agree with Plato (1997) and Ibn Khaldun (2004) but may offer different reasons for its addition. For instance, St Augustine supports the inclusion of Justice as a vital tool for the state to apply, and argues that Justice ought to be applied, shaped and tempered by religious mercy as part of the authority's moral code derived from religion (Schall, 1998). Similarly, while Hume (1896) agrees with Plato (1997) and Ibn Khaldun's (2004) inclusion of justice as a key virtue for an authority, he offers a contrary reason for its need:

> *"'tis only from the selfishness and confin'd generosity of men, along with the scanty provision nature has made for his wants, that justice derives its origin." (Hume, 1896, p. 94)*

Later scholars largely agree with the inclusion of Justice as a key cornerstone for formulating good political philosophy. To this end, Rawls (1999) suggests that: "*Justice is the first virtue of social institutions, as truth is of systems of thought"* (Rawls, 1999). While scholars may disagree with the emphasis placed on Justice as the *first* virtue, and a precursor to all other prerequisites, the notion of Justness remains a primary characteristic of political philosophy. Rawls expands on his notion of distributive justice and argues that justice when used to setup equality should ensure that all participants have equal right to liberty, and where used to setup inequalities should ensure the limits set are non-arbitrary and expected to function to everyone's advantage (Rawls, 1999).

Other notable and more recent characteristics of governance systems developed by political philosophies are ethics, liberty, equality, egalitarianism, and truth amongst others. The development of a characteristic is linked with others in a coherent political system, for instance, Justice has a direct influence on the evolution and development of ethics, and is in turn similarly subject to the latter's evolution, and they are both shaped by the other characteristics. By way of another illustration, Hayek (1978) links the concepts of liberty and freedom of expression in a governance regime and states that there "*can be no freedom of press if the instruments of printing are under government control, no freedom of assembly if the needed rooms are so controlled, no freedom of movement if the means of transport are a government monopoly" (Hayek, 1978, p. 149).*

Whilst the characteristics of equality and liberty have become a hallmark of enlightenment and contemporary political philosophies supported by early Western philosophers of political theory such as Locke (1988) and Mill (1879), liberal political theories pose a fundamental paradox: how can a governance regime remain liberal when it takes away the liberty from its citizens no matter how little. The problematic can be summarised as:

Proposition 3.21

It is difficult to reconcile the acts of an authority that promotes liberty for most through restricting the liberty of some.

In reply, Rawls (1993) argues for pluralism of doctrines to be the norm in multi ethnic societies even when they may be incompatible with each other. For Rawls (1993), such liberal pluralistic acceptance of discord is the most just overlapping form of governance and is superior to a society formed purely on the principles of utilitarianism where the potential for tyranny of the many carries the risk of oppression of the few. Gaus (1996) agrees with Rawls's (1993) argument for pluralism and in response to the Liberalistic paradox offers his Fundamental Liberal Principle which states that limits on liberty must be justified. Rawls (1993) explains his pluralism:

> *"The political culture of a democratic society is always marked by a diversity of opposing and irreconcilable religious, philosophical, and moral doctrines. Some of these are perfectly reasonable, and this diversity among reasonable doctrines political liberalism sees as the inevitable long-run result of the powers of human reason at work within the background of enduring free institutions" (Rawls, 1993, p. 3).*

Parkinson (2006) notes the issues with the adoption of applied governance such as deliberative democracy that promote the inclusion of all stakeholders and poses two fundamental questions: how can a decision taken by a few acquire legitimacy for the many, and how to ensure powerful stakeholders are added in the discourse to begin with. Such concerns are widely acknowledged in the literature. For instance, Clifford (2010) also contends that entities capable of resisting absorption into a collective body attempt to minimize the chances of their inclusion and promote the introduction of clauses that allow them an exit. There are several

reasons behind such attempts. By way of illustration, Komaitis (2009) notes that the act of forming inclusive bodies that attempt to construct a collection of varied stakeholders with equal voices results in a corresponding increase in procedural or bureaucratic affairs as suggested by Rousseau (2006), which results in slowing down the process of governance. Another issue that such forums face is that deliberative democracy is designed to force a stakeholder to publicly support an idea based on reasoning rather than an aggregation of private preference (Elster, 1997). The inability of ensuring that stakeholders do not privately vote for actions they publicly denounce, or arrive at decisions based on reasons instead of bargaining for advantage with other stakeholders that ensures '*no force except that of the better argument is exercised'* (Habermas, 1975, p. 108), also results in making such forums ineffective for deriving contentious decisions of governance.

All government systems are derived from differing sets of relationships between the various characteristics or virtues of which some have been outlined above. While some political governance systems may omit certain characteristics, for instance, autocratic and tyrannical government models either do not allow for individual liberties or severely curtail them, not all governments may be able to govern all entities in their domain in the same manner. Furthermore, in recent times actors within a society are increasingly interlinked with others forming complex associations which pose challenges to the relationship between the authority and the governed. Papadopoulos (2002) offers an example and says that powerful subsystem actors in complex societies often regard state sanctioned interventions or activities as an interference, which presents a dilemma for the State where it wishes to be seen as *engaging* instead of *coercing.*

On the other end of the realist spectrum, certain characteristics may be dropped for philosophical reasons from governance models, for instance, governance inspired from Nietzsche (2005) might not allow a political governance philosophy for reasons ranging from the denial of egalitarianism and equality to an adherence to anarchism (Leiter, 2008). Similarly, in Farabi's (1998) Virtuous City (proposition 3.7), while freedom of expression may be tolerated and cherished, open proselytization by religions other than Islam would be viewed as a threat to the very fabric and foundation of the society, and would therefore face censure.

3.4 DOMAINS OF ETHICS AND GOVERNANCE AND THE RISE OF UNIVERSAL BODIES

An attempt at governance by an authority in a domain invariably results in its instruments propagating the adoption of certain rules. As such, an authority establishes its legitimacy through the adoption of a moral code through either coercion, consent or incentive, and justifies its continued existence through its ability to establish and maintain societal norms. To this end, Glennon (2005) contends that rules and processes are analytically inseparable and as such hints at a symbiotic relationship between rules of a governance regime and the processes it carries for enforcement (Glennon, 2005). The relationship can be explored in the manner in which a government decides to govern its own composite bodies through establishing similar rules and frameworks that guide its practices to the ones it proposes be carried out in society (Hirst, 2000).

While traditional authority is assumed to operate through clearly defined actors such as national governments and their institutions, political action also takes place in domains, which can be categorized as societies but are harder to define in political terms. The key insight is:

Proposition 3.22

The domain of politics includes different kinds of societies.

For instance, Latour (1991) notes the hybrid or quasi objects that proliferate between disparate entities in a system in order to mediate between them and notes that they are both hard to grasp and to control. The key insight is that the continued existence of an authority and the form it takes is intrinsically tied to the manner in which it drafts and applies its laws. In a society with many sub-societies, factions and quasi actors, a failure to govern such entities carries the risk of limiting the scope, domain and efficacy of the authority.

Foucault (1982) examines the manner in which power is distributed in a society and suggests that power is more amorphous and autonomous than merely created and sustained through pyramidal structures. In other words, in a complex society, sources for transformative power are not necessarily the organs of the state but could be the relations of innocuous actors. His key insight is that it is the relations that an agent forms with others in the latticework of power, rather than a static structure, that influences how power is wielded to enable one to act as an

authority on certain issues. He further contends that the power traditionally understood to be the toolset of an assumed authority is ubiquitous in social networks, where the actors are both the originators and products of it (Foucault, 1982). In a complex society where Latour's (1991) quasi actors proliferate and constantly evolve, power that needs to be wielded to meet the ideals and characteristics of the society is constantly reshaped, reconstructed and redrawn. Foucault (1994) says that the "*art of government, instead of seeking to found itself in transcendental rules, a cosmological model, or a philosophico-moral ideal, must find the principles of its rationality in that which constitutes the specific reality of the state" Foucault, 1994, p. 1994).* To this end, Papadopoulos (2002) observes that in recent times a collaborative policy-making process of governance is gaining acceptance and continuously refined, wherein a multi-level form of governance comprised of administrative governmental units, NGOs, influential groups and private firms, takes collaborative decisions instead of being delivered from a traditional authority (Papadopoulos, 2002).

3.4.1 Universal Societies and the Society of Societies

The perspectival position of Neorealism acknowledges the existence of societies that are autonomous to the degree that they cannot be subjected by others that are as powerful as itself. The natural state observed by Hobbes (1985) that is mediated through forming the Social Contract resulting in the development of an arbiter of power thus continues to persist in a domain where states as basic units continue to retain their autonomy. For instance, while traditionally nation states have willingly engaged in trade and peaceful relations with others, there has been little recourse available to an authority to achieve justice and recompense when another threatens its interests. The insight can be summarised in the following proposition:

Proposition 3.23

Authorities that are peer to each other setup a consensual Social Contract that is not easily enforceable.

The political landscape where autonomous political authorities proliferate without a coercive power to ensure adherence to a political or moral perspectival position is not new. For instance, the distribution of the river water of the Nile has been a

cause of discord for nation states since the Pharaonic times. Similarly, in recent times, universal resources not historically claimed by an authority such as Antarctica and the Arctic, heavenly bodies, and the radio spectrum are instances where discord is settled through consent and mediation between different actors instead of enforced. As an illustration, standards of measurement are set by international bodies and become the status quo through their adoption by autonomous nation states. In a similar way, while pondering basic issues in International Law Glennon (2005) asks whether compliance with International legal rules is obligatory for stakeholders, and he questions the truth of the contention that International law plays a causative role in forming International relations.

An expanded domain of governance that allows for the proliferation of stakeholders, human and otherwise, creates a corresponding increase in issues for governance. Moreover, Hajer (2009) contends that even in the age of increasing mediatisation that has resulted in political and institutional fragmentation, governance needs to be performed. Rousseau (2006) in his seminal work 'The Social Contract' observes that when the governed populations are large, it is hard to impose complex and costly methods of governance such as democracy that result in a large bureaucracy that can be mired in petty issues. Therefore, he presents the argument that form of government is determined by the size and scope of governance. To this end, he contends that monarchical government is the best form of authority for a diverse society where its focus can be shifted to the governing of the stakeholders instead of continually re-aligning its composition to reflect the various interests of the society. The observation of the relationship is a key insight that links not just the second-order metaphysical abstractions of a space of governance with meta-ethical and major perspectival positions, but also the form in which normative modes of authority are configured. In a similar way, Komaitis (2009) also observes the relationship between an increase of governmental processes as result of dealing with the bureaucracies of multiple sovereign nation states in International bodies such as the European Union. The concerns are also echoed by Ibn Khaldun (2004) when he observes the inverse relationship where cohesive bonds of the community are at their strongest when the society is at its weakest during its initial evolution stages, and weaken as the

society begins to lose its initial bonds of cohesion and commonality. The question that arises is: “How can a space be effectively governed when forced to operate in a space wherein the stakeholders are continually evolving?” For instance, can the principles of a governance regime like deliberative democracy be applicable on a space with a great number of stakeholders? The key insight from the discussion is:

Proposition 3.24

Changes in the composition of stakeholders influence the composition of governing authorities.

Societies exist in many amorphous ways that make it harder for a singular authority to control. For instance, Farabi (1998) and later Islamic scholars envision an expansive universal society of believers that is not bound by traditional politico-geocentric realities that have traditionally described a society. The poet philosopher Muhammad Iqbal (2000) builds on the concept and contends a universal body (ummah is the term used by Iqbal) is that of a society whose members are scattered throughout the world under a multitude of political systems but remain bound to each other through their obligations to the divine authority. In terms of Ibn Khaldun (2004), the cohesion of such a society is maintained and sustained through a common goal based on a shared religious identity. Augustine offers a similar view of society, where an individual is not primarily understood to be a member of his or her city, but instead may belong to the universal City of God. In other words, while the individual may be subject to the laws of the land he resides in, they continue to be an ecclesiastical subject. The question that arises is: “How can governance be practiced on societies that are hard to identify?”

In a response to the concerns that the Neorealism political perspective raises, Rawls (1999) contends that the Original Position thought experiment where actors stand behind a veil of ignorance that restrains the knowledge of their standing in the society, can be modified to apply on national states and their relationships as well. The employment of individual humans as the basic units in his thought experiment reveals the importance of justice as the cornerstone of a governance code. Rawls (1999) contends the same would apply on the international scale with nation states as the basic units to counter the Hobbesian (1985) state of nature where in the absence of an authority, the worst virtues

prevail. In Ibn Khaldunian (2004) terms, the cohesive bonds of the nation states can be strengthened through the promotion of justice as the primary virtue to guide their relationship.

An example of a universal body that attempts to arrive at contentious decisions between autonomous nation states is the European Union. Once the principle of justice has been established to ensure all participants are accorded an egalitarian status, matters of international import are discussed. To this end, Komaitis (2008) explores the governance mechanisms setup in the European Union and the laissez faire 'Enhanced Cooperation' spirit espoused by the European Union that aims to allow its members to be able to gravitate towards a centre on issues (economic, socio-cultural, political) and converge while still being able to opt-out.

Komaitis's (2008) understanding of the union is similar to Krasner's (1982) definition of an International Regime which he defines as "*sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue area" (Krasner, 1982, p. 199).* As the union or the International Regime of EU comprises member states that can have varying and conflicting aspirations, the European Union forces a spirit of flexibility between its members, which Komaitis (2008) suggests is *"a risky approach unseen in other multi-cultural and politically divergent alliances" (Komaitis, 2008).* Komaitis (2008) suggests that allowing member states to opt-out on issues within a union whose ultimate aim is uniformity may appear paradoxical; however, he offers his key insight that the principle of Enhanced Cooperation ensures that the spirit of conformance continues unabated on the general while allowing for asymmetrical progress on specifics. It is the setting up of a playing field where the players gather under broad generic rules that allows for a gradual shared evolution of the rules of the game. He adds:

> *".. "Enhanced Cooperation"' strengthens the Union from within. It appears as a pragmatic new institute, which permits limited asymmetrical progress in specific-content situations, especially where the Member States cannot agree on a uniform action plan. The principle allows flexibility where political diversity is an issue,*

> *always ensuring though that the main and principal objectives of the European Union are maintained." (Komaitis, 2008)*

Komaitis (2008) suggests that the two major characteristics of the European Union are equality and neutrality, which allow states to overcome political differences and move towards effective integration. However, Komaitis (2008) contends that the difficulty in governing specific issues within the complex assemblage of autonomous entities appears to belie the unity dogma that keeps the union members united. Building up his contention, Komaitis argues that the Enhanced Cooperation spirit has not been successful in major policy issues and remains useful only in specific issues. He further argues that that the spirit encourages a few states to push through their agendas without gaining a consensus of the majority. To this end, Wallace (2000) adds her concerns:

> *"One danger is that flexibility becomes a vehicle for extensive opting-out of collective regimes by one government after another. Thus a reform ostensibly designed to facilitate initiatives might turn out to be the driver of a large wedge between the real insiders and the rest. The UK has no interest in the development of mechanisms that create first and second class members of the EU. The second danger is that flexibility is used as a tool to deny the new Member States a real voice in the EU process. This is not a good basis on which to accept new Member States unaccustomed to the give-and-take of constructive consensus-building"(Wallace, 2000, p. 33)*

Komaitis (2009) draws a parallel between the aristocracy proposed by Aristotle (1939) and the few nation states that attempt to assert their will in the European Union, and notes that just as Aristotle (1939) fails to define a meritorious aristocracy, so does the European Union in ensuring the aristocratic member nations act in the best interests of the union.

Global institutions with a correspondingly larger sized bureaucracy face challenges to effective functioning when universal bodies like the European Union are examined. By way of illustration of the challenges, a concentration of largely sovereign actors in a forum results in the lengthening of the regulation and policy drafting process. Similarly, there is a risk that through the separation of the

bureaucracy from the political arm, the former may stray from the latter. By way of explanation, low income countries are advised to reduce the independence and autonomy of their bureaucracies when they lack a certain maturity to counter effects such as corruption and ineffectiveness (Fukuyama, 2013). Fukuyama (2013) contends that in high-income countries the reverse is true where bureaucracies are encouraged to act in a greater autonomous manner despite the risk of minimal political oversight. Moreover, traditional issues related to ascribing legitimacy to the actions of a body represented necessarily by a subset of stakeholders also manifest in deliberative democracies. There is an additional risk wherein it may be incorrectly assumed that a global body would concern itself with largely major threats to the collective existence (Bob, 2010). Similarly, there is the risk that empowering a singular entity may endanger the balance and equilibrium between the stakeholders as a result of concentration of power. A key proposition can be advanced here:

Proposition 3.25

Concentration of power in a single authority can endanger the equilibrium between the stakeholders.

Kapust (2011) acknowledges the danger that a singular and central authority becomes a target for powerful stakeholders who lobby to gain a bigger say in the manner in which decisions are arrived at and issued. To this end, Kapust's (2011) reading of the defence that Hobbes provides for monarchy in its susceptibility to flattery provides an interesting insight for a singular authority. Whilst, the unitary character of the monarchy presents a singular avenue for unfair advantage that a stakeholder may gain in the functioning of the society, Hobbes presents the singularity as a benefit where such efforts can be easily revealed through a diminished space and scope for such actions (Kapust, 2011). In the same way, a single central authority in charge of governance affairs provides certain benefits such as the ability to provide a central framework for the discussion of issues whose irresolution contributes negatively to the cohesiveness of the community. Similarly, despite the difficulty in ascribing legitimacy to the actions of a few stakeholders taken on behalf of a collective, it is still possible to construct a forum where deliberations on major issue are not drawn from a micro deliberate form of

driving consensus through the few, but is a result of linkages between institutions that promote a stronger cohesive bond (Parkinson, 2006). The key insight then is:

Proposition 3.26

Cohesive bonds between stakeholders can be strengthened through establishing linkages between the institutions of an authority.

Building on Hlavac's (2008) argument for transparency as a legitimating process for a global authority, Varden (2008) proposes that a recalibration of perspectival political positions that operate under the threat of continual violence towards a view of obtaining conditions of perpetual peace can result in the development of a global authority that can help mediate relations between powerful stakeholders. She argues that stakeholders who are cautious of joining a forum where their asymmetrically large power faces restrictions due to the equal voices being granted to weaker stakeholders, can be better accommodated on such a forum (Varden, 2008). Varden (2008) acknowledges the difficulty in driving towards such a monumental shift when most contemporary societies utilise neorealist perspectival worldviews, but insists that such positioning can be useful in reducing conflicts of private judgement though contrasting them to universal positions that can acquire a moral status through appeals to shared public reasons. The key insight then is that by removing the coercive powers of such a global authority, the process of legitimation is not severed for it to continue to reaffirm its legitimacy. Instead, through the process of acquiring a moral status for its directives, the directives issued by such a body can provide a means to deriving regulations and policy. This is a key insight that can be summarised as:

Proposition 3.27

Directives of an authority can gain a moral status when adopted by stakeholders.

Regarding the state's obligation to impose ethical values, Kant (2011) says:

> *"Every political commonwealth may indeed wish to be possessed of a sovereignty, according to laws of virtue, over the spirits [of its citizens]; for then, when its methods of compulsion do not avail (for the human judge cannot penetrate into the depths of other men) their dispositions to virtue would bring about what was required. But woe to the legislator who wishes to establish through*

> *force a polity directed to ethical ends! For in so doing he would not merely achieve the very opposite of an ethical polity but also undermine his political state and make it insecure." (Kant, 2011, p. 121)*

Kant (2011) further argues that characteristics such as gratefulness are virtues only when a stakeholder out of free will and consent adopts them. When characteristics are imposed as obligations by an authority, they become responsibilities and duties enshrined on the governed but no longer retain the status of virtue or its associated benefits to the individual and the wider community. For instance, a weakening of the authority results in a corresponding weakening in the manner in which virtues are followed by the governed. Kant (2011) further identifies a code of ethics as a condition arrived at in the absence of coercion. This is a key insight for the authority tasked with governance as it rules out certain forms of meta-ethical and applied ethical models such as moral realism and deontology to drive forward the development of normative codes of conduct for the stakeholders on the Internet. Furthermore, a case can be made against the authority promoting such ethical systems.

To this end, the risk that all moral judgments face is that all such statements may be regarded as discredited (Lazari-Radek & Singer, 2012). Additionally, Sidgwick (1907) refers to the difficulty moral agents face when forced to deal between choices that enable lesser good for them or the greatest achievable good of others in contrast to those choices that benefit them and the wider society as the dualism of practical reason and suggests that this is one of the most profound problems of ethics (Sidgwick, 1907). Furthermore, ethical positions that argue ethical facts are those that describe good and face the problem of legitimacy similar to political positions through the lack of foundational support (Cokelet, 2012).

Clifford (2010) asserts that global governance is characterised through displaying a wide array of institutions that enable forms of cooperation between entities and allow the development of solutions. Similarly, it is possible to position the authority in a manner to allay the criticisms such a global authority faces. Despite the difficulties outlined with a global deliberative democracy, Hlavac (2008) provides a useful way for both judging and ascribing legitimacy to

a global authority such as the World Bank or the International Criminal Court that cannot claim legitimacy through traditional manners. She argues that a developmental approach towards deriving legitimacy that focusses on robust transparency of its processes enabling access to all such information that may impact a stakeholder provides a process of legitimation through which such global entities can preserve their status as an authority on the global front (Hlavac, 2008).

Hlavac's (2008) argument is echoed by Macdonald (2008) who contends that in recent times there have been increasingly greater numbers of calls made by stakeholders such as political activists who demand greater corporate and operational accountability from such global institutions. He also notes that the quest for legitimacy is a two sided one in a society inhabited by plural structures and increasingly powerful stakeholders as against traditionally binary structures such as state and non-state: through the process of demanding legitimacy of other institutions, institutionalized stakeholders themselves become subject to their own criterion for displaying their legitimacy (Macdonald, 2008). This is a key insight as it contributes towards the discourse of acquiring legitimacy for those entities that cannot claim it on a foundational basis. Based on the insight, the following proposition is proposed:

Proposition 3.28

Authorities that cannot claim foundational legitimacy can build up their legitimacy through acts of legitimation.

3.4.2 The Impact of technology

The following insight sets the stage for the section:

Proposition 3.29

Advancements in technology have increasingly bridged the gaps between societies that were created as a result of historical geo-political separation and forced a re-evaluation of traditional definitions.

By way of explanation, technological advances have resulted in the shrinkage of space and time, and brought a greater awareness of simultaneity and contemporaneity for the actors. The rethinking on what constitutes human societies and how they are formed is analogous to the rethinking on the nature of

reality, which have been sparked by the scientific revolution wherein sciences began to radically influence the human culture and thought. The leading question in the debates on reality thus asks whether fundamentally new types of reality are created as a result of increasingly complex ways in which technology links entities. It manifests more so in investigations of the impact of technology within contemporary societies largely stitched through technology on the domains for jurisprudence and governance (Mitcham, 1994).

In contemporary times, there has been a shift on the conceptualisation of technology and its artefacts giving rise to such questions. Aristotle observes that technological artefacts are human made objects that may or may not imitate nature, and suggests that they can succeed in completing all such endeavours that nature cannot on its own, through either imitation or improvement (Aristotle, 1957). Francis Bacon (1627) concurs and contends that even if human art was regarded as a mere mimicry of entirely natural processes, not only can the human creation eventually succeed in reproducing the original but may also surpass it (Bacon, 1627). In contrast, classical mechanistic sciences were involved with the creation of artefacts through a mimicry of nature designed to lessen the work burden of the human. Technology was regarded as the practice of engineering, devoid of any transformative powers of its own and its artefacts relegated to a specific task they were designed for. Just as science was understood as the study of "What is?" technology was understood to be the answer to "How to?" but a transformative scope of the latter was denied.

Whilst, technology and its artefacts were previously a detour to hard repetitive tasks (Marx & Engels, 1998), advances in sciences such as the theory of evolution, ubiquitous computing, biochemistry, relativity and genetics challenge the foundations of human worldviews and reveal the wide varying roles technology plays in fields such as sociology and politics (Feenberg, 1999; Latour, 1992; Winner, 1980). The field of philosophy of science investigates the transformation of epistemology and how it is linked with the emergence of science. Similar to Foucault's contention that power draws from the relational positioning of actors in a society, Floridi (2005) holds that a society forms when information regarding common goals is disseminated. In this contention, Floridi offers a fundamentally different manner of identifying a society than was done

traditionally (Introna, 2002). He finds support in others such as Baudrillard (1983), and Herman and Chomsky (1994) who also examine the manner in which a social reality and society is created and influenced through simulation and a consensus of opinion. Furthermore, Floridi (2005) explores the role of information in creating societies and contends that the term is polysemic, elusive, and analysable only under localized and well-defined contexts. Thus, the view that is advanced is that increasingly information is the principal actor in determining the course of human lives (Moor & Bynum, 2002; Shannon, 1993); moreover, with technological advances humans have extended their beings into different spheres of living which are societies based primarily on information (Floridi, 1999).

Despite the many advantages, the bridging of humans based on technological artefacts utilising information also allows for issues of cultural diversity and relativism to find their way in to the discourse (Komaitis, 2009). The view can be summarised in the following proposition:

Proposition 3.30

Through conflation, technology enables an easier concentration of issues within a society.

Komaitis (2009) offers his insight that the lack of a transcendentally moral or governance code for the actors whose historical exclusion is alleviated through technology results in them being forced into inclusive societies without adequate forums to address their concerns. Wu (1997) and Komaitis (2009) observe tbe increasingly linked human societies and suggest that standardisation attempts on technology also help in forming bonds of cohesion between them. As examples of convergence and standardisation, Wu (1997) offers examples of the calendar, SI units as scientific International Regimes, just as the IMF, UN, WTO act as political International Regimes.

If Floridi (1999) is correct and technological artefacts such as Information are indeed capable of massive societal transformation, then how are such artefacts to be treated metaphysically and epistemologically? If the recent artefacts are indeed distinct than the humble scythe of the past, then do they create ethical and governance problems of a new kind as well? Grunwald (2005) argues for an instrumentalist view of technological artefacts which posits that technology is neutral and can be utilised in either a good or a bad way by its users. He insists

that advances in fields such as nanotechnology do not raise ethical issues of a new kind, and those that are raised are variations or intensifications of already existent ethical problems in a newer guise that can be addressed through existing meta-ethical and governance models. However, others argue that technologies carry a moral agency where its artefacts behave in an increasingly autonomous manner such as in the field of computing (Bechtel, 1985; Dennett, 1997; Floridi & Sanders, 2004). To this end, Latour (1991) argues that there is a fundamental lack of distinction in a complex society between humans and non-humans, and as such the moral agency should be applied to all actors regardless of whether they are human or not.

The acceptance of arguments made by Latour (1988, 1991, 1998), Floridi and Sanders (2004) that entities in a system carry moral agency and responsibility raises three important questions:

i- How are such non-human actors to be governed in order to enforce compliance to the legal and moral code of the society?

ii- What is the relevant society and authority?

iii- Does the very understanding of the Social Contract that has historically been tasked with clarifying the rights and responsibilities of the individual and authority need to be re-examined?

The questions are re-explored in detail in chapters 7 and 8 to furnish answers to the manner in which such entities may be treated.

3.5 DISCUSSION

The chapter has explored the manner in which theories of governance derive foundational support from the fields of politics and ethics, and maintain their power through efforts at legitimating their constitution. Furthermore, the case for and against the adoption of governance has been examined. The intent of the chapter is to provide a framework for seeking answers to the questions: “What is governance?”; “When is it necessary?” and, “In what forms can governance be exercised?”

The previous sections argue that despite the practical and tangible nature in which authorities exercise power, governance is primarily an abstraction (proposition 3.1). Similarly, the ideological foundations behind a theory of governance determine the manner in which an authority engages with the stakeholders within its domain of governance (proposition 3.2). Furthermore, the act of governance carried out through an authority that aims to seek legitimacy and justification for its existence and its actions (proposition 3.2) functions in a determined and scoped sphere of reality where there is constant dissonance, resistance and struggle between the entities. While an established governance regime makes effort to repel a return to the state of anarchy, it also faces the continued risk of being dismantled by both the internal actors and other authorities. Despite the difficulties, the formation of an effective government ensures conditions that foster engagement between the actors of a society and draws its foundations on any of the various perspectival political positions or meta-ethical positions explored in the previous sections (proposition 3.12).

As there is an intrinsic link between meta-ethical and perspectival political theories (propositions 3.3, 3.4), an effective government utilises appropriate positions to develop a governance model in order to enforce its will through consent or coercion (proposition 3.13). In other words, the sphere of all human activities is managed by an authority, which aims to strike a balance between all the actors and provide means for redress. This is achieved through setting up normative mechanisms, which are reinforced by drafting of laws, maintained through institutions of the authority, and refined over time. Answers to questions of importance to the actors in a governance sphere such as whether or not to censor information on making a bomb, whether a mother should be allowed to abort a foetus, whether there should be limits on freedom of expression for intolerant views, are placed and examined within the framework (proposition 3.12).

Foucault's (1982) key insight is that power within a society disseminates through the rich matrix of relationships that are formed between all actors. Similarly, questions of importance that an individual examines through an individual metaphysical and meta-ethical framework have the ability to affect the normative ethical and governance mechanisms of the authority (propositions 3.22,

3.24). A difficulty in such scenarios is the inability to measure accurately through statistical or other scientific methods exactly how a government continues to realign and refine its frameworks. As there are inherent tensions between competing meta-ethical and perspectival governance positions that lead to normative models (propositions 3.6, 3.7), an ad-hoc assemblage on the normative body runs the risk of introducing unpredictability to the actions of an authority when deliberating on an issue. To this end, Raz (1986) offers his insight that some directives of a government that claims to be morally legitimate may be considered illegitimate when examined through the model that the government utilises for establishing its legitimacy (proposition 3.15). However, there is an asymmetry of power that manifests in a society when the authority may decide to act in a manner contrary to what was expected of it when the terms of the Social Contract were finalized (proposition 3.9). By way of illustration of the risks, a politically realist decision taken by a politically moralist government weakens the cohesive bonds of the community (proposition 3.18).

Chapter 2 examined the challenges to the understandings of reality that have advanced the sciences into the present. As the notion of human society is being redefined as a result of the increasing interlinking wherein it is harder to identify the key actors and all the relationships that they form to mediate their distances, historical methods for determining normative patterns and decisions based on the collective moral code of the individuals is an increasingly difficult exercise (proposition 3.24). For instance, to contemporary academics in the field of political theory, the definition of the term governance is not concrete and remains amorphous (Rhodes, 2006). To this end, Rhodes (2006) suggests that governance is a popular yet imprecise term. Pierre (2000) explores the reasons for the impreciseness and attributes it to the erosion of traditional bases of political power and the weakening of nation states' control over key factors such as the economy, culture, and policy-making process in society that has taken place in the latter half of the twentieth century. He agrees with Floridi (1999) on the transformative potential of technological artefacts in creating realities of a new kind requiring a recalibration of framework and suggests this has necessitated a renewed research on governance (Pierre, 2000) (propositions 3.22, 3.24).

As governance, or the act of governing, is fundamentally a human experience (Jessop, 1997) and a socio-cultural object (an abstraction per proposition 3.1), it has historically been open to constant epistemological revisions and refinements through means of comparative studies, dialectical exercises, or revolutionary attempts. Pierre (2000) supports the contention and says that the inability of the political institutions to continue to orchestrate and monopolize governance in current times is a reason that has resulted in definitions of governance that are "*slightly confusing*". Jessop (1997) provides a vital hint in his admission of the increasing difficulty in steering operationally autonomous entities that are structurally coupled in Western societies in particular, a phenomenon he considers to be a recent discovery (propositions 3.20, 3.23). The line of arguments made by Pierre (2000) and Jessop (1997) is extended by Papadopoulos (2002) who suggests that new problems in or of governance arise following a recalibrating of the conceptual lenses by the academics (proposition 3.11).

The difficulty with maintaining an epistemological agreement on governance is not entirely a recent issue. By way of illustration, Plato (1997) was one of the earliest Western philosophers to investigate the topic of political governance in *The Republic* where he introduced the Virtuous City in which the wise philosophers ruled the masses, and paved the way for later scholars such as Farabi (1998) and Averroes (1974) to build upon his contribution. Whilst, Plato (1997), Farabi (1998) and Averroes (1974), distanced from each other through geography, culture, and era appear to agree that the democratic, timocratic, oligarchic and tyrannical forms of governance are lesser forms of governances than the Virtuous City (Averroes, 1974; Khalidi, 2003) it is a contention that most current scholars would disagree with due to epistemological revisions that have taken place in the discipline of political theory.

As hinted by Jessop (1997) views on best forms and regimes of governance continue to supplant previously held ideals. For instance, views of Aristotle (1939) on the best governance regime, in accordance with his golden mean, stand in stark contrast to his master Plato's (1997) conception of the Virtuous city ruled by the philosopher-king. For Aristotle (1939), the best regime is the best possible and attainable regime and determines aristocracy as one of his right constitutions that if applied correctly can produce efficient results (Komaitis,

2008). To Aristotle (1939), merit carries greater worth in determining one's ability to govern as against wealth or other criterion. Whilst Plato (1997) envisioned a society in which governance appealed to abstract ideals existing in their perfect form, Aristotle (1939) calls for a pragmatic and effective governance mechanism that enables progress in society.

Changes or revisions to the empirical adaptations by an actor implementing governance, or to the precepts of a Governance concept results in varying understandings of governance (both practice and theory), which help change the experience of governance (both practice and theory). For instance, despite the apparent agreement between Plato (1997), Farabi (1998) and Averroes (1974), there are significant differences between their positions: Farabi's (1998) governance of the Virtuous City is inspired by the early Islamic Caliphate with which Averroes disagrees in nuances (Najjar, 2004), and they both differ significantly from the Platonic philosopher-as-king paradigm (as part of exploring the argument for authority raised in proposition 3.14).

Similarly, the practice of governance also remains inconsistent across its manifestations despite a shared idealistic core. For instance, it may be argued that Farabi (1998) would disagree with the Taliban's contention that they intend to construct the same Virtuous City inspired by the early Islamic Caliphate as he suggests (proposition 3.24). In the same way, the founding fathers of the United States of America's constitution might disagree with the contention that the current two-party (the Republican Party and the Democratic Party) form of governance is in complete accordance with their vision. The key insight then is that there may be a chasm between an idealised theory of governance and its manifestation in a governance regime (following proposition 3.6). The insight can be further strengthened through Jessop's (1997) contention that the understandings of governance are made more imprecise due to the presence of such chasms.

Plato (1997) identifies some of the issues with sustaining a governance model in practice as against in its idealised form within a context where differing meanings of the characteristics for governance proliferate along with the inability to define some of them or gain consensus. In reviewing the resulting governance opportunities, Plato (1997) offers that all models of governance are non-

sustainable whether they were a timocracy (rule of those who own property), oligarchy, democracy or tyranny (Brown, 2009). For instance, he cautions that visually appealing demagogues may sweep into power and then become tyrants in a democracy. There is support for that contention in contemporary scholars such as Herman and Chomsky (1994) when they acknowledge the transformative role that controlling perceptions can play in moulding public opinion and governance, and Baudrillard (1983) who cautions that the nature of reality is becoming increasingly artificially manufactured. Echoing Plato's (1997) warning on appealing distractions diverting one from demagogues, Schaefer & College (2007) observe:

> *"Humans Depend on Truth being a Satisficing Social Construct, that If Enough People believe in "X", then "X" is True Enough." [sic] (Schaefer & College, 2007)*

A further layer of complexity on determining governance is added wherein the characteristics serving as building blocks for government models are not defined unanimously or they cannot be defined (proposition 3.19). By way of example, while Plato (1997) discusses the concept of Justice and its importance for societies and individuals, he does not give a convincing definition of Justice (Brown, 2009). Attempts by a governance system inspired by Plato's (1997) promotion of Justice as a key virtue runs the risk of carving out a system that bears little isomorphic relationship with it. Similarly, Spinoza (1985) appears to support a minimal government as supported by libertarians despite his inspiration from a moral realist position where he regards morals to be entirely naturalistic, but does not clarify what he means by a minimal government. Furthermore, in his effort to use ethics in order to contain the political and establish normative consensus, he opens his position to attack from the political realists who see conflict as ineradicable and thus a minimal government difficult to establish.

As discussed in the above sections and defined in chapter 2, the issue of incommensurability arises between competing political and ethical positions. Contradictory approaches to govern the manner in which human lives are lived can be drawn from meta-ethical and perspectival political positions. For instance, Political Realism insists on safeguarding against the inevitability of the return of conflict and as such appears critical of the initial position of liberal theories that

discard such fears. As an extension of their starting positions, governance projects inspired by political realism may create institutions and procedures to ensure that conflict can be dispersed among the varying factions in the society, and thus dulled. Liberal theories may disparage such efforts as against their ideal of a minimal government. Similarly, while political moralists may agree with political realists in the contention that only such political proposals ought to be presented that can be realised in order to retain the normative force, and deny impossible utopias, they may disagree on what is feasible. For instance, the political realists may argue against regulating such directives that may be hard to enforce due to the manner in which the human psychology is configured, however, the political moralists may decline such concerns and take the view that with a favourable upbringing any said deficiencies in the human psychology can be strengthened.

One of the perceived weaknesses of governance mechanisms that aim to provide an equal voice to all individuals is the risk of lone genuinely concerned voices getting drowned in the cacophony of the many. This is the same risk which prompted Aristotle (1939) to argue against the adoption of democracy and for an aristocracy to be in charge of the society. While Rawls (1999) offers to mitigate the risk for minorities in pluralistic societies through a promotion of justice and genuine deliberation on issues, Herman and Chomsky (1994) echo Aristotle's warning through his observation that those most skilled in rhetoric can sway decisions in their favour.

The old question of whether authority is still necessary in the recently transformed societies resurfaces as well in the literature. Nozick (1974) revisits the scenario and poses a fundamental question that he suggests should precede any questions on the form of a governing authority or its composition: *"If the state did not exist would it be necessary to invent it?"* (Nozick, 1974, p. 3). He contends that if the answer to the above question is in the negative, then anarchy could be considered a viable alternative to governance performed through an authority. Hence, the entire spectrum of political philosophy that deals with questions such as the composition of the state and drawing mechanisms for its powers becomes a futile exercise. In other words, if a society of a new kind was to be birthed that could function without the constraints that a traditional government

imposes in order to establish a fair playing field for the actors, should it remain lawless and anarchic?

Aristotle (1939) offers a different view than Nozick's (1974) conception of a society that either would be entirely anarchic in its setup or be minimally governed. He contends that a minimal state would not qualify as a political community as it would be unable to align the community and achieve agreement on Eudaimonia (happiness, fulfilment). His insight is that for a society to be able to aim for a common goal, it first needs to be able to identify itself as one, and that the act of identification requires an agreement that may not be obtainable voluntarily. Similarly, while Rawls supports a government that does not oppress its people, he advocates the acceptance of justice as the key hallmark of such a society, and in this declaration continues to persist in utilising Aristotle's (2013) method of determining the conception of a society subsequent to the adoption of his recommendation. The only difference between Aristotle (1939) and Rawls (1999) appears to be the former's insistence on a society that does good and the latter's contention that it does what is right.

Plato's (1997) answer to Nozick's (1974) question on why a society must be governed is nuanced. In describing his Virtuous City, he claims that cities will never cease from ill or arrive closer to the virtues such as justice until they are governed with philosopher kings. Plato's insight is that without governance of a medium, the medium cannot remain integrated in its pursuit of commonly held goals and ideals. The ideal means of achieving a concentrated engagement through governance is for a society to put knowledge and wisdom in command of the state life (proposition 3.10). He argues for a forum where the wisest have the authority to make the decisions for the good (good as in that which is substantially good is good, rather than good in terms of action or their outcomes) when competing interests of multiple entities were in contention. In his recommendation, Plato (1997) joins Aristotle (1939) and Rawls (1999) in recommending what a society ought to do without examining how the society is formed.

As the understanding of governance is interlinked with the domain it is exercised in (propositions 3.16, 3.24), within a complex society with self-referential bodies that are adequately independent (such as the UN, the World

Bank, or Microsoft) (proposition 3.23) a declaration regarding the externalities of governance can be an attempt by such an operating body at establishing its frame of reference or the domain wherein it may govern. For instance, to the World Bank, governance is the *'exercise of authority, control, management, power of a (political) Government' (TheWorldBank, 1991)* and to this definition, The United Nations Development Programme (UNDP) adds acceptance (legitimacy) and achievement of consensus (participation) by the public as further characteristics. While neither of the above two definitions may be regarded as absolute descriptions of their governance attempts, the raison d'être of the institution determines how the abstract concept of governance is perceived as in how the concept relates to itself and its operation.

Another risk that governance faces is discord. Bernard Williams (2005) suggests that conflict in a society is ineliminable and as such the task of governance to order and channel it effectively becomes its core responsibility (proposition 3.12). Plato (1997) and Elkin (2006) contend that despite the risks and difficulties, political governance is the only means to arrive at complex decisions with the support of an authority in an environment where multiple stakeholders hold legitimately contrary views on issues and even on the purpose and manner of the government. To this end, Williams (2005) adds that that the hallmark characteristics of a government are to ensure order, offer protection, promote safety and maintain the conditions of co-operation (proposition 3.26). Therefore, governance emerges not as a set of absolute requirements, but instead emerges as a product of many hued threads accumulated in single tapestry.

Aside from retaining order and conditions of co-operation, a government needs to be able to address existential threats. A self-referential entity with a preference to safeguarding its interests in a domain needs to engage in an assertive fashion to ensure its continued existence. Therefore, removing impediments to its continued existence acts as one of the prerequisite requirements prior to others such as maximizing value and efficiency from its resources, minimizing risks of failure, or refining the method of engagement with the externalities.

In summary, the fields of metaphysics, politics and ethics need to be examined together within a framework to enable the exploration of problem areas of governance within a sphere of reality. Whilst, governance takes many forms

based on the ideological framework an authority utilises, certain principles such as legitimisation and justification of an authority are revealed as common strands within the discourse of governance.

3.6 CONCLUSION

This chapter 3 has elaborated the theories discussed in chapter 2 by applying the Reality Continuum (figure 2.1) to matters of politics, ethics, and governance. The method is to continue to open givens and assumptions for research. Neither the assumption of reality nor the assumptions of social activities such as governance are helpful for this thesis. It is important to detach the important matters of inquiry from their foundations so that alternative interpretations can be made and better theories developed. In chapter 4, the research is to move from philosophical inquiry and into review mode. The current structures, processes and relational mechanisms used for governing the Internet are reported and made ready for critique in chapters 6 and 7.

Below is a summary of the propositions that were derived in the chapter.

Proposition 3.1 Governance is an abstraction.

Proposition 3.2 A clarification in the abstract and of the abstract justifies the adoption of theories and the application of theory to practice.

Proposition 3.3 Inquiry into ethics involves politics and vice versa.

Proposition 3.4 The fields of metaphysics, ethics, and politics are intrinsically interlinked.

Proposition 3.5 Abstractions with tangible effects can be explored as causative agents.

Proposition 3.6 Normative and applied ethics are translations of meta-ethical positions from conceptual models to normative applications.

Proposition 3.7 Ethical and political codes can be influenced through appeal to an external source.

Proposition 3.8 Morality of an act can be determined through its consequences.

Proposition 3.9 The primary role of a Social Contract is to ensure participants willingly give up some rights in order to gain privileges.

Proposition 3.10 Means can be justified in order to meet ideals.

Proposition 3.11 The set of issues that an authority faces during the course of its governance is qualitatively different from what an individual faces.

Proposition 3.12 The perspectival positions help set the basic guidelines for a governance regime, however, they do not prescribe the limits of its role as the arbitrating agent in the society.

Proposition 3.13 Political decisions can be enforced through consent or coercion.

Proposition 3.14 Political philosophy should provide reasons as to why a political authority or state be granted the authority in a society.

Proposition 3.15 Not all acts of a legitimated authority are legitimate; similarly, not all acts of an illegitimated authority are illegitimate.

Proposition 3.16 The manner in which an authority is derived can be used to justify its existence.

Proposition 3.17 Appeals to historical practices for legitimising an authority may not be justified indefinitely.

Proposition 3.18 The act of dismantling the legitimacy of an institution results in weakening the forms of authority it justifies.

Proposition 3.19 Identification of an authority is difficult where the extent of its boundaries is unclear.

Proposition 3.20 A limited statehood or authority does not equate with a failed authority.

Proposition 3.21 It is difficult to reconcile the acts of an authority that promotes liberty for most through restricting the liberty of some.

Proposition 3.22 The domain of politics includes different kinds of societies.

Proposition 3.23 Authorities that are peer to each other setup a consensual Social Contract that is not easily enforceable.

Proposition 3.24 Changes in the composition of stakeholders influence the composition of governing authorities.

Proposition 3.25 Concentration of power in a single authority can endanger the equilibrium between the stakeholders.

Proposition 3.26 Cohesive bonds between stakeholders can be strengthened through establishing linkages between the institutions of an authority.

Proposition 3.27 Directives of an authority can gain a moral status when adopted by stakeholders.

Proposition 3.28 Authorities that cannot claim foundational legitimacy can build up their legitimacy through acts of legitimation.

Proposition 3.29 Advancements in technology have increasingly bridged the gaps between societies that were created as a result of historical geo-political separation and forced a re-evaluation of traditional definitions.

Proposition 3.30 Through conflation, technology enables an easier concentration of issues within a society.

Chapter 4 – The Internet in the Literature

4.0 INTRODUCTION

Chapters 2 and 3 have established an overall framework in which reality and the concepts of governance can be re-evaluated by introducing key propositions that are utilised in Chapters 6 and 7. Chapter 4 introduces the Information Technology artefact of interest to this thesis, the Internet. The physical implementation of the artefact Internet was developed when the US government started ARPANET as a mechanism to quickly share information between different nodes in the 1960s (Foster, Ruthkowski, & Goodman, 1997, p. 1). This physical implementation of the Internet provided the basis for its current form where it is a collection of computers and devices interconnected in a global scale free network (Kang, 2001), and defined through shared standards for carrying bits of data. The interconnected networks provide the means for disparate actors to collaborate and form societies based on common goals and form the basis of contemporary debates and moves to provide governance of and for the Internet.

The intent of Chapter 4 is to utilise the propositions introduced in Chapters 2 and 3 to explore the manner in which the Internet exists within reality and how it is governed. To this end, Chapter 4 carries out a literature review on how the technological artefact Internet was setup initially and understood, and how it has become in recent times a communication and social networking opportunity, through an examination of its history and political structures. The overview utilises a technological perspective to enable an appreciation of the technical underpinnings of the Internet that ultimately determine its form and function as a technological artefact. The Internet is also influenced by the discussions on the Reality Continuum (figure 2.1), meta-ethical positions and perspectival political positions. The chapter explores the initial attempts at forming governance models for the Internet leading into the contemporary era, and to this end examines the foundational motivations and the philosophical positions used for decisions of the

architectural design and governance structures. The discourse on the future evolution of the Internet and mechanisms for its governance continues to be influenced by the underlying positions of the stakeholders, their significance and eventual ramifications on governance issues on the Internet are also examined.

Chapter 4 is divided in four main content sections and corresponding sub-sections. The first section introduces and discusses the literature on physical implementation of the Internet. The second section looks at the three different ways that the topic of Internet Governance has been explored in the academic literature, being Governance of the Internet, Governance through the Internet, and corporate or private cloud governance. The third section examines in detail the shifting of perspectives on the Internet after its emerging importance, and the impacts on attempts at governance. Particular attention is given to the shifting balance of power from the technologists who dealt with the technological artefact to political institutions who appreciated the social networking and societal transformation potential. The fourth section examines the political motivations behind the governance of the Internet in the contemporary era. Bodies such as the ICANN are investigated to locate current governance structures and processes; and the mediating relationships between the various stakeholders and the unilateral attempts by governments to control aspects of the Internet. The conclusion locates weaknesses in the manner in which the artefact has been understood and in the governance attempts that have been carried out so far. To this end, discussions from the previous chapters on reality, ethics, and politics are referenced.

4.1 INTERNET: THE TECHNOLOGICAL ARTEFACT

Based on the insights in propositions 2.3, 2.9, proposition 2.14 can be utilised to begin an exploration of the Internet to arrive at the following proposition.

Proposition 4.1

The Internet as a technological artefact can be regarded as the physical implementation of a network of networks that facilitates the flow of bits over standardised Open System Interconnection (OSI) layers of communication.

This understanding of the Internet allows for a tangible artefact that is empirically verifiable and follows routing principles established through consensual

compliance of all networks in the mesh. In terms of the Reality Continuum (see figure 2.1), the Internet satisfies the requirements to qualify as an entity. Hence, for example, the utilisation of Realist Positions on the Reality Continuum allows for the fulfilment of both major contentions of the Realism perspective: the Internet exists outside of the human mind as a technological artefact, and theories of reality appear to latch on better to the Internet due to its existence and functioning as devised by humans. Similarly, while Zizek (2000) may debate the symbolical ramifications of the Internet or Latour (1988) on the functioning of doors in a building, the actual existence of the Internet or the door is not held in doubt.

The approach for understanding the Internet as a historical and existent entity with a well-established and defined boundary allows for a causality that is programmed, developed, tested, and then propagated through the mesh. By allowing the examination of the Internet as historical, with accompanying processes and frameworks, it is possible to explore how humans interact with technology through agreed guidelines. To this end, the following sub sections review the emergence of the current physical Internet. Similarly, the discourse is positioned to explore the significance of Internet's historicity on its evolution in recent times.

4.1.1 Evolution of the physical Implementation of the Internet

In the 1960s, the US government agency DARPA (Defense Advanced Research Projects Agency) engaged in cold war with the USSR, created ARPANET in association with Bolt, Beranek, and Newman (BBN). The purpose of this Internet was to connect geographically spread sites and provide a robust network that possessed redundancy in the event of a military escalation. This network was the pre-cursor to Internet. As it was a defence project for the US government in its form as APRANET, the US government carried out the responsibility for early Internet research, and the development of technologies and protocols to keep the network operational.

An early definition of the Internet was coined by DARPA's first head of computer research program J Licklider who termed it a '*Galactical Network'* where information could be exchanged through inter-connected computers (Leiner

et al., 2003). This definition was broader in its scope than the actualization of ARPANET operational under the initial defence requirements from the US government. While Licklider foreshadowed the potential of the Internet to act as a society on a galactic scale and acknowledged the political agenda behind its creation, he did not present his views on its transformative potential.

A more recent definition of the Physical Implementation of the Internet proposed by the Federal Networking Council and seconded by Kahn and Cerf (1999) states:

> *"Internet refers to the global information system that*
>
> *(i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons;*
>
> *(ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols;*
>
> *(iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein." (Kahn & Cerf, 1999)*

The first public display of the capabilities of the ARPANET network was unveiled in 1972 at the International Computer Communication Conference (ICCC). It was also the occasion where communication by means of emails was shown to the public for the first time (Leiner et al., 2003).

In the early days of the Internet, the IP (Internet Protocol) addresses of nodes on the network and their associated aliases were maintained manually on a hosts file. With the growing number of machines on the network, the requirement arose for an automated method for keeping records of machine names linked with their aliases. Thus, in the early 1980s, Domain Name System (DNS) was setup to help in the management of mapping IP addresses to human understandable names (Leiner et al., 2003). It was also the first time the need was recognised by computer engineers to separate the management of Internet Addressing (in the form of IP addresses understandable by machines), and Domain Names (human understandable words). Although, both technologies depended on each other due

to cross-referencing, the IP addresses had lesser semantic meaning and political significance than the domain names which were understandable to humans. The political significance of this separation was not realised immediately when the number of machines connected on the network was still modest compared to the explosion of numbers that followed in the 1990s onwards.

The fundamental underlying architecture of the Internet was finalized by the mid-1980s. This was achieved with the adoption of TCP/IP (Transmission Control Protocol over Internet Protocol) as the data transfer protocol, DNS names for locating resources on the network, routing protocols for guiding the network traffic, email services for human communication and adoption of the OSI model for standards (Leiner et al., 2003). Furthermore, the then existing communications infrastructure built by the telephone companies was deemed technically feasible to support transfer of data from one node to another utilising the agreed-upon communication protocols of the Internet.

In addition to iterative algorithmic enhancements to the fundamental protocols, more data transport protocols were invented from 1980s onwards to the early 1990s. For instance, newly invented and improved mediums of email and File Transfer Protocol (FTP) in addition to proprietary protocols such as USENET enabled faster communication and increased interaction between different nodes spread through the network.

A democratic method was adopted to solicit technical comments and advertise protocols called Request for Comments (RFC). This method of communication established the practice of creating a document containing technical specifications for aspects of the Internet, which was then sent to other actors using the Internet. This was a unique way of building consensus for development of the Internet, compared to other communication methods available at the time. The section below explores the significance of the manner in which such consensus was built and its eventual impact on governance attempts.

4.1.2 Governing bodies for the technical aspects of the Internet

In the 1980s, the number of stakeholders and actors was increased to allow for greater technical and non-technical civilian participation in the Internet. To facilitate communications between the various stakeholders, non-military

dominated bodies such as Internet Activities Board (IAB) and Internet Engineering Task Force (IETF) were setup to aid the formation of Internet standards and allow for specialized management of particular areas of the Internet.

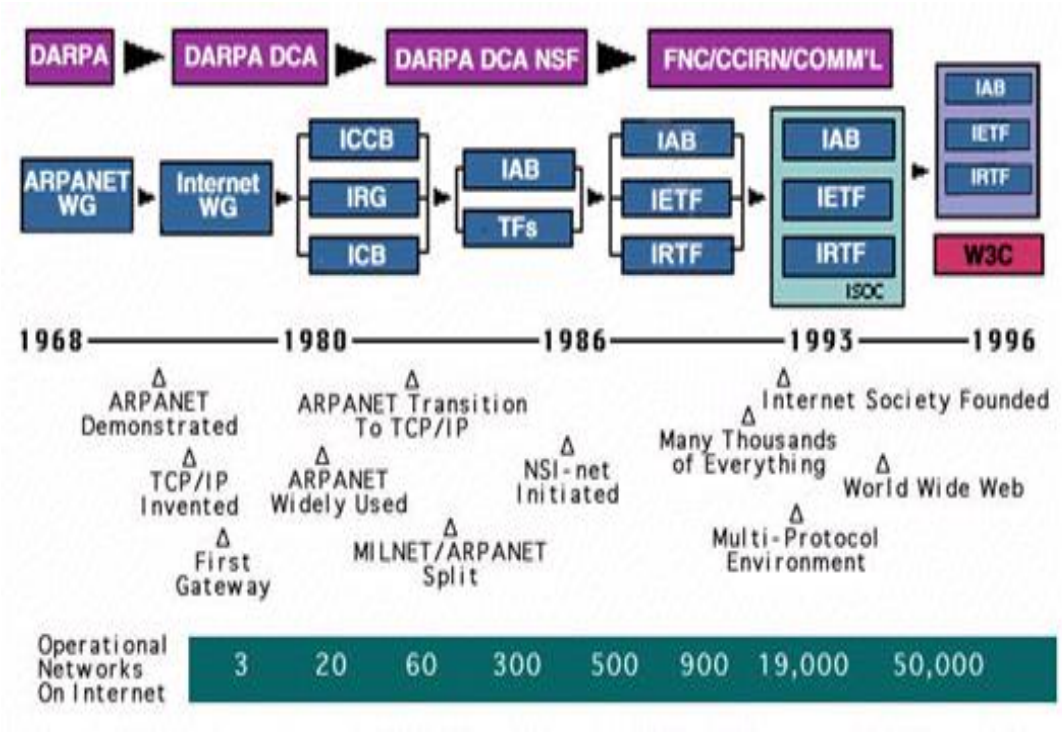

Figure 4.1 Growth of the Internet Bodies (Slater, 2002, p. XX)

To simplify the management of the Internet, the Internet Activities Board (IAB) was setup through consolidating various Internet Configuration Control Boards (ICCB) in 1979. In a similar fashion, IAB and IETF were further subdivided into others bodies like Internet Engineering Steering Group (IESG) and Internet Research Task Force (IRTF).

In the next step of the organic evolution of governance structures for Internet, the Internet Society (ISOC) was setup in 1991 to enlist community support. In 1992, the Internet Activities Board (IAB) was renamed as Internet Architecture Board (IAB) and placed under the management of ISOC (Internet Society). ISOC along with IANA, IETF, IEEE and other smaller bodies, were tasked with the governance of various facets of the evolving Internet such as network protocol standardisations, assigning IP addressing, managing and issuing DNS names, setting up root servers and facilitating Ethernet standards. Due to the

imprecise distribution of domains of responsibility for these governance bodies, there were various ambiguities (Mueller, 2004).

ARPANET evolved to NSFNET in the 1990s with the eventual goal of connecting all networks together in a universal Internetworked network termed the Internet. This process was finished in 1995 (Blumenthal & Clark, 2001) and a market was created by the stakeholders responsible for the governance of the Internet for the industry to step in and provide core backbone network connectivity. The opening up of Internet connectivity as a market segment ensured that the Internet was exposed to the market space and subjected to its laws of supply and demand (Mueller, 2004). Following the initial burst of evolution, the question arose on how diverging expectations of stakeholders could be managed.

To address ambiguities in scope and responsibility of various stakeholders and gain compromises, another organisation called Internet Corporation for Assigned Names and Numbers (ICANN) was formed in 1998. This organisation was mandated with the control and allocation of both DNS names and IP numbers to organisations and end users, and as such took over various functions of the IANA under Postel, an early and respected Internet innovator (Mueller, 2004). The sections below examine the role of ICANN in shaping the discourse of governance in greater detail.

A factor, among many others, that accounts for the significant number of organisations that were setup controlling different parts the artefact Internet instead of a central body was the adoption of packet-switched networking by the early ARPANET and subsequent networks in the federation of network. The decision to use packet switching instead of circuit switching as used by traditional telephony companies, in addition to the interoperability provided to networks of different topologies by TCP/IP, created a great variety of network setups and hardware connecting to the Internet (Leiner et al., 2003). The increased interoperability and diversity of computing hardware meant that the Internet by design was a distributed network, had minimal reliance on underlying networking technologies, and was interoperable across various platforms. The most common denominator for machines on the Internet was the network protocols (TCP/IP) they used to connect with each other over the Internet (Gavras, Karila, Fdida,

May, & Potts, 2007). On the other hand, it also became increasingly difficult to allow for central governance of the Internet, when it was a distributed network and lacked governance choke-points that would have been necessary in a circuit switched network (Dutta & Roy, 2005).

As a result of increasing adoption of the Internet within their countries, other international governments pushed for better representation of their national interests in the governance of the Internet and to gain parity with the US influence in the ICANN. To this end, in 2005 the Internet Governance Forum (IGF) was setup as an outcome to a UN-sponsored World Summit on the Information Society (WSIS) (Kumar & Mowshowitz, 2008).

The UN continued to provide a forum for nation states to gather and air their concerns regarding the future direction and evolution of the Internet. With increasing stakes, other international bodies also attempted to gain control of facets of Internet Governance. In December 2012, the United Nations (UN) hosted meetings through its telecommunications arm the International Telecommunications Union (ITU) that asserted rights to the Governance of the Internet. In the first instance, the ITU mandate to govern telecommunications was used to justify the inclusion of the Internet in its purview. These meetings were also used to gain ratification from the 178 member states on a legally binding treaty for Internet Governance. In terms of the bigger debate on the governance of the Internet, the move signalled greater Government control over Internet content and less private influence in Internet governance. By agreeing to revisions of the International Telecommunications Regulations (ITR) the treaty sought to implement pay-per-use tolls (national telecommunications charges), heightened surveillance and greater nation state control over content. Hence, the regulatory control of Internet traffic and user access would be in what was termed multi-stakeholder or nation state Government hands. The Internet was conceived to be a network of overlapping networks each controlled by Governments and not by Telecos or private organisations such as ICANN (see ITU/WTPF-13 Report for details).

4.1.2.1 Current Technical Structures

As a historical responsibility, the Internet Society (ISOC) carries out the standardisation process for the physical Implementation of the Internet. The Internet Society that was originally setup to incorporate civilian input in the ARPANET and subsequent Internet continues to play the role of the ideological guide towards the evolution to a universal Internet. The ISOC also has associated member organisations such as the Internet Architecture Board (IAB) that operates the Internet Engineering Task Force (IETF). The IETF is responsible for over 100 bodies that are entrusted for the standards for specific categories of the Internet (Floridi, 1999).

Other parallel institutions work with ISOC and its sub-bodies to manage and govern the technical facets of the Internet. Some of these bodies are International Telecommunications Union Telecommunications Standard (ITU-T), Institute of Electrical and Electronic Engineers (IEEE), the International Organisation for Standards (ISO), the American National Standards Institute (ANSI), the World Wide Web Consortium (W3C), Internet Assigned Numbers Authority (IANA), Commercial Internet Exchange Association (CIX), Internet Corporation for Assigned Names and Numbers (ICANN), World Summit on the Information Society (WSIS) borne out of Working Group on Internet Governance (WGIG, 2005). As noted in the section dealing with the evolution of the Internet, being a '*galactic network'* the Internet seems to require an appropriately large number of bodies to function globally.

The UN exercises indirect influence having formed the IGF and WSIS summits, but has no direct control over ICANN who works more directly under a single country that being the United States of America.

4.1.2.2 Processes

The Internet processes are managed in the following ways:

IP Address Registrations: Internet address registries (IRs) are tasked with assigning address space (Mueller, 2004) and are specified in RFC 2050. Central IRs regularly assign large chunks of numbers to commercial ISPs who then loan IP addresses to end users.

Ethernet hardware addressing: IEEE looks after the hardware addressing of the Ethernet components that are produced (Mueller, 2004).

Internet Protocol: IETF looks after the Internet Protocol and have developed the next generation of IP addressing protocols, the IPv6.

Internet Root and DNS: ICANN controls the Internet root in the form of top-level-domains (TLDs) and DNS zone entries. The DNS namespace addresses are matched inversely with the .in-addr.arpa allowing both DNS name to IP address and IP address to DNS name matching. The root can also be termed the root zone file which keeps a record of the name servers of all TLDs, and the root servers which act as the distributed network hosting the root zone file.

Intellectual Property: World Intellectual Property Organisation (WIPO) settles issues rising out of Intellectual Property conflicts.

4.2 DEFINING GOVERNANCE AND INTERNET GOVERNANCE

Academic literature on Internet Governance is found in various fields such as Information Systems, humanities and political sciences. Based on the propositions 2.1, 2.6, 2.8, 2.11, 2.13, various understandings of the Internet and its governance emerge in the literature when examined through different paradigmatic perspectives. The insight can be summarised as:

Proposition 4.2

As the core theories of the disciplines differ in their agenda and worldviews of technological artefacts, varying understandings of Internet Governance emerge.

For instance, whilst the focus of a research programme on Internet Governance in the field of Computer Science would utilise a technological perspective to illuminate technical issues, a political science research programme would focus elsewhere.

Table 4.1 Types of Internet Governance

No	Governance	Explanation
1	Governance of the Internet	Governing the Internet infrastructure, its standards or the operational control of the root of the Internet
2	Governance of the Internet in the enterprise	Governing the policies concerning Internet usage within an organisational context
3	Governance of the entities using the Internet	Initiatives like e-governance for providing an interface between the governance and people

As such, the meaning of the concept Internet Governance has semantic values dependent upon the context it is utilised in (Fine, 1986). To this end, the table above outlines the three primary ways Internet Governance is used in the literature.

4.2.1 Governance of the Internet

To clarify what is meant by governance of the Internet in the thesis, the below proposition is advanced.

Proposition 4.3

Governing the Internet is referred to Governance of the Internet in this thesis.

The processes of such governance are controlling and maintaining the core infrastructure, setting technical standards for communication protocols, organising meetings and dialogue between different stakeholders. The emphasis of Governance of the Internet is on both governing the Internet from a technical computing perspective as well as setting and resolving policy issues. As such, Governance of the Internet comes in forms of ensuring uniformity of standards, building consensus on data transport protocols and building a commitment to scale-free networks. By way of illustration, the World Summit for Information Society (WSIS), under the auspices of the United Nations (UN), provided a working definition of Internet Governance as:

> *"Internet governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-*

making procedures, and programmes that shape the evolution and use of the Internet."(WSIS, 2005, p. 4)

There are overt governance structures that are entrusted with particular aspects of the Internet, which work in concert with other governance structures for the Internet to achieve Governance of the Internet. These governance structures and their processes are discussed in the following sections, as well as some of the issues arising from Governance of the Internet.

4.2.2 Governance of the Internet in the enterprise and private cloud

Another manner of discussing Internet Governance is by equating it with Governance of the Internet in the Enterprise, or Corporate Governance. As the Internet is a network of networks (section 4.1), effective governance structures and processes of networks at a micro level build governance processes at the Internet's macro level. It is easier to achieve conformity on policy and standardisation of processes in smaller networks that build the wider Internet. Enterprises widely utilise corporate governance strategies such as ITIL, International Standards, and COBIT to ensure the conformity of their processes. The question arises at this stage: "Are there similarities between governance attempts of the wider Internet and the private clouds?"

This form of governance of the Internet in an Enterprise is described as using definitions that have been created by various stakeholders. For instance, corporate governance is "*a system by which organisations are directed and controlled*" (Steger, 2008*).*

Corporate governance is also defined as *"the system by which companies are directed and controlled. The boards of directors are responsible for the governance of their companies. The shareholder's role in governance is to appoint the directors and the auditors to satisfy themselves that an appropriate governance structure is in place. The responsibilities of the board include setting the company's strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship. The board's actions are subject to laws, regulations and the shareholders in general meeting."* (Cadbury, 1992, p. 14)

Australian National Standards organisation defines corporate governance as *"the system by which the current and future use of ICT is directed and*

controlled. It involves evaluating and directing the plans for the use of ICT to support the organisation and monitoring this use to achieve plans. It includes the strategy and policies for using ICT within an organisation." (AS8015, 2005).

Similarly, ISACA define Internet governance as "*the structure, oversight and management processes which ensure the delivery of expected benefits of IT in a controlled way to help enhance the long term sustainable success of the enterprise" (Brisebois, Boyd, & Shadid, 2007, p. 31*; *Bunker, Cole, Courtney, Haynes, & Richardson, 2005).*

4.2.3 Governance of entities using the Internet

Proposition 4.4

Governance of the Internet is not the same as governance of entities using the Internet.

The discussion of governance of entities using the Internet is divided into two sub-discussions on e-governance and e-government. Although, the two terms of e-government and e-governance are widely used interchangeably for describing the processes of governance through or using the Internet, there is a difference of meaning and scope between e-governance and e-government.

Rossel and Finger (2007) suggest that the concept of e-governance goes further than the aims of e-government. While e-government initiatives focus on creating a link between the ICT development and institutions (Costake, 2004) and the '*bulk of inspiration of many e-government initiatives in the industrialized world can be found in policy documents and consulting reports, rather than in theoretical concepts'* (Homburg, 2005, p. 62), e-governance acts as a dialectical exercise that happens between ICT development and institutional changes.

The discourse on governance of entities using the Internet, in the form of e-government or e-governance, primarily examines problems that rise as a result of involving the Internet as a medium in traditional governance models. By way of illustration of such manifestations, they are termed issues by Rossel and Finger (2007), tussles between hard (government bureaucracies) and soft systems (ICT environments) by Clark et al. (2005), and deemed unique challenges by Kokkinaki et al. (2008). To borrow the terminology of Habermas (1989), these issues of governance happen in a new public sphere adapted for usage of

traditional public sphere activities. In such an adaption, the traditional stakeholders in the traditional public sphere interact in different roles than traditionally expected in the new public space (Clark, Wroclawski, Sollins, & Braden, 2005), and this leads to a gradual change in the stakeholders themselves (Chardwick & May, 2003; Kokkinaki et al., 2008). The question then arises: "What is the impact of such variance on theoretical frameworks?"

Whilst significant research has been undertaken on the potential, results and efficacy of e-government initiatives (Anttiroiko, 2004; Costake, 2004; Zwahr, Finger, & Mueller, 2005), academics suggest that the field of e-governance continues to lack sound theoretical frameworks (Titah & Barki, 2006), and this lack gives rise to further issues of digital inequalities (Hseih, Rai, & Keil, 2008). To this end, some academics contend that the lack of epistemological understanding of the nature of theory in the field of Information Systems needs to be corrected. The argument is enhanced by academics such as Titah & Barki (2006) who also raise the issue of ineffective dealing with the issues raised by e-governance and e-government.

In response to these concerns, Rossel and Finger (2007) contend that the e-governance issue cannot be solved using traditional engineering approaches, as e-governance is "*a reflective activity in which the way the problems are tackled is as important as the result and even to a great extent impacting the result." (Rossel & Finger, 2007, p. 401)* That the Internet's core structure determines how governance is carried out through it using e-government initiatives, and the resulting issues of e-governance affect how the Internet is governed itself, and vice versa is one such reason for the difficulties in developing sound models.

4.3 EVOLUTION OF INTERNET GOVERNANCE

The acknowledgement of the historical development of the Internet leads towards the following proposition:

Proposition 4.5

The Internet is a technological artefact that has evolved through continuous development.

An appreciation of its transformative potential by stakeholders has resulted in corresponding perspectival recalibrations of the political views to furnish claims

of authority over its aspects. For instance, whilst during the early nascent stages of the Internet few nation states complained over the United States of America's totalitarian control over the Internet, the universal adoption of the Internet has resulted in these states working to have a say in its governance.

Despite being a technological innovation, the Internet is a unique governed entity in that it lacks the manifest displays of governance structures and processes that accompany artefacts such as the telephony network. For instance, it is hard to identify a single authority situated at the top of a pyramidal governance structure of the Internet. On the contrary, as explored in the previous sections, the underlying governance structures and processes are usually covert and responsible for the management of non-overlapping technical aspects of the Internet such as the top-level-domains and IP addresses. Furthermore, even fewer governance structures control the manner in which the non-technical components, such as the humans, interact with and within the Internet. The question then arises: "What is the impact of such ambiguity on the stakeholders?"

The apparent non-appearance of the governing structures and processes on the Internet may appear as non-governance to an end-user who is not familiar with the history and operation of Governance of the Internet. Similarly, the Internet as a technological artefact may exhibit other apparently contradictory qualities that help create an incorrect impression of the entity. For example, while the Internet may appear to possess an anti-institutional structure, it retains fundamental institutional underpinnings; while it may appear to be singular network, it is in fact a voluntary collection of many independent networks; and while it may not have a visible government department or agent applying governance processes, empowered authorities govern its many aspects.

Such apparently contradictory qualities of the Internet contribute confusion towards its ontology and lead to logically contradictory views such as "The Internet is both governed and not governed!" Kahn and Cerf (1999) refer to views such as these and contend that these views of the Internet that manifest as an apparent contradiction are in actuality a by-product of regarding the Internet as its implementation rather as an architecture (Floridi, 1999). There are implications for such confusion though as it makes the task of enforcing governance harder through setting inaccurate assumptions. For instance, an acceptance of the

assertion that there is a governable body that is not being governed adequately leads some academics to the contention that the Internet is one of the least managed public mediums and that it should be addressed (Ebersole, 2003). While there is merit in the assertion, inherent biases from competing research fields result in incommensurable research programmes.

The following sub sections explore how understandings of governance of the Internet have taken inspiration from competing perspectival political positions. Thereafter, an examination between the relationship of the technological advancements for the Internet and corresponding governance attempts is carried out. The section concludes by briefly examining the role of commercial factors in influencing the requirements and direction of governance.

4.3.1 Shifting perspectival political positions and attempts at setting an authority

The realisation of the immense transformative potential of the Internet has resulted in various entities attempting to gain the status of an authority and assume the responsibility of creating conditions of co-operation between all those who utilise the medium. In Ibn Khaldun's (2004) terms, an acknowledgement that control of the Internet can influence cohesiveness of society makes it a prime asset that ought to be controlled and manipulated. While the Internet was in its ARPANET form, the mantle of authority was held by the United States government who justified this on the basis that they were the creators of the technological artefact and as such best suited to its future growth. In Williams' (2005) terms, the United States government thus initially met the basic legitimatization demand of the artefact adequately.

Ibn Khaldun (2004) continues to assert that the cohesion of a community is at its strongest when it is nascent (an extension of proposition 3.26). The contention can be summarised as:

Proposition 4.6

An increase in the number of stakeholders in a society weakens the cohesive bonds between them.

The lesser number of stakeholders in a society tend to have common goals that aids in the creation of normative codes of conduct. Similarly, while matters of

Internet governance involved fewer stakeholders, such as within the United States government and academia during the ARPANET era, it was relatively easy to reach a decision through appealing to a consensus. However, with the increasing proliferation of the Internet in communities throughout the world, and the burgeoning of stakeholders in the discourse of the Internet, the assumed legitimacy of the United States government as the sole custodians of the Internet increasingly came under attack. The question of who ought to have the ultimate control of the Internet, and act as the steward for ensuring it does not fall into a state of chaos where a marginalized group may find no course for redress, led to an exploration of the form of authority best suited for the Internet. The question for governance was thus made clearer through casting it in familiar Aristotelian (2013) terms, "What is the best possible regime that is attainable and helps the constituents in their journey to find Eudaimonia (happiness) and conditions of co-operation?"

Such debates on governance are not a recent phenomenon and have manifested subsequent to the Internet's universal adoption. For instance, the debate about how to govern the Internet has raged since the formation of the Internet Society and public involvement with the Internet (Mueller, 2004). Simple matters such as terminology choices have generated heated arguments; for instance, the term Internet Governance was taken by some early members of the Internet Society to refer to more than just the corporate governance of an entity, but instead governing of the Internet users through a governance of the root of the Internet (Floridi, 2005, p. 7). Such a view was in contrast to how the term is understood by the technologists responsible for the technical management of the building blocks of the Internet.

The literature reviewed refers to the existence of a deep-rooted conflict between the opposing views of technologists and their political overlords. As such, it betrays a fundamental clash that shaped the early discourse on Internet Governance. For instance, while the initial focus of the technologists led them to be oblivious of the social significance of their work, the said members of Internet Society realised that through setting and governing the structures of Internet, they were in fact building institutions for governance.

Furthermore, as noted in the previous section, the original operating philosophy of the post-ARPANET Internet when it was run by technologists regarded the Internet primarily as a network enabling transportation of information. This lack of emphasis on data and more on the network meant that original governance structures and processes for Internet Governance were infrastructure-orientated with the objective to achieve easy propagation of data through the network. Consequently, the process of setting up the governance structures and processes with focus on one aspect of the Internet being its infrastructure instead of the overall architecture including the data components gave rise to an early incommensurability between governance attempts at censuring data and their unenforceability on the Internet. Such an incommensurability still exists into current times when governments find it difficult to govern the propagation of data despite gaining powers to enforce their policy on the infrastructure.

The incommensurability between the two positions is similar to other instances explored in proposition 2.13, and 2.19. The possible approaches to bridge these differences appear to be to either agree with the early technologists' view and retain the focus of governance attempts at the infrastructure of the Internet; or acknowledge the need for more structures and processes to govern the data that flows through the infrastructure. In addition, the entire debate may be recast by forcing an in-depth analysis of the assumed fundamental axioms. Regardless of which of the three options regarding what approach ought to guide the formation of structures and processes for Internet Governance, it necessitates the forging of an appropriate and justified authority with the necessary power to achieve its goals. While it may appear that adopting either of the first two options or a composite position through limiting the discourse on governance to the incompatibility of views between warring factions, allows for a simpler investigation in terms of the binary conflict noted above, the reality can be different. For instance, Latour (1991) offers his views that within complex societies, the task of isolating two actors who are in supposed complete opposition to each other with little in common is difficult, and therefore a debate based on the alleged Cartesian spirit would be rudderless.

The binary conflict of the technologists and political actors such as national governments on how the Internet should be governed can be viewed by

examining the difference in which the intent of the Internet is understood. Whilst the early technologists adopted Nozick's (1974) arguments for a minimal government, or even complete anarchy, in order to allow for creativity to flourish on the Internet unhindered by the weight of a political yoke, other actors argued for the ascendance of more traditional forms of governance. For instance, Kowack (1997) reflects the technologist position cautioning against growing an Internet that would compromise the spirit of the Internet as a society that is international and innovative. To this end, Goth (2004) observes the spirit of the Internet and notes that "*among technopolitical idealists, the organisational structure guiding the Internet's development stands as one of the last collegial meritocracies." (Goth, 2004, p. 2).*

In the early post-ARPANET Internet, meaningful authority was widely distributed. Mueller (2004) suggests that in the early to mid-1990s, conflict of management styles in the various Internet governance agencies started getting more visible with the technical cadres preferring rough consensus and democratic means of making decisions, against the old fashioned way of arbitrarily making decisions as done by the ARPANET veterans (RFC 1396). Reflecting the attitudes of these technical cadres, Calloway (2008) suggests that:

> "*Among Internet aficionados there is a strong libertarian ethic that argues that individuals should be able to 'do what they want, when they want' and that the collective social welfare is advanced by the pursuit of a kind of minimally organised anarchy." (Calloway, 2008, p. 3)*

Early aspirations for the Internet, as envisaged by the technologists were to create a robust and redundant network that would enable the flow of various protocols for carrying data. In this, their concerns were primarily related to architectural decisions on the implementation of the Internet, and algorithms to enable the data flow. While there were disagreements on ways (Mueller, 2004), the primary focus of their work remained technical. Referring to the primarily technological inclinations of the technologists, Clark et al. (2005) say:

> "*The Internet was created in simpler times. Its creators and early users shared a common goal – they wanted to build a network infrastructure to hook all the computers in the world together so*

that as yet unknown applications could be invented to run there (Clark, et al., 2005, p. 462).

It is assumed by the technologists that freedom and liberty of data movement would be the hallmark and defining characteristics of the Internet (Laudon, 1995). In this, they reflected the political ideals of liberty and freedom espoused by Enlightenment scholars such as Locke (1988) and Mill (1879). Against this backdrop, and moving onwards from mid 1990s to early 21st century, academics note the increasing intent of national governments and other actors throughout the world to extend their writ to the Internet and join the discourse on Internet governance in order to influence it (Cooke, 2007).

Mueller (2004) provides a vital insight regarding the manner in which the discourse on Internet Governance was changed when the focus was taken from the academics and internet engineers and their roles were altered through involving other international actors such as ITU, WIPO. The insight leads to the following proposition.

Proposition 4.7

The discourse on Internet Governance was fundamentally altered through introducing a greater number of empowered stakeholders.

The inclusion that Mueller (2004) discusses provided a clash of worldviews: wherein the academics viewed the Internet as a body for innovation and communications and themselves as a community, the involvement of other strictly regimented organisations as the ITU made the Internet a *public resource* subject to *public trust*. Mueller (2004) further contends that efforts like the gTLD-MoU (General Top Level Domain Memorandum of Understanding) ended up creating international cartels, a concept much more policy aware than the earlier internet of the ARPANET, IAB and IETF.

With the cohesion of the community weakened through the introduction of more actors with contrary agendas, Silva (2007) argues that the intent of the national governments to extend their legislative presence to the Internet was in opposition to how the early users of the Internet envisaged its usage and eventual governance (Silva, 2007). The friction between the views giving rise to incommensurable positions resulted in a multitude of issues. To this end, Silva (2007) adds:

> "*The idea that today's Internet users are pushing its original architecture and design philosophy into realms that were neither anticipated nor easily accommodated has been gaining momentum, the overriding concern being that the functioning of the global networked society and economies, is like to be severely impaired."* (Silva, 2007, p. 4)

Noticing the initial disconnect between regional politics and technological work on the Internet, the Eiffel think tank say:

> *"Today's Internet was never designed to be a critical part of the European economy infrastructure."(Mahonen, Trossen, Papadimitriou, Polyzos, & Kennedy, 2006)*

One manner of introducing national governments into the governance regimes on the Internet was to mimic similar governance structures and processes set for other technological artefacts. However, fundamental ideological issues were raised when the evolving governance structure of the Internet was forcibly adapted to match those in other industries such as the telephony networks, with a disregard of the initial vision of the Internet as a free, liberal, almost anarchic network by its founders.

It appears that the conception of the Internet influences the governance structures. In other words, the perceived and assumed ontology or an ultimate purpose can be utilised to justify a form of normative political regime. Accordingly, the fundamental issue on how to proceed with the Internet manifests in many other forms and thus muddies the discourse on issues such as Internet Governance to the level where it too begins to reflect the underlying tensions. For instance, where academics like Rossel and Finger (2007) explore the problem areas pertaining to Internet Governance, they term them issues. However, Clark et al. (2003) call these problem areas tussles. In the choice of their vocabulary, Clark et al. hint at inherent frictions between the stakeholders in the debates on Internet Governance. Furthermore, these *issues* or *tussles* are harder to situate when the concept of Internet Governance is ill-defined in terms of conceptualisation and scope.

From the literature reviewed it is clear that the traditional ways in which national governments have understood and applied Internet Governance are to

either govern their subjects through the Internet utilising e-governance, or provide a technological interface between their subjects and the national governments' traditional governance practices using e-government, or wrest control of aspects of the Internet and its use. To this end, Rossel and Finger (2007) contend that most issues (or tussles as per Clark et al. (2003) arise when the governments try to control their subjects through a medium that they do not understand well and do not govern. The ambiguity on the definition and understanding of Internet Governance therefore affects results in setting the scope and limitations of Internet Governance itself. Without a definition or consensus on the mission of the Internet between the primary stakeholders, splintered definitions of Internet Governance are coined. The result of the amorphous discourse on Internet Governance is that the issues are examined in literature through setting up disparate perspectives; for instance, governance of the Internet, providing mechanisms and processes governance to the subjects through utilising the Internet, governing the subjects through the Internet, and corporate governance of private clouds of the Internet.

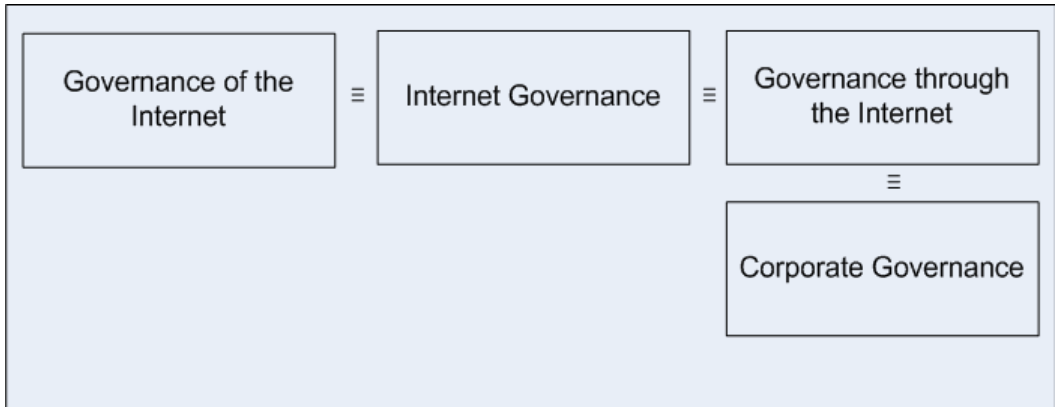

Figure 4.2 Sources of confusion on Internet Governance

4.3.2 Re-calibration of political structures

The Internet is a global entity, and operates as a place that could be termed the information agora (ancient Greek marketplace) (Branscomb, 1994). While the Internet's potential to become a universal entity was noted from early days, it was not widely seen as a catalyst for huge societal changes on a worldwide scale, and in such an earlier outlook, the powers of the bureaucratic arms such as the ICANN appeared non-existent compared to the duties to be performed by IETF and others.

The global nature of the Internet (or potentially galactic) also meant that initially the domain of national governments for Internet governance remained limited to the ISPs or hosts that fell under their national jurisdictions. The limitation of governance processes for national governments on localized ISPs (Internet Service Providers) and content hosts meant that while efforts could be made to block access to network segments containing or hosting data, the data could become accessible again if the network host was changed from one country to the other, or one ISP to the other (Andersson, 2009).

The difficulty for the traditional governance stakeholders in controlling the flow of the data on the Internet is compounded by the manner in which the technologists created governance structures that primarily dealt with the network. As such, there were few mechanisms which can be leveraged by governments in successfully blocking segments of data. On the other hand, as the network aspect of the Internet got increasingly interconnected, and the role of the ISPs as sole content routers diminished (such as by using the Tor network), it became harder to control the Internet through only the infrastructure as well. For instance, upon its creation the design of the Internet in the ARPANET era (section 4.1) allowed for trusted network nodes, a proposition that was no longer true after its mass adoption. The non-existence of the trusted nodes was coupled with the decrease in governance mechanisms over these nodes and increasing reliance was placed on add on tools such as anti-spyware tools to act as security patches for an ever evolving artefact (Clark, 2006). Thus, the structures and processes inspired by the technologists to deal with these issues appeared inadequate.

Despite attempts at setting governance models on the Internet modelled on similar technological artefacts, the evolving architecture of the Internet (Marsh & Smith, 2001) forced a rethink of the artefact itself and the corresponding governance structures. Awareness of the Internet resulted in its increased usage in tandem with a shift in the focus of the discourse on Internet Governance away from the technical cadres such as Internet Society or the IETF; and towards organisations who primarily interacted within the traditional domains of governance such as national governments and the United Nations or under their purview such as ICANN. As the latter actors attempted to base their policy decisions on the output of the subjects due to the manner in which they are

constituted, the course of Internet Governance began to reflect the wider public perceptions. For instance, while the Internet browser was designed and implemented by the technical bodies of the Internet as a technological innovation with the purpose to provide a human understandable way of locating websites; the perception of the general public of the URLs and DNS root was being similar to property rights of commercial entities and resulted in their management becoming increasingly political under the control of non-technical actors (Mueller, 2004).

The shifting of the power balance towards governance structures supported by traditional national governments has resulted in greater operative control of the Internet for agencies like ICANN. This insight leads to the following proposition as an adjunct to proposition 4.7.

Proposition 4.8

Governance structures on the Internet mimic the internal structures of those entities that set them up on the Internet.

The structures remains bound to a philosophical model different from that of the IETF or the Internet Society, and reflect an approach that intends to deal with both the network and data aspects of the Internet. While the early users saw the Internet as a tool that allowed easier transfer of information over disparate networks and geographical areas (Francoeur & Rothke, 2004), the control of the root of the Internet by ICANN (and by proxy political bodies) has allowed for creation of models which allow this transfer of information over disparate networks to be monitored and blocked. This creates a multi-modal tension for the direction of governance of the Internet while there are competing parties jostling for control.

The need for political organisations to have a say in the governance of the Internet is explained by pointing out the differences in their scope compared to purely technological bodies. The key insight can be proposed as:

Proposition 4.9

Authorities that focus on certain aspects of governance do not provide sufficient recourse to the full set of stakeholders.

While the standards used on the Internet are set by organisations discussed in sub-section 4.1.2, they do not set data policies on the Internet nor have authority over the root of the Internet. If the Internet is to be regarded as a collective shared resource, too precious to be not governed to achieve its potential (Mueller, 2004),

it becomes imperative to form a body to overlook its political functioning that encompasses its assets, both network and data. This need for a governance structure is analogous to the traditional regime theory, which regards the requirement to solve shared collective goods problems as a primary reason for regime formation (Mueller, 2004). The problem this raises then is for the way the Internet was formed and is expected to work when competing demands are placed on its infrastructure.

Filman (2005) builds on the Ibn Khaldunian (2004) apotheosis of human civilization with its humble roots in its nomadic stages and says that the need for political involvement in the governance of the Internet is similar to the evolution of early human beings. He suggests that just as the early human societies evolved from the hunter-gatherer to agrarian societies, the internet has transformed from a society of computer scientists and enthusiasts that came together to boast and share the tales of their hunting, to a community open to commerce which had to change its ways because of what transpired within it (Lee & Hubona, 2009). It would appear from Filman's (2005) contention that just as traditional governance regimes succeeded in coercing conditions of co-operation through evolution, decisions to govern the data on the Internet, as well as controlling aspects of Internet the network, is the eventual evolutionary step in order to govern Internet the shared collective and International Regime (Mueller, 2004).

As discussed in propositions 4.7, 4.8 and 4.9, due to the initial ad-hoc setting up of structures on the governance of the Internet, less attention was paid in creating a governance model for those structures that was congruent to the Internet as architecture, and more towards gaining control of its physical implementation. The increasing absorption of the Internet's governance structures under these political institutions with their internal sets of tensions and problems results in their manifestations on the Internet governance discourse. For instance, Komaitis (2008) highlights the main issue hindering the adoption of an 'Enhanced Cooperation Model' for policy setting on the Internet as participatory democracy. He suggests that factors like developed states possessing a greater influence than the developing world, culture clashes and polarity of political views, renders the adoption of true democracy for the control of policy setting on the Internet a difficult objective to achieve (as highlighted in section 3.4). Komaitis (2008)'s

concerns about the viability of democracy for the complex stakeholders on the Internet are not innovative, and support can be found in historical views. Plato (1997) and Farabi (1998) both contented that adoption of democracy leads towards a state of anarchy where the clash of base wills of the illiterate majority results in non-progress of policy through creation of a forum where participatory actors are willing to discuss, but not necessarily compromise. For Komaitis (2008) the current state of Internet Governance is a combination of elements of monarchy, oligarchy and plutocracy and not the much-desired democracy.

The actual technical governance of the Internet the network, in terms of setting the standards and obtaining consensus, happens without being in harmony with the political governance of such technical bodies entrusted with achieving technical governance. Different organisations such as IETF and ICANN also use different organisational processes to drive their political governance structures, while dealing with the same entity being the Internet (Mueller, 2004). While there are certain benefits that can be gained by such dissimilarity, chiefly the contention that innovation can take place at the technical level of the Internet by IETF and other similar bodies without being slowed down by bureaucratic ways at the ICANN, this separation causes detrimental issues with the way the Internet is governed. As by creating a fissure between stakeholders and allocating the Internet's governance to different bodies with differing focus, governance of the Internet as a single body becomes difficult to achieve.

This dissimilarity is also put forward as a cause for inefficiency in Inter-Internet governing bodies' projects because of the different ways these structures interact both within and with each other. For instance, when policy work is carried out by the *Internet Architecture Board (IAB),* it relies on the *Internet Engineering Task Force (IETF)* to standardise the networking required to connect diverse LANs. Work initiated and supported by one organisation can be delayed by the lack of interest or resources by the other. Furthermore, these events happen within the wider context wherein governments have in the past shunned the usage of foreign or international law, especially when it clashed with their own domestic practice. The key insight then is that even when national governments wish to participate in international efforts for a particular cause, national causes still take precedence as they regard themselves national agents foremost.

4.3.3 Impact of technology choices on Internet Governance

Since the Internet's commercialization in the 1990s with commercial Internet backbone providers, the Internet was setup in a manner (proposition 4.1) to allow the data to pass through networks that remained neutral, independent and had the same networking topologies built on the TCP/IP protocol. This arrangement granted data the status of an asset that needed to be transported across the Internet, which was deemed the transport medium. Prior to the commercialization of the Internet, the state of Hobbesian anarchy that accompanies a space where humans interact in an increasingly complex manner was not a consideration for governance attempts due to the absence of free agents. Therefore, the US government was the sole all-powerful authority in charge of Internet's development as a toolset that linked together their disparate sites.

An initial understanding of the Internet as a toolset, much akin to the telephone, led to the creation of different governance structures and processes to deal foremost with the technical challenges regarding the Internet (section 4.1). For instance, the technologists in charge of the IAB (Internet Activities Board), ISOC (Internet Society) setup governance processes concerned with Internet the tool, and developed methods for obtaining consensus on the required networking protocols, IP addressing and DNS names. However, whilst the understanding of the Internet as a networking toolset that connected sites enabled a focus of governance efforts on the interconnectivity aspect of the Internet, relatively less importance was given to the data that traversed it. The insight leads to the following proposition.

Proposition 4.10

The tangible Internet can be understood as a duality wherein network facilitates the transportation of data.

The pre-eminence of attention on the network created the initial issue of misstepped evolution of governance structures and processes for the data that travelled through the network, and the network that carried it. Building on the insight, Ribes and Finholt (2009) contend that an inaccurate conceptualisation of technology that failed to include the socio-political contexts served as the primary reason why the mismatched evolution took place for the data and network in the first place.

With the increasing commercialization and adoption of the Internet, national governments began to carry out the first major efforts for governance of the data through the network in addition to stating their claims for a stake in an authority responsible for the overall governance of the Internet (Mueller, 2004). The need to control the data that traversed the network became increasingly apparent when the governments realised that their lack of political policy on the data travelling through the Internet constrained their ability to govern the actions of their subjects on the Internet. For instance, whilst they were able to set and enforce laws stopping their local dissidents from posting their grievances or organising a resistance on other mediums, they could do so over the Internet. The same inability manifested for other problem areas as well such as protection of intellectual property. The fundamental question then arose: "How can the Internet be governed?"

Finding themselves in legally and technically unprecedented positions, initially national governments tried to govern the propagation of data on the Internet in two ways: by offering restrictions on the network to carry certain data, and through blocking certain types of data. To this end, governments made use of Internet content filtering mechanisms that utilised sophisticated firewalls to prevent access to data, as well as blocking routing to segments of the network that either hosted or linked to the offensive data if the network could not be made offline (Neumann, 2009; Sandy, 2009). The enforceability of the governments' decisions has been expanded in recent times. For instance, the revelations of the PRISM spying programme show that national governments such as the United States of America cannot only legally demand access to users' data where it is being stored on web servers, but also directly tap into the Internet backbone that passes through their physical territory (Ball, Borger, & Greenwald, 2013).

Despite the recent advancements, it is still difficult to track the massive amounts of data that traverse the Internet at any given stage. Those with the motivation to hide the contents of their data can make use of encryption technologies to hide and obfuscate. The difficulty in successfully censoring and blocking data propagation has resulted in scenarios where data censoring is sometimes achieved by banning the offending segments of the networks. Blocking access to network segments is also carried out when it is easier for the national

governments or corporate governance structures to block access to the data-producing network compared to forcing the network into complying into stopping to host and transport the data. The efforts usually are blocking access to DNS names or whole IP address ranges. By way of example, the government of Pakistan blocked access to youtube.com in 2008 when the United States based Google could not be forced into taking down an offensive video upload (McPherson, 2008). In another instance, the government of Iran blocked access to the websites of twitter.com and facebook.com to dissuade the political dissidents from using the network as a mean of data propagation (Young, 2009). The website http://wikileaks.org/ lists various examples of other national governments blocking access to network segments, with the list containing names of countries throughout the world such as Saudi Arabia, Iran, the USA, USSR, and Australia.

Another issue that resulted in increased difficulty of blocking data compared to the network was the result of national governments having had a traditionally lesser say in the manner in which the network is governed as against drafting policies for data on the network. Although efforts were made by the US government for the technologists to create governance structures and processes of the Internet themselves prior to the creation of ICANN (Mueller, 2004), the technologists created governance structures and processes that dealt primarily with the network.

Increased governance processes are also targeted at the network aspect of the Internet due to the utilisation of the technical capabilities of the network as tangible economic and social indicators by which organisations and national governments' infrastructures can be judged. The observations lead to the following proposition:

Proposition 4.11

The physical network of the Internet provides an easier target for governance attempts.

By way of instance, the Ministry of Information in Pakistan refers to the number of broadband connections in the country and holds the maximum speeds of the network as prime indicators of the progress the nation has made (Khan, 2005). Such reports are used in other countries such as New Zealand as well, where

broadband speeds are compared against OECD countries, to report on the technological progress in the nation (Lister, 2008).

4.3.3.1 Impact of core Internet design decisions on Governance attempts

Technology plays an important role in determining the adaptation that is required by governance models for application. Whilst Levinas (1996) argues that Ethics arises before Ontology, the following proposition is proposed:

Proposition 4.12

In the case of technology and governance, the latter follows the former.

By way of explanation, propositions 4.1 and 4.5 establish the existence of the Internet as the primary and fundamental cause that leads to difficulties of governance as the subsequent effect. Furthermore, as the form of the technology drives the governance structures and processes, these gain the power to influence the future form of the technology through acquiring authority.

The post-ARPANET-commercialized Internet of current times remains exactly the same as the ARPANET Internet on the technical level through continuing to remain a network of machines in networks (Cairano-Gilfedder & Clegg, 2005). Though the fundamental technical underpinnings of the Internet remain founded on RFCs detailing its architecture, the number of such RFCs has increased as more and more applications and devices have been connected to the Internet. The increase of usage of the Internet for personal, corporate and governmental purposes has meant that the responsibility for extra safety precautions has been passed to a degree to the users, instead of the authorities in charge of the Internet (Walsham, 1995).

One of the primary early design decisions for the Internet was to operate it through packet switching instead of circuit switching. While this design enabled the Internet to become robust and redundant, it also became difficult to stop packets from leaving one network for another, as there were multiple routes for a packet to reach its destination. That the packets can be individually routed and so may not follow sequentially posed an early challenge when an intercepted packet could not be parsed without the accompanying packets in the chain

The Internet is not a static artefact that once defined stays the same, and as such may be considered to be in a state of constant flux while remaining highly robust. A technical infrastructure is usually a stable, accessible and reliable

environment (Zizek, 2006) where planned change is designed and unplanned changes generally needs to be mitigated. That the Internet can remain highly available and continue to connect disparate networks while the fast pace of change in computing technology force the infrastructure to be in a constant state of upgrading appears almost paradoxical (Ribes & Finholt, 2009). Furthermore, the Internet was designed to be and remains a scale free global phenomenon, not situated or bound within a particular nation state boundary. The non-situation of the Internet in a singular nation state was noted as early as 1998 when the route aggregation technology utilised by the core routers meant that the domain of the Internet was effectively taken away from an association with geo-political boundaries and more towards ISPs and the hops of their routers (Bhaskar, 2009). Classless routing (CIDR) meant that hierarchies were setup wherein the central Internet Addressing Registries would assign large chunks of numbers to commercial ISPs who would then loan IP addresses to end users (Mueller, 2004). Therefore, while the ISPs were situated within the bounds of a national government, the networks they connected to, and allowed their routers to connect with, did not utilise any geo-national considerations other than those based on route metrics.

The constant upgrades in technology also mean that while governance attempts have to allocate resources to evaluate issues of political import, the basic functionality of the Internet continues to work as intended. For instance, the ARPANET Internet was built on the assumption that all nodes on the network could be trusted. As the number of the RFCs concerned with the architectural design of the Internet increased in order to support extra functionality required by technology innovations and security concerns, the governance processes took a greater time in catching up with those advances. The problem manifests in recent times as well, for instance vast strides continue to be made on the Internet's technical capabilities on a yearly basis by bodies such as the IETF and other competing organisations in the commercial space. They are joined by resourceful companies such as Cisco, Juniper, Microsoft, and Google who continue to evolve better ways of generating data and manipulating it. The pace of technology makes it difficult for the legislators to keep abreast of the progress and make timely legislations to bring about the writ of their governance authorities over the

Internet. While there is a vacuum of policy on the enhancements of the Internet, newer threats and security vulnerabilities that would have normally necessitated policy oversight continue to act unrestrained.

There is an argument that the Internet is a technological artefact of a new kind. This is a fundamental question as this carries significant ramifications for governance attempts that preclude such a possibility. To this end, Mueller (2004, p. 26) differentiates between the telecommunication industry and the Internet and contends that evolution of the former's governance models has happened differently than for the latter. He offers as the primary differentiator his observation that while the governance models of the telecommunication industries were drawn bottom-up and their address spaces were later nationalized, Internet bodies like the IEEE, IETF, W3C remain non-profit standards organisations and their manner of co-ordination is top-down with little territorial consideration.

The data on the Internet is universal by design, not bound by either geography or local political disputes (Berners-Lee, 1996) and in this design echoes the technologists' early understanding of the Internet as an anarchist system (Woolnough, 2001). Furthermore, Marsh and Smith (2001) contend that the Internet was founded on the end-to-end argument design principle, which requires a certain independence of various sub-systems such as the network layer and the application layer. The end-to-end argument design principle and the anarchistic evolution of the Internet therefore created conditions of co-operation on the Internet where the data, which was conveyed from one node to another, entailed minimal control and oversight. Even when more enhancements were built into the Internet to extend its capabilities under the control of various agencies, scant attention was paid to the content that the infrastructure transported.

The initial design choices on how the Internet was constituted made it more difficult to govern the data than the infrastructure aspect of the Internet and thus created an initial binary division of the scope for governance. In other words, the data on the internet was treated as an instantiation of the architectural processes as against examining the nature of data and how it leads to issues on the Internet (Ballsun-Stanton & Bunker, 2009). As data is essentially nothing but series of 0s and 1s in the binary system carried by the network which can also be encrypted to dissuade its unintended deciphering, end-to-end applications

producing the data primarily needed to devote resources on developing common algorithms for the comprehension and usage of these bits. As such, the manner in which the network did not restrict what data or series of 0s and 1s were carried through it was termed data or network agnosticism and founded the principle of network neutrality, which does not discriminate based on the data content.

The dichotomy of governance of the Internet on two fronts being the Internet's network and data aspects therefore created an ambiguous situation, which meant that the governance processes for one aspect of the Internet were not setup in tandem with the other. This non-coupling ensured that different power sources setup differing governance structures and processes for the two aspects of the Internet. The resulting technical ambiguity on the definition and scope of the Internet therefore also influenced the definition and scope of the Internet governance, creating further issues in the discourse of Internet Governance as a whole.

4.3.4 Commercial considerations

Proposition 4.13

The manner in which the Internet evolved because of policy and technological decisions taken by governance agencies also helped make the Internet a commercial space.

By way of illustration, one such governance decision was to separate the management of the DNS from IP addressing that proved to be an early indicator of the future commercial potential of the Internet (Mueller, 2004). The second major catalyst for the Internet to attract businesses and become commercialized was the evolution of the URLs (Uniform Resource Locators) from being mere pointers to content on the domains accessible by the Internet, to becoming subject to property rights considerations and treated as brands.

Once the URL was associated with a memorable DNS namespace address, the combination allowed organisations and individuals to attract consumer interest. Shorter and famous names were considered more memorable, and there were instances of domain-squattings. This was where individuals and companies with little real world connection to the DNS name reserved DNS names in order to later sell them to others (Mueller, 2004). Mueller (2004) suggests that one of

the prime reasons why later issues over DNS addressing arose is because of the semantic and perceived political advantages of DNS namespace and addressing. The semantics of DNS namespace was different from the Ethernet address space, in that the latter lacked human interest in arcane numbers and as such did not attract commercial interest.

One of the great symbols of the commercial potential of the Internet is the role of its root. The insight leads to the following proposition:

Proposition 4.14

Assets on the Internet have the potential to be commercialized.

Control of the root zone file of the Internet root was invaluable due to its commercial, financial and political value. The increased commercialization of the Internet resulted in the public demand for DNS name space, and allocation of IP addressing became a source of revenue for the governance agencies in charge of the root of the Internet. The increase in revenues resulted in arguments over the governing of the root of the Internet, in effect the right to create TLD and edit the root zone files, between various stakeholders. The debates left the conference rooms of the academics and internet engineers and found their place as well entrenched positions between different stakeholders in the public (Mueller, 2004). One of the major reasons why the control of the root of the Internet remained a single unity was because of the critical mass that the DNS root had accumulated.

E-commerce using the Internet became commercial phenomena as a result of commercialization of the Internet space. Traditional businesses and organisations came to recognise the potential of the Internet to coordinate value chain activities with other business stakeholders. The perception of a business edge over competitors by adopting E-commerce initiatives forced the entry of businesses into the Internet (Whewell, 1967b). It was also thought that the increased pervasiveness of the Internet and its accompanying global network connections would result in the effectiveness of the traditional markets (Grover & Ramanlal, 1999).

One of the methods to encourage the adoption of new technologies is to subsidize its adoption costs (Kuhn, 1970; Kuhn, 1977) which happens on the Internet through its commercial potential to change the fundamental structure of marketing channels, and commercial channels required adoption by the consumers

of these electronic channels. Thus, the decrease in adoption costs, as supported by businesses and national governments, in terms of upgrading the networking infrastructure and reducing costs helped the increased commercialization of the Internet (Delanty, 2005).

By allowing the ISPs and other infrastructure stakeholders to establish and develop the infrastructure of the Internet, commercial interests of preferred treatment gave rise to the issue of network neutrality. The Internet is essentially network agnostic, which meant that in accordance with the principles of end-to-end arguments (Marsh & Smith, 2001) for the internet, no data from one node was given precedence over another. The commercialization of the Internet gave a business reason for ISPs and infrastructure owners to compromise this network neutrality to make a profit (Lakatos, 1971).

As the governance of the Internet has implications for businesses and organisations the world over, and that dependence has increased since the Internet backbone was released to commercial ISPs in the mid-1990s, policy decisions regarding Internet the network, and Internet the data have another stakeholder in the form of *commercial interests*, a stakeholder that had historically not been present. Mueller (2004) suggests that with the advent of a new technology come three phases: endowment, appropriation and institutionalization. Investigating the history of governance of the Internet, it can be divided into these phases. Mueller (2004) contends that the ARPANET days of the Internet were mostly endowment when the technology was still in development. The 1990s commercialization of the Internet opened a *shared collective* to the wider world that began the appropriation phase of the Internet. The last stage to the technology is its governance in form of institutionalization (Mueller, 2004). Borrowing from the theory of International regimes and globalization, the Internet can also be regarded as an International regime or a shared collective that needs to be governed for political and economic reasons (Dobson, 2001). With the association of assets on the International Internet Regime with property rights of brands in international markets (Duhem, 1962), it becomes important to institutionalize the entity.

4.4 CURRENT STATE OF GOVERNANCE

The current debates on Internet Governance at the highest levels (for example, the United Nations) exhibit some of the problems hinted at in the earlier sections where the problems of realism, incommensurability and so on were defined. With an increased and diverse stakeholder population, it has proven difficult to get agreements as discussed in propositions 3.22, 3.24, and 4.6. For instance, in 2012 the immediate reaction of 58 nation states to the ITU position on the treaty was to walk out or refuse to vote on the matter (Williams, 2012). Furthermore, a number of other organisations voiced strong opposition to the values expressed by the ITU and started lobbying against them. Such assertions of force hint at the lack of a formal scaffolding in which to mediate disparate views.

The section below examines in detail the manner in which ICANN functions to achieve its governance objectives. The intent of this examination is to provide an overview of the fundamental stakeholders and indicate the manner in which governance discourse happens.

4.4.1 ICANN

ICANN controls the root of the Internet, which comprises the TLD (top-level domains) which are further sub-divided into sub-domains. It uses further bodies such as the IANA to distribute IP addressing and URL domains to registrars throughout the Internet. As ISPs and other DNS servers point to the DNS root controlled by the ICANN, the deregulated and distributed Internet structure interacts with the most important central regulation body (Mueller, 2004).

The centralized positioning of ICANN at the root of the Internet raises an important point regarding the potential importance and control of the agency. As ICANN controls access to the sole point of reference for the Internet root (albeit one that is distributed globally) with which all other machines directly or indirectly interact to gain access to other Internet resources, ICANN has the ability to be the central point of failure or act as one place where all Internet traffic can be surveilled. The security issues with DNS date back to post-ARPANET Internet when security flaws were discovered in BIND on a network with trusted nodes disappearing. Security concerns establishing the importance of the root were also raised in the form of DNS root hijacking by technologists such

as Postel (Mueller, 2004) and discovery of critical DNS flaws. While on one hand the control of the root of the Internet has political ramifications, the root is also at risk due to technical challenges. Therefore, the nature and methods of control of the root of the Internet under the purview of ICANN is challenging on both political and technological fronts.

Mueller (2004) contends that to understand what the ICANN is "*one must first move beyond the hopeful notion that the Internet is intrinsically voluntary and cannot be institionalized or controlled. ICANN is here to change that." (Mueller, 2004, p. 217).* ICANN also opens a battlefront between the technologists aspiring for the original values of the Internet (section 2.5.2.2) versus the nuances of US governmental pressure. ICANN is also an international regime that aims to regulate, instead of co-ordinate, suggests Mueller (2004). To contrast the differences between the workings of ICANN and IETF and how decision-making is performed at the former, Mueller (2004) suggests that while IETF produces technical standards documents that works on building consensus with differing parties given a forum for discussion, decisions are and can be made arbitrarily by ICANN. To this end Mueller (2004) suggests that while ICANN inherited the legacy of IETF and Internet Society, where the bottom-up model was utilised to advance a proposal and to make a decision, it was discovered that this was not the most feasible manner for policy decisions for ICANN. One of the reasons for the inability was the impossibility to gain a consensus on contentious issues, nor was it the best manner for achieving a debate on policy issues. The justification for the manner in which ICANN formulated its operating practices is in odds to other earlier suggestions made to run the Internet governance in a federalist manner, to allow for stakeholders' representation which is not purely democratic. A reason for such a setup was to curtail the power of future organisations such as the ICANN that by allowing one man-one vote may imply the presence of a central sovereign authority (Mueller, 2004).

Although ICANN's domain of influence remains primarily limited to administering the root which entails administering the root zone file and access to TLDs (section 2.2), it derives influence from being able to control the most tangible symbols of Internet's unity as a singular entity. In its position, ICANN retains the potential to block access to an entire country's TLD or block access to

certain segments of the network by modifying the master root zone files, and thus cripple the ability of the Internet to work as an internetworked network. ICANN faces challenges from perceptions that the agency retains policy allegiance to the US policy makers. Such perceptions are given more credence when decisions to include further TLDs such as .xxx were repealed due to opposition from the US politicians who were under pressure from their local US based constituents (Gardner, 2007).

The USA wielded an enormous stake in the formation of initial bodies for the control of the Internet (Mueller, 2004). It was the pivotal decision made by the US government to hand the governance of the Internet over to the technical minds in the Internet Society (Mueller, 2004), that allowed the greater adoption of the Internet by the public sector. Due to such immense historical and technological legacy, government of the USA enjoyed a large influence on the Internet's governance, which continues to this day. This was despite the US government having given up its stake, all the while remaining an important though invisible stakeholder. This is evident by multiple efforts by members of the Internet bodies to introduce new TLDs such as .xxx, yet the proposals brought down due to unfavourable opinion of US legislators (Gardner, 2007)

The immense influence of a single nation, being the US over a global shared resource such as the Internet, has provoked resistance from other nation states. Liberty is a cherished American political ideal promoted by the country's constitution. The idea however appears at odds when the nature of the US control is discussed over the Internet as exercised through ICANN. Discussing the idea of liberty on Internet Reagle (1998) suggests, "the true strength of the Internet is that, as an institution, it exhibits characteristics of policy formation that appeal to one's sense of liberty". The dissonance between the US desire for a libertarian medium and the control it exhibits through ICANN are visible when other nation-states lack the liberty to influence the Internet in a proportional manner compared to the US. The UN involvement in the form of the WSIS and IGF are direct results of the rest of the countries' desire to gain input into the governance of the Internet and have a bigger say in its structures and processes. Thus, the key insight is:

Proposition 4.15

The greater adoption of the Internet has led to an increase of governance attempts by powerful stakeholders in the physical world.

To this end, Kumar and Mowshowitz (2008) suggest:

> *"The Internet has in a short period of time stimulated changes in commerce, work life, and leisure activities as well as in the provision of information. These changes have brought out policy issues such as intellectual property rights, free speech, spam, privacy, terrorism, and child pornography. These issues demand solutions that require global cooperation. To provide all stakeholders - Internet users, corporations, and non-governmental organisations (NGOs) among others - a forum to address these issues, the Internet Governance Forum (IGF) was created in 2005 as an outcome of the discussions held at the UN-sponsored World Summit on the Information Society (WSIS)." (Kumar & Mowshowitz, 2008, p. 32)*

In summation, the realisation that the Internet can run as a single network only so long as all the stakeholders refer to the same DNS root grants enormous power to an authority tasked with its governance. Without other national governments having a representation in an international body, the fear for other national actors is that they would be at a disadvantage unless they could enjoy the same exclusive control as the United States. Despite the will of powerful actors to share control over such bodies, it is not a simplistic case of the US asserting its will power over an international resource (Mueller, 2004). Another argument made by Mueller (2004) is that the US government had certain benefits over other world nations for the governance of the Internet, such as the first mover advantage, the place of innovation for the Internet. The argument further suggests that these historical reasons coupled with several self-reinforcing cycles of commerce and technology as sustained by the US policy allowed the growth of the Internet, and explain why the US control over the Internet remains in a limited manner.

4.5 DISCUSSION

Visualizing the Internet as a technological artefact allows its initial examination in terms of engineered design choices (propositions 4.1, 4.5). However, with matters of human importance such as governance following the emergence of technology (proposition 4.12), the initial design choices cannot be utilised to adequately address newly emergent concerns. The increasing adoption of the artefact Internet by the wider masses of the world exacerbates these issues through increased concentration within a sphere of engagement (proposition 3.30).

An understanding of the Internet in primarily technological terms is difficult as well. By way of explanation, one of the earlier dichotomies in the manner the Internet was treated was between its aspects of data and network (proposition 4.10). While the network aspect was acknowledgeable and malleable to almost any position on the Reality Continuum (figure 2.1), the data aspect posed a fundamental philosophical quandary (proposition 4.11). That the data can be equally regarded as innate and innocuous when considered only as a series of bits of 0's and 1's flowing through the veins of a technological artefact, yet hold immense social power due to the semantic value carried by its contents was a challenge largely unmet by the earlier authorities in charge of the Internet. As explored in the sections above, this drew a fundamental cleave in the conception of the Internet as an artefact with results cascading to issues such as governance.

The Hobbesian (1985) natural state of anarchy is resolved when affected stakeholders agree to establish the Social Contact (proposition 3.9). For this to happen, an implicit understanding is utilised to define the community by means such as a shared geography, religion or language. The fundamental challenge that the Internet poses is that a technological artefact has grown into an enabler of new societies and forms of interaction prior to having had the Social Contract setup. Furthermore, the space and boundaries of the Internet remain undefined as different understandings of the artefact prevail in the academic discourse (proposition 4.2). For instance, while some academics argue for the Internet to be considered a duality made up of the infrastructure and data, others have attempted to focus exclusively on either one. The significant differences in the operation, processes, and structures of these forms of the Internet, these academics argue is

an indication of a symbiotic relationship that can be best understood by applying a holistic overview.

Moreover, the continuing lack of a global and overarching governance mechanism for the Internet results in increasing difficulty for the intents and purposes of governance (proposition 4.4). Similarly, the literature also reveals the manner in which feeble attempts at governance seem to lag behind the advancements in technology that increasingly weaken the efficacy of legislation. To this end, whilst significant research has been undertaken on the potential, results and efficacy of e-government initiatives (Anttiroiko, 2004; Basden, 2009a; Costake, 2004; Zwahr, et al., 2005), academics suggest that the field of e-governance continues to lack sound theoretical frameworks (Titah & Barki, 2006), and the lack gives rise to further issues of digital inequalities (Hseih, et al., 2008). Whewell (1967a) also suggests that the lack of epistemological understanding of the nature of theory in the field of Information Systems needs to be corrected.

Furthermore, the Internet is a scale free technology by design that can be extended over an infinite space and distance. Mathematical and computer science concepts such as Gödel's incompleteness theorem, Turing's Universal Machines, Goldbach's conjectures (Myers & Klein, 2011) also have bearings on how far the Internet technology evolves. Setting up governance structures and processes for the Internet on a space that has no legal precedent makes it difficult to achieve legitimacy (proposition 3.28).

One of the fundamental omissions in the literature on Internet Governance and its initial conception is the lack of a meta-ethical model in conjunction with perspectival political positions. For instance, the intents of the national governments in attempting to gain more authority on the operation of the Internet (proposition 4.7) can be supported through political perspectives such as Political Realism in which the state acts to protect its interests and forces a renegotiation of its worth in the discourse on governance. The Internet is regarded as either an international sovereign entity with the potential to disrupt the local status-quos of conditions of co-operation in governance domains, or a mighty weapon that can provide an edge over adversarial nation states (proposition 4.13). While there appears to be glimpses of political moralism in the positions adopted by the early technologists inspired by Enlightenment era political philosophers and an

insistence on meta-ethical obligations to characteristics such as liberty and unrestrained freedom of expression, such considerations are largely absent in the contemporary discourse. As such, the challenge to arbitrary attempts at wresting control of the Internet as a resource (proposition 4.14) find little moral justification and face the threat of usurpation.

In addition to the absence of an overarching governance body, the absence of primary characteristics such as justice upheld in a universal manner in the various governance regimes adopted by the many organisations responsible for aspects of the Internet is troublesome. This results in the omission of key virtues or guiding principles to emerge and act as beacons for the evolution of normative codes of conduct.

Evolution of the Internet exhibits the hallmark characteristics of universal bodies such as the United Nations and the European Union. As such, it has a universal presence and succeeds in granting a voice to all views within the network. To this end, Komaitis (2008) observes the current state of Internet Governance and suggests that there is no singular normative governance regime that is used to guide the governance. He finds characteristic traits of monarchy, oligarchy and plutocracy in various guides across the many governance bodies on the Internet along with his preferred solution of modern participative democracy. A key finding based of his observations is that despite the attempts of actors such as national governments to import their current political regimes onto the Internet, that migration is either incomplete due to omission or purpose. However, despite the astute observations, Komaitis follows other academics in the implicit agreement that the Internet can be treated as an extended entity in the prevailing understanding of reality and as such conformable to similar political arrangements.

Current political governance attempts of the Internet appear to base the foundations of their authoritarian claims on these factors: physical location of the infrastructure used to create and transport the data, the originator of the data, and the impact of the data on them (proposition 4.8). While the Internet is overwhelmed with massive amounts of data that traverse, it retains a severe uniformity of standards that enable such chaos to exist in the first place. There are challenges in such a setting that a governance model would appear ill prepared to

answer. For instance, which government would stake a territorial claim of governance on a web server hosted in Earth's orbit? In addition, the entanglement of narrow traditional territorial claims on a global entity pose the risk of splintering or balkanization of the Internet. If the Chinese government were unable to block data emanating from servers based in the Western world from propagating through to the their populace, it might be easier to simply block Tier 1 infrastructure companies based in the Chinese mainland from connecting with other Tier 1 network backbone providers and thus setup a local Chinese subnet of the Internet.

Similarly, with recent calls for encryption of all traffic to become the norm on the Internet since the revelations of Edward Snowden in 2013 on US spying of the Internet traffic (Greenwald, 2013), the task of detecting the contents of a packet of data face the risk of becoming harder to decipher. In the same way, there are technical means available to obfuscate the identity of an Internet node through methods such as fast flux DNS and bot attacks that challenge the assumption that traditional notions of jurisdiction that have historically been effective will continue to be useful on the Internet. The question that arises then is: "What impact do such attempts have on the governance of the Internet?"

The literature reveals little consensus on the future direction of the Internet as an entity in itself, and the form of its governance structures. Despite self-interested calls being made from various stakeholders, there remains the lack of an overarching authority that derives its mandate from a meta-ethical perspective to promote a normative model of conduct. For instance, when the UN ICT Force devoted a session to determine the principles for the Internet at the March 2004 Global Forum, there were calls for guiding principles such as transparency, and participation. However, there was an implicit acknowledgment there was no body, which could enforce such norms over the global Internet. Similarly, in 2012 the 58 nation states staged a walkout against the ITU perspective on the governance of the Internet and refused to vote (proposition 4.15). Despite the difficulties on getting agreements from nation states to consent, the trend of getting the majority of stakeholders together has been growing since the 1980s when the civilian stakeholders were introduced for the first time. The reactions appear to justify

concerns that Plato and Aristotle held about democracy where in spite of unequal actors getting an equal voice, matters of policy halt.

In summary, there are two fundamental issues when the Internet is examined foremost as an entity and when that understanding is utilised to address problem areas:

i- The Internet remains an ill-defined and ambiguous entity with varying understandings adopted by different stakeholders.

ii- The ill-equipped understanding of the Internet does not provide a useful scaffolding to guide the discourse on addressing problematic areas such as governance.

4.6 CONCLUSION

Investigation into the Internet's functioning yields a similarity with other governed entities, like the telephony network and publishing networks, in that it does have certain governance structures and processes that help to govern it. The governance of the Internet varies in matters of degree, not of kind compared to other such mediums. However, the Internet is not a defined entity, and there is no consensus on its boundaries. Understanding of the dichotomy of Internet the data and Internet the network is essential in formulating an understanding of how the Internet operates. Internet the network is easier to define and to govern as compared to data. Defining the Internet is difficult when Ballsun-Stanton and Bunker (2009) suggest that a) there is no consensus on the definition of the nature of the data, and that b) there should be no one definition of the data. Early attempts by Internet protagonists to define Internet governance (section 2.3) by linking it with the nature of the Internet were an indication of the link between governing through Internet and governing the Internet. However, governance attempts of technologists by limiting the Internet to its network aspect, and leaving the data aspect for later stakeholders, resulted in early governance structures and processes that were ill suited for organic evolution (Mueller, 2004). Such ambiguities results in the concept of the Governance of the Internet as ill defined and ill applied.

There are more stakeholders in the debates over the governance of the Internet than before the Internet was commercialized. The commercial interests of the Internet and general public have increased presence in such debates. If, as per the Essentialist art theory which suggests that the art medium defines the art, the nature of the Internet as a medium defines its governance model, then the manner in which the Internet operates is tied with how it is governed, and vice versa. As the general public has become empowered to display their feelings both online and translate them into physical protests, coupled with increasing commercial interests (Zureik & Mowshowitz, 2005), hostility over the control of the root of the Internet, and increasing national governments' political interferences, the lack of a comprehensive Governance of the Internet model makes governance of the Internet increasingly difficult. In chapter 5, these issues are to be drawn together by defining plausible research methodologies for these phenomena.

Below is a summary of propositions identified in the chapter.

Proposition 4.1 The Internet as a technological artefact can be regarded as the physical implementation of a network of networks that facilitates the flow of bits over standardised Open System Interconnection (OSI) layers of communication.

Proposition 4.2 As the core theories of the disciplines differ in their agenda and worldviews of technological artefacts, varying understandings of Internet Governance emerge.

Proposition 4.3 Governing the Internet is referred to Governance of the Internet in this thesis.

Proposition 4.4 Governance of the Internet is not the same as governance of entities using the Internet.

Proposition 4.5 The Internet is a technological artefact that has evolved through continuous development.

Proposition 4.6 An increase in the number of stakeholders in a society weakens the cohesive bonds between them.

Proposition 4.7 The discourse on Internet Governance was

fundamentally altered through introducing a greater number of empowered stakeholders.

Proposition 4.8 Governance structures on the Internet mimic the internal structures of those entities that set them up on the Internet.

Proposition 4.9 Authorities that focus on certain aspects of governance do not provide sufficient recourse to the full set of stakeholders.

Proposition 4.10 The tangible Internet can be understood as a duality wherein network facilitates the transportation of data.

Proposition 4.11 The physical network of the Internet provides an easier target for governance attempts.

Proposition 4.12 In the case of technology and governance, the latter follows the former.

Proposition 4.13 The manner in which the Internet evolved because of policy and technological decisions taken by governance agencies also helped make the Internet a commercial space.

Proposition 4.14 Assets on the Internet have the potential to be commercialized.

Proposition 4.15 The greater adoption of the Internet has led to an increase of governance attempts by powerful stakeholders in the physical world.

Chapter 5 – Methodology

5.0 INTRODUCTION

The purpose of this chapter is to outline the research approach, methodology and methods that are used to explore the process of setting up governance practices on the Internet. As the field of Information Systems spans constructs and research areas that are covered in mult-various fields as diverse as Computing Science Algorithms to Anthropology, it is necessary that the design of the research process follows a research approach and methodology that can explore the research questions without being constrained by a narrowed worldview.

The chapter first provides a summary of the problem area that has been identified in the previous chapter (section 4.3). Thereafter, the research questions of the thesis are formally introduced. A review of IS methodologies follows that examines the methodological approach that research programmes within the literature have utilised to both define the Internet and explore the various problem areas. The review is also utilised to identify Research Guidelines proposed in the literature.

The last section of the chapter introduces the methodological approach to enable an epistemological pursuit of the research questions. The choice of the philosophical argument is defined, developed and defended. Furthermore, the limitations of the chosen research methodology are acknowledged, whilst outlining its benefits in allowing an escape from incommensurable positions and the construction of a holistic framework.

5.1 A REVIEW OF THE PRECEDING CHAPTERS

Chapter 4 discussed in detail the various ways in which the Internet is conceptualised as a technological artefact in the literature (proposition 4.1). Whilst it is easier to theorise and abstract the architecture of the physical implementation of the Internet, it remains difficult to apply the same modes of

thinking for the data that courses through the network (propositions 4.10, 4.11). Although the literature suggests a symbiotic link between the two, issues and problems that involve both aspects result in increasing the ambiguity on the definition of Internet and accompanying concepts such as governance (proposition 4.2). By way of illustration, despite the divergence of views on how to reconcile the two aspects of the physical Internet, the technological artefact Internet is a result of strict adherence to rules that determine the manner in which an independent network of computing nodes may interact with other networks resulting in formation of the wider Internet (proposition 4.5). However, despite the universal regulatory adherence on the implementation of the Internet, there is an absence of such pervasive rules to determine what data may travel through the network (proposition 4.11). Furthermore, the manner in which rules are devised for the two aspects of the Internet are fundamentally different. For instance, various nation states in their capacity as powerful actors on the physical space, attempt to influence what data may or may not be visible to the subjects in their domain (propositions 4.7, 4.15). The difference between the approaches towards the two aspects is manifest through the observation that a similar move by a nation state to alter the manner in which the networks on the Internet connect with each other would be ineffectual unless supported by consensus of the networks (through acts of legitimation as stated in proposition 3.28).

The key insight from the review is that the Internet lacks a conceptual understanding that can be used by disparate stakeholders in order to facilitate a discourse. By means of illustration, observations made in propositions 4.10 and 4.11 that the two aspects of the Internet are largely treated in different ways leads towards the difficulty of arriving at a comprehensive understanding of the Internet that adequately reconciles its two aspects. The resulting ambiguity is further pronounced through the inclusion of different stakeholders who represent newer alternative poles of power in regards to the various characteristics of the Internet (propositions 3.24, 3.30, 4.7). To this end, section 4.3.1 explored the manner in which problem areas on the Internet often arise as a result of shifting power alignments between the stakeholders as a consequence of evolution of the Internet accompanied with the growing realisation of the power of the medium (propositions 4.13, 4.15). As such, governments, academics and other

stakeholders have focused their efforts on moulding the new public space in differing manners. Debates over technological issues such as DNS names have taken on a socio-economic character, and control over the Internet has become a politically charged issue with debates happening at micro levels spanning national jurisdictions to macro levels such as the United Nations.

There are greater problems as a result of the wider variance of terms of the Internet due to the diverse ways the Internet is utilised as a result of its universal adoption. Furthermore, section 4.5 detailed the difficulty in providing a sound theoretical framework for framing the discourse and providing resolution for issues and problematic areas on the Internet when such concerns were not addressed foremost during the initial design phase (proposition 4.12). As an example of the greater problems, governance of the Internet is a contentious and problematic area as detailed in the preceding chapter. It was suggested that one of the primary reasons behind such issues is that the two widely manifested aspects of the Internet are treated differently, which has repercussions for a singular holistic and coherent model of governance. Furthermore, section 4.2 outlined the difficulty in which the abstract practice of governance (proposition 3.1) is married with the ambiguous technological artefact Internet, resulting in divergent understandings such as Governance of the Internet, Governance through the Internet to emerge with contrary motivations and modus operandi (proposition 4.2). By means of a further illustration, the power of the medium has given rise to attempts at controlling the Internet (proposition 4.15). Decisions made by governments or corporates to censor information re-ignite an older classical debate over whether it is preferable to block the medium or the information. The proliferation of data across the Internet's network, and the inability on the part of stakeholders such as governments and corporates to block it effectively, has resulted in stakeholders blocking access to the medium, a response that is akin to the banning of the newspapers by governments in case of failure to control the stories they carry. The inability to censor information or data on the Internet is further exacerbated by the original governance design of the Internet, which dealt with governing the network aspects of the Internet as against dealing with the semantics of the data it carried.

On the matter of authorities in charge of governing the Internet, the preceding chapter outlined the way in which different authorities are responsible for various aspects of the Internet (section 4.1). Whilst, this is a consequence of the rapid evolution of the Internet to become a universal phenomenon where different bodies contributed in diverse ways, there are fundamental issues of governance that cannot be easily addressed (based on propositions 3.11, 3.22). For instance, the struggle for the primacy of views on the Internet between different stakeholders and authorities has resulted in differing governance structures and processes for the Internet. Furthermore, the great divergence of governance philosophies adopted by authorities tasked with governance of aspects of the Internet are often imported from physical space models and motivations that are not necessarily in tune with the governance needs and requirements on the Internet (proposition 4.8). The absence of shared governance ideals or virtues as a result for the wide variety of ad-hoc authorities over the Internet propped up by a powerful stakeholder such as a national government as noted in the previous chapter, gives rise to competing views on how governance issues on the Internet should be resolved and enforced.

The previous chapter 4 also explored the role of positions on the Reality Continuum (figure 2.1) in shaping the understanding of academics when dealing with the phenomenon of the Internet. For instance, technologists that deal primarily with the physical implementation of the Internet are usually guided by an instrumentalist view of the phenomenon that does not require a positioning within an overall ontological view of the wider reality. However, with the inclusion of stakeholders and their complex issues on the Internet, they invoke differing positions on the Reality Continuum to shape their view of the Internet and its functionality (propositions 2.8, 3.24, 3.30, 4.6). The challenge that poses to research on the Internet then is of fundamentally irreconcilable incommensurable positions that result in applied models of reality that are contradictory (proposition 2.13). Furthermore, as the evolution of the Internet has been accompanied with the congregation of all possible views and stakeholders on a singular shared space, fundamental sociological issues also arise that cannot be suitably addressed without the help of an overall approach (proposition 3.30). By way of explanation, the manner in which the Internet remains difficult to conceptualise post diverse

stakeholder inclusion makes it problematic to employ a meta-ethical approach towards resolution of issues such as pornography when different stakeholders employ differing standards. Additionally, an understanding of the context in which the Internet operates utilising largely sovereign networks that combine to form the Internet poses another challenge towards the promulgation of meta-ethical or guiding virtues.

In summary, the key problem identified in the literature regarding the Internet and its governance are that while the implementation of the physical infrastructure of the Internet can largely be automated and is not a difficult area of concern, the inclusion of the human as an actor introduces problems. Not only is the manner in which the Internet is visualised fundamentally challenged by the inclusion, but also further opacity is introduced when attempts are made to regulate codes of conduct for the stakeholders over the Internet. In other words, there are two distinct problem areas; "What is the way in which the Internet operates as an entity due to the manner in which it has evolved?"; and, "How can behaviour be influenced and enforced in accordance with a set of overarching expectations?"

The preceding chapters argued that governance as an abstraction (proposition 3.1) leads towards tangible attempts of exerting power within the overall sphere of reality (proposition 2.20). Similarly, robust governance mechanisms are setup when there is agreement between stakeholders to give up certain rights and adopt responsibilities (propositions 3.9, 3.24) for greater gain. However, the literature discussed does not reveal the presence of such pre-conditions to governance of the Internet. The key questions then are to explore why such an agreement is absent on the Internet, and whether the absence entails ramifications for the project of governance. In other words, "Can the Internet be governed?" and, "In what manner is it possible to govern the Internet?"

5.2 RESEARCH QUESTIONS

As abridged in the previous section, ambiguity on the manner in which the Internet is constituted and binds together divergent stakeholders results in further obscuring of the nature of the entity. This makes it hard to understand the ways in which the stakeholders engage with each other. In other words, an incorrect

starting position on the nature of the entity perpetuates auxiliary issues, such as governing stakeholder conduct that cannot be suitably addressed through the usage of a holistic framework.

The aim of this research is to re-visualise the manner in which the Internet is constituted to reconcile the Cartesian divide of data and network to enable the construction of a core shared position. A subsequent aim is to construct an auxiliary theory of how governance of the Internet can be developed, and enforced. The stated aims can be presented as the below three research questions:

Question 1 **What is the Internet?**

Question 2 **Is it possible to develop an authority tasked with governance of the Internet?**

(and if the answer to the above question is a yes, then)

Question 3 **How could such an authority tasked with governance of the Internet enforce its decisions?**

5.3 A REVIEW OF RESEARCH METHODOLOGIES IN IS EXPLORING THE INTERNET

Academics in the Information Systems discipline employ a number of research methodologies and approaches to explore the Internet and problems situated within it. Dependent upon the research methodology, different research methods and techniques have also been applied. Additionally, different aspects of the Internet are often examined using research methodologies that are deemed most suited to the particular aspect. In other words, often the research question and the aspect of the Internet in question determine the choice of a methodology and subsequently research methods. This section provides a brief overview of the manner in which contemporary research on the Internet and its aspects is carried out in the literature. Furthermore, the section concludes by discussing the limitations that the reviewed methodologies pose to the research questions of the thesis introduced in the previous section. Key insights are highlighted as Research

Guidelines (RG) to assist with the construction of research methodology and subsequent research into answering the three research questions of this thesis.

Whilst the technical components of the physical Internet are easy to manipulate using quantitative and empirical methodologies and allow the usage of hard hypotheses that can be adequately resolved using computational logic, the same is not true for issues over the Internet. By way of illustration of the contrast, Dutton and Peltu (2007) discuss the findings of an international forum held at University of Oxford to address the topic of Internet governance and identify the key policy issues and appropriate governance models relevant to Internet Governance. The form of their report is an exploratory research report and analyses the Internet's capacity to be governed from varying viewpoints (Dutton & Peltu, 2007). As a further illustration, Clark, Wrocklawski, Sollins and Braden (2005) investigate the role of stakeholders in determining the way in which issues are contextualized on the Internet. They propose the usage of the term ‘tussles’ to identify issues between various stakeholders, which they contend are the result of a struggle of ideology and strategy between different stakeholders (Clark, Wroclawski, Sollins, & Braden, 2005). The insight leads to the following research guideline.

Research Guideline 5.1

A research methodology should help identify the underlying ideological foundations that perpetuate conflict between stakeholders.

Furthermore, Clark et al. (2005) argue that the paradigm for their research is fundamentally different from the technological issues prevalent on the discourse involving technical components of the physical Internet. By way of explanation, they propose that the difficulties one experiences in traditional engineering domains such as a car factory are analogous to the technological tussles on the Internet, where both processes are moulded by changing design requirements that are hard-coded. The difference then between such tussles and those between stakeholders on the Internet is that whilst tussles between the technological components occur during the design and build phases and abate once released, the tussles on the Internet continue on when the system has been released or in 'run time' and in fact proliferate over time. A design recommendation the authors suggest is to modularize the design of the Internet along tussle boundaries, so one

tussle does not spill over into another (Clark et al., 2005). The authors term the modularization exercise as tussle isolation, and envisage it to allow for an isolated examination of the tussles. By way of example, they suggest that the tussles on the DNS tussle space because of trademark issues could have been avoided by not allowing the trademarks tussles to enter the DNS tussle space. An insight from the suggestion can be summarised as:

Research Guideline 5.2

Research into an aspect of a phenomenon should not be constrained by decisions within another aspect.

Regarding the tensions that Clark et al. discuss, Rossel and Finger (2007) suggest that tensions between competing stakeholders play a dialectic part in sustaining the tussles. They identify the tensions as tensions between efficiency and bureaucracy, transparency and control, empowerment and dis empowerment, centralization and distributed provision, commercialization and regulation, and community and anonymity (Rossel & Finger, 2007). Clark et al. (2005) conclude their findings by suggesting that the tussles that arise on the Internet are societal in nature as well as purely engineering and therefore must be considered an important aspect of the design process for the technological components as well. This is a key insight for a research methodology by extension through the identification of a fundamental cleavage between technological and human-orientated problems whilst acknowledging the vital link between them. The insight can be summarised as:

Research Guideline 5.3

A research programme should acknowledge the vital link between technological and human-orientated problems.

In contrast to hard-problems-orientated research methodologies, issues related primarily to human affairs, such as policy issues for key stakeholders such as national governments attract different research approaches. For instance, Shahin & Finger (2008) co-author an exploratory research programme identifying key policy issues and challenges that e-governance raises for participants and ICT-driven Governments as a key stakeholder. The authors explore the motif of the missing user in discussions surrounding e-governance utilising case-studies, and suggest that the end user's inclusion as a participant rather than a consumer in the

e-governance debates would yield better results in achieving effective e-governance (Shahin & Finger, 2008). The most striking difference from hard-problems-orientated research methodologies is the decision of the authors to utilise qualitative research methodological approach towards furnishing answers in a problem domain occupied largely by the human actor. Satola (2007) employs a different angle in his discussion paper to explore the difficulty of creating policy on the Internet. He observes that "*the Internet has moved on from its early almost lawless nature"* and posits that attempts of national governments to create policy can have detrimental effects (Satola, 2007). Through the usage of explanatory research, Satola (2007) recommends global cooperation for creating policy through adopting a framework approach to legal-reform issues related to Internet governance. The key insight can be summarised as:

Research Guideline 5.4

A research programme should not arbitrarily remove stakeholders from its scope.

Whilst, Clark et al. (2005) propose the creation of a models space wherein different stakeholders can exist and their tussles can be examined in detail, they acknowledge that the ontology of the Internet allows for the entrance of new actors. The constant influx of new actors, which may be new applications, developers or other existing networks such as the worldwide telephony network, into the ontological space for the Internet ensures that the ontology of the Internet remains unaligned and in constant flux of tussles. This is a key insight as it allows for a second order abstraction of the space to emerge that may consequently necessitate examination from a second order research methodology. For instance, the understanding that tussles of various stakeholders can be examined from multiple perspectives that may be equally valid when examined through different paradigms by extension reveals the need for a research programme that is not restrictive in its worldview. The insight can be summarised as:

Research Guideline 5.5

A second order research programme enables an abstract examination of those systems that are in a constant state of flux.

The inclusion of the human actor on the Internet has resulted in the greater manifestation of issues on the physical space over the Internet (proposition 3.30).

Zuniga (2001) argues that research within the Information Systems field in general and for exploring the construct Internet and governance systems on the Internet, does not remain exclusively within the bounds of Information Systems and extends across a plurality of disciplines (Zuniga, 2001). Consequently, the increased interest in the socio-economic factors involving the Internet have resulted in some researchers utilising marketing and business methodologies to address issues. For instance, Knahl and Cox (2008) identify Internet Governance as the governance of key Internet resources such as IP addresses and the DNS root and examine the issues using resource acquisition methodologies (Knahl & Cox, 2008). Similarly, Mueller (2004) considers the control of the root of the Internet as the most manifest symbol of Internet governance, and examines the problem area on the Internet utilising business methodologies and considerations that look at factors such as stakeholders being the market leaders or trend setters, and the impact of proliferation and acquisition of resources (Mueller, 2004). Likewise, other academics utilise research methodologies and methods designed for investigating governance issues of standard bodies as useful approaches towards drafting rules on the Internet (Vincent & Camp, 2004).

Like other research disciplines such as literary research and computing systems, Information Systems research has derived research methodologies from philosophical foundations, and can be understood by positioning the philosophical perspectives (Mingers, 2004). Dobson (2001) acknowledges the legacy, however, contends that since Information Systems is an applied field, the research carried out within the field is heavily oriented towards the application of IS to business. He further argues that while the orientation towards the application has resulted in a great number of methodologies that have been used to address many of the issues that have been raised, a similar variety of literature does not exist which examines differing philosophical approaches that the methodologies fall under (Dobson, 2001). The issue is not relevant merely for the field of Information Systems, but due to the manner in which the field is greatly geared towards resolution of first order issues, the second order abstractions are not usually entertained. The risk therefore is a narrowing of avenues available to the researcher for creating a scaffolding for the research. To this effect, Walsham (1995) suggests that a more coherent research must adopt different philosophical

perspectives and the philosophical approach must be well understood and applied by the researcher (Walsham, 1995). The key insight then is:

Research Guideline 5.6

Research programmes within the field of Information Systems can extend across a plurality of disciplines.

As outlined in propositions 3.3 and 3.4, the fields of politics that explores the concept of governance is interlinked with the field of ethics. Similarly, issues within governance exhibit an ethical dimension as well. Subsequently, issues of applied morality on the Internet promote philosophical inquiry into the nature of ethics, and on the way, such issues are manifested on the Internet. To this end, Tavani (2001) explores the contradictory philosophical positions regarding the nature of ethical problems on the Internet. He notes that while certain philosophers make the argument that a field of applied ethics for computing is required due to the new and unique ethical questions that have been raised, another group of philosophers regards the basic ethical questions to be no more special than those ethical questions raised in the course of normal philosophical inquiry (Tavani, 2001). His observation is echoed by others as well (Johnson, 1994). Weighing in on the matter, Moor (1998) sides with the first group of philosophers and suggests that 'routine ethics' is not capable of adequately handling the normative issues that get raised due to the constant policy vacuums that computers, being “logically malleable” generate in their evolution (Moor, 1998). Summarising his paper, Tavani (2001) notes that the efforts by philosophers to appeal to traditional ethical theories like virtue ethics, utilitarianism, or deontology to frame a discussion on computing ethical issues become mired in efforts to justify those choices. Floridi (2005) communicates the problem best in the suggestion that the field of computing ethics lacks a sound methodology.

Recognising the problematic area explored by Tavani (2001) and Floridi (1999), Moor (1999) offers a possible methodology for exploring ethical issues on the Internet through a three-step method (Moor, 1999):

a) Explore the policy vacuums created as a result of the malleable and evolving nature of computing,

b) Clarify any conceptual muddles involving the entities, and,

c) Utilise just consequentialism to revise current non-compliant policies or create new ones.

Bynum (2008) offers another way of exploring ethical problems that arise in computing through his reading of Norbert Wiener, one of the foremost computing ethicists who discussed unique ethical matters such as computers and human interaction, computers and unemployment. Bynum (2008) suggests that Wiener assumed a metaphysical ontology in which all things, being humans and computers, were information and energy agents, and analysed the ethical cases instead of first creating a methodology (Bynum, 2008). In other words, the reorientation of how to begin the examination of an ethical problem area provides a useful way of determining the form of a research methodology.

Regardless of the difficulty in providing a concrete answer to the ethical problems due to the rise of computing, the above discussion provides a key insight. Not only do the academics argue for the inclusion of methodological and foundational work from other disciplines to guide resolution of issues within the IS discipline in general and the Internet in particular, but also suggest that a simple application of physical space models may not be successful due to technological constraints. The insight can be summarised as:

Research Guideline 5.7

A research programme cannot assume that ethical frameworks are universally applicable in all cases.

Academics in the field of Information Systems have also made useful contributions in the form of explicit research guidelines for problem areas on the Internet. Such guidelines are envisaged to help serve as direct reminders for carrying out robust research. To this end, Lee and Hubona (2009) contend that one of the key requirements for a research programme is to maintain rigour in research. They further argue that one form of research is not necessarily less rigorous than the other. Consequently, qualitative research is just as capable as quantitative research of achieving the same rigour in terms of logical findings (Lee & Hubona, 2009). They further suggest that rigour can be maintained in three scenarios of qualitative research being positivist research, interpretive research (comprising of hermeneutic circle, case study and ethnography) and

action study. Lee & Hubona (2009) suggest that established deductive syllogistic reasoning in forms of modus ponens and modus tollens can be incorporated in a research methodology to ensure the theory creation of the research process reflects mathematical rigour. However, the authors concede that not all theories may be subject-able to such rigour.

By way of explanation, Lee and Hubona (2009) contend that traditional pragmatist researchers supported the emphasis on the consequences (q) that follow from beliefs (p), and contend that the *(if p, then q)* form of logical reasoning is still practiced in Information Systems research for establishing rigor. The authors explore four different forms of academic inquiry, ranging from Positivist Research, Interpretive Research, Action Research, and Design Research and propose that all researches can be logically rigorous.

Table 7. Modus Tollens: Four Forms of Academic Inquiry

	Positivist Research	Interpretive Research	Action Research	Design Research
$p \supset q$	If a positivist theory about a phenomenon is true, then what the theory predicts about an instantiation of the phenomenon is true.	If a reader's interpretation of a text is a valid hermeneutic interpretation, then the reader's interpretation of a particular passage or set of passages in the text does not give rise to any contradiction, inconsistency, or other anomaly with regard to the reader's interpretation of any or all of the other passages in the text.	If a theory of action T for solving a certain type of organizational problem is effective, then a particular action A prescribed by the theory of action T for the organizational problem's instantiation P in the particular organization O will solve the problem P.	If a design theory T for solving a certain type of organizational problem is effective, then a particular artifact A prescribed by the design theory T for the organizational problem's instantiation P in the particular organization O will solve the problem P.
$\sim q$	For an instantiation of the phenomenon, what the theory predicts turns out not to be true.	For a particular passage or set of passages in a given text, the reader's interpretation gives rise to a contradiction, inconsistency, or other anomaly with regard to the reader's interpretation of another particular passage or set of other passages in the same text.	The particular action A prescribed by the given theory of action T does not solve the organizational problem's instantiation P in the particular organization O.	The particular artifact A prescribed by the design theory T does not solve the organizational problem's instantiation P in the particular organization O.
$\therefore \sim p$	Therefore, the positivist theory is not true (thereby suggesting that a revised or completely new positivist theory needs to be developed and then also tested).	Therefore, the reader's interpretation of the given text is not a valid hermeneutic interpretation (thereby suggesting that a revised or completely new interpretation needs to be developed and then also tested).	Therefore, the statement that the "theory of action T for solving a certain type of organizational problem is effective" is not true or, simply, the given theory of action T is not effective (thereby suggesting that a revised or completely new theory of action needs to be developed and tested).	Therefore, the statement that the "design theory T for solving a certain type of organizational problem is effective" is not true or, simply, the given design theory T is not effective (thereby suggesting that a revised or completely new design theory needs to be developed and tested).

Figure 5.1 Four forms of academic inquiry (Lee and Hubona, 2009, p. 244)

The argument for rigour in Information Systems research made by Lee and Hubona (2009) is supported by other academics such as Klein & Myers (1999), who argue that even in interpretive research where there can be no mechanistic processes to apply, research rigor principles must be maintained. They argue that it is necessary to maintain a rigorous theory building process to be able to produce consistent theories (Klein & Myers, 1999). To this end, Lee & Hubona (2009) suggest that a valid research project must be able to maintain both formative validity (as an attribute of the process by which a theory is formed or built) and summative validity (as an attribute of the sum result or product of the process, namely, the theory). The insights can be summarised as:

Research Guideline 5.8

A research programme should maintain rigour and overall coherence.

A review of the above methodological practices reveals another key insight, that of the cleavage between first order and second order research and its ramifications for research methodologies. Research programmes that operate on the assumption that there is an established core theory regarding the Internet and its aspects employ either qualitative or quantitative research methodologies in order to measure a given phenomenon. Consequently, questions of norms and the like are explored on the first order and no further appeals are made to a position on the Reality Continuum (figure 2.1) to provide foundational grounding. On the other hand, research programmes that challenge second order reasoning such as the applicability of ethics on interactions within the Internet explored earlier do not make use of overtly qualitative or quantitative research methodologies. In its place, second order research programmes appeal to metaphysical positions on the Reality Continuum, meta-ethical positions, and perspectival political positions to redefine the conditions for normative discourse to emerge.

There is a danger in granting first order epistemological findings unguided by second order abstractions the capacity for providing concrete descriptions of reality. Whilst, such epistemic pursuits are the only avenue for the human to understand a reality outside of the consciousness and can provide useful markers for an aspect of reality, there is the risk that the resultant model of reality may come to be regarded as the core theory within the research programme, with

subsequent debate concentrated on the first order layer that does not challenge the underlying assumptions. By way of illustration, epistemological attempts such as those made by Clark et al. (2005) at explaining the problem areas on the Internet can result not just in the solidification of a particular understanding of the ontology of the Internet pertinent to their research programme, but result in the creation of a framework of understanding of the Internet itself. Such a phenomenon runs the risk of creating an incommensurable position within a particular research programme that cannot be easily reconciled with other research programmes. For instance, Shahin & Finger (2008) raise the issue of the missing user in debates surrounding e-governance but do not acknowledge any debates on the ambiguity of the Internet and its social implementation or the role of such ambiguity in perpetuating issues of governance. Through an entrenched adoption of a worldview, that blinds the research programme from challenges to its fundamental assumptions and worldview, an inaccurate description of the phenomenon is offered that is increasingly at odds with other contrary positions. The key insight then is:

Research Guideline 5.9

A second order research programme can help guide first order epistemological pursuits.

A review of the manner in which aspects of the Internet and issues over it have been explored by academics reveals other methodological limitations. Whilst, the research papers identified in the preceding paragraphs highlight contributions that have been made to the academic literature on the topics of governance of the Internet, and other issues the Internet has raised such as ethical and legalistic considerations, there is an absence of a higher second order theory of inquiry to bind together the various research programmes. By extension, various methodological approaches that are employed for various reasons fail in providing a unified and holistic overview of the technological components of the Internet and their role in perpetuating a state of discord between the various stakeholders. In other words, the methodological approaches reviewed in the literature fail in providing a framework to enable an examination of issues of Internet governance and accompanying ethical, moral and legal issues, while allowing the discourse to be shaped by an accepted position on the nature and form of the Internet itself.

By way of illustration of the above contention, whilst Clark et al. (2005) do not follow a particular research methodology, they recommend the usage of methodologies such as the Actor Network Theory (abbreviated as ANT), and Game Theory to allow for the study of artefacts that can function as plasticky and manoeuvrable, as against the more rigid traditional physical artefacts. The usage of ANT or Game Theory allows for the creation of an ontology of the space wherein such tussles can take place, and the relationships between different stakeholders ascertained. Additionally, as part of the development of their main argument, they argue that technology provides a paradox in that it both enables the ability to cause significant change in the society, as well as curtails the human ability to cause it once the initial change becomes solidified. The role of law becomes important in both preventing the initial change and then by providing the support to preserve that change and as such, a research methodology needs to examine the importance of legalistic solidification. A way out of such paradoxes and resolution of issues between the various stakeholders then is to cater for technological tussles during the design phase of technology and subsequent tussles between stakeholders after it is released. Clark et al. (2005) find support in the work of Rossel and Finger (2007) that shows a holistic framework is necessary to examine issues on the Internet by examining the co-evolution between technology and institutions. Despite the usefulness of their recommendations, the research programme suffers from the lack of a research methodology that builds on an existing overarching understanding of a reality. It instead allows an escape from restrictive paradigmatic confines of the research programme that would at best explain the ontology in terms other than its own. To this end, research guideline 5.5 can be expanded to leads towards the following research guideline:

Research Guideline 5.10

A second order research programme can reduce the manifestations of incommensurable positions.

Another risk that the haphazard manner for evolving an ontology is the increasing incommensurability between different research programmes utilising different methodologies that contributes towards corroborating disparate theories. To this effect, Riedl (2007) suggests that the field of Information System contains very

few replication studies in which the findings of a previous study are replicated and corroborated. He highlights another motive and argues that the reason for the scarcity of such replication studies is due to the prevailing culture adopted in leading journals and conferences where replication studies are not considered as important as newer studies (Riedl, 2007). At this stage, it is vital to note however that this attitude is also prevalent in other social disciplines such as psychology, accounting, management, marketing, and finance wherein less than 10% of studies could be classified as replication studies (Hubbard & Vetter, 1996). Reidl (2007) contrasts the lack of replication studies in the field of Information Systems to the natural sciences such as physics and suggests that in natural sciences replication studies form an essential part in doing research. He gives the example of how one nuclear scientist's discovery of a new particle results in other researchers' replication studies appearing in leading journals and conferences. Reidl (2007) only allows once occasion when a social scientist may not choose to carry out a replication study, where the scientist follows a realist interpretive approach and not a positivist aiming for generalization of laws.

The limitations on the explanatory powers of research programmes utilising methodologies in the absence of a core theory on an aspect of reality, in conjunction with the difficulties reconciling incommensurable research programmes further highlight the difficulty in guiding research programmes to explore complex issues such as governance of the Internet and its accompanying set of issues. Whist there are well-meaning attempts in the literature to provide resolution for complex issues, the misaligned methodologies in effect hinder the desired effect. Furthermore, the allowance for ad-hoc theories to develop their particular versions of assumed reality allow for the evading of the ontology of the Internet and allow for further discourse to become muddied with irreconcilable descriptions of complex reality.

5.4 RESEARCH METHODOLOGY

The research methodology for the thesis has within its scope the task to explore the ontology of the Internet that spans all its constituent components and explore issues of governance. To help facilitate the scope, the philosophical method is utilised to guide the process for an abstract second order examination. The intent

of utilising the philosophical method is to ensure that the research programme of the thesis allows for an exploration of the Internet without being swayed by assumed core positions (RG 5.2). Furthermore, before a definition of the Internet is proposed, the thesis aims to facilitate a detailed discussion on why incommensurate positions on the Internet have become entrenched in recent times (RG 5.1). Key propositions that reflect insights based on the literature reviewed in the preceding chapters are utilised to construct a robust and coherent argument (RG 5.8) to develop a core shared position on the Internet that can be utilised for normative purposes (RG 5.9). No attempt is made to arbitrarily remove stakeholders (RG 5.4) from the scope of the thesis in order to impose an artificial form on the way the Internet exists (RG 5.5). Subsequent to the exploration of Internet's ontology, utilising the research guidelines 5.3 and 5.7, the link between humans and technology is explored to examine the reasons governance attempts on the Internet have continued to fail, and the manner in which the Internet may be governed.

The choice of the philosophical method can be justified through reviewing the literature on Internet and its governance in the preceding chapters summarised in section 5.1 to reveal the difficulty of deriving solutions for normative issues in the absence of a second order scaffolding. The last section explored the manner in which the absence results in the selection of research methodologies that do not permit a coherent view of the whole to emerge from independent and reductionist examinations of the individual aspects. For instance, debates on constructing policy on the Internet under the overall agenda of promoting governance of the Internet assume an ontology for the Internet that does not exist except within the narrow worldview of individual research programmes. Consequently, such discourse remains mired with ambiguity by utilising inaccurate foundations. Furthermore, ontology of the Internet formed as a result of the engineering process is ignored within the research programmes occupied with the exploration of policy, thus leading towards research results that cannot be easily applied universally (proposition 2.13). Thus, the primary goal of a research programme to describe a phenomenon (proposition 2.6) is negatively impacted.

Despite the above observations, the issue is not with the motivations behind research programmes or the methodologies equipped to guide the process,

but instead lies with the imposition of first order models of inquiry on a space that has not been effectively understood on the higher second order abstracted layer (propositions 4.7, 4.12). Furthermore, the fundamental issue with such research programmes is the omission of the role that positions on the Reality Continuum and meta-ethical perspectives have on the way in which research methodologies may be employed to provide answers for issues on the first order. Such omission also denies the heritage of approaches that the field of Information Systems derives from differing philosophical understandings of reality (Dobson, 2001)(RG 5.6). Similarly, friction between extremes of theory building processes, such as anti-realism and realism that can be traced back to historic times when the Platonic forms arguing for the universals were challenged by the naturalist Aristotelian laws (proposition 2.2) are omitted from such discourse. The discarding of the underlying philosophical tensions in defining the reality in turn help provide foundational support for IS research methodologies used by disparate research programmes that yield contradictory theories on artefacts such as the Internet and subsequent efforts at its governance. By way of illustration, unjustified conditions are placed for acceptance of theories of inquiry dealing with an aspect of the complex reality through the promotion of techniques such as falsifiability and verificationism as key criteria. A false dichotomy is therefore erected between those theories that utilise the key criterion of a research programme as against those that do not.

As noted in the previous section, the research questions attempt to re-evaluate the basic assumptions about the manner in which the Internet exists as an entity in terms divorced of the requirements of a reductionist research programme, and thereafter examine whether the Internet can be governed and the form such governance may take. Therefore, the thesis attempts to explore ontology of the Internet and the role of ethics and politics towards formulating a governance framework. As argued in the previous section that normative research programmes face the risk of arriving at inaccurate results when founded on uncertain foundations, it is useful to situate the thesis as a second order philosophical pursuit to answer the three research questions. Furthermore, the second order abstraction also enables a positioning of reality in accordance with the positions identified in the Reality Continuum (figure 2.1). Utilisation of the

Reality Continuum to explore the ontology of the Internet enables a subsequent exploration of governance problems utilising the key insight that the three philosophical fields of metaphysics, ethics and politics are closely inter-twined (propositions 3.3, 3.4).

It is necessary that the research methodology chosen for this thesis assist in answering the proposed research questions introduced in section 4.2. As noted in the previous section, traditional Information Systems research methodologies inhibit the exploration of ontology when they are not detached from the confines of an applied research programme. Furthermore, the question of governance is not necessarily specific to a given field of knowledge such as Information Systems, Political Theory, or International Relations, but a primordial one that manifests as a result of stakeholder engagement in a sphere of interaction moulded by the way the complex reality functions. Thus, what is to be examined, evaluated, and proposed as part of the thesis requires an exploration of the literature in disparate fields of knowledge and attempts made to provide a way out of incommensurable positions perpetuated by extreme requirements such as falsifiability or unjustifiable metaphysical commitment. Furthermore, the methodology needs to operate on an abstracted second order level in order to provide a core theory and framework of understanding, which can thereafter be used for exploration of normative issues, not bound to the considerations or norms of a single field of knowledge.

The basic precepts of Critical Realism are utilised in order to provide the underpinnings for the research programme and enable the framing of various aspects of its reality. Critical realism aims to strike a balance between the two conflicting academic research positions and view of reality being realism and anti-realism as explored in the Reality Continuum (figure 2.1). Furthermore, Critical Realism argues for a relationship between methodology and philosophy (Dobson, 2001). Bhaskar (1978) conceives the relationship by arguing for the existence of a real, an actual, and the empirical. By means of explanation:

> *"Real structures exist independently of and are often out of phase with the actual patterns of events. Indeed it is only because of the latter that we need to perform experiments and only because of the former that we can make sense of our performances of them.*

> *Similarly it can be shown to be a condition of the intelligibility of perception that events occur independently of experiences. And experiences are often (epistemically speaking) 'out of phase' with events—e.g., when they are misidentified. It is partly because of this possibility that the scientist needs a scientific education or training. Thus I will argue that what I will call the domains of the real, the actual and the empirical are distinct* ." (Bhaskar, 1978, p. 12)

Bhaskar (1991) further suggests that the different domains, the real which is unobservable, and the actual or empirical which can be observed and tested, require different epistemological approaches (proposition 2.1). He argues that a major fault of the post modernistic explanations of reality is an epistemic fallacy in which these domains are collapsed into each other. For example, Bhaskar (1991) suggests that it is a mistake to analyse statements about ontology (being) in light of statements about what is known about them through epistemology (Dobson, 2001). In contrasting positivistic methods like naturalism with post-modernistic explanations of social phenomena utilising methods like hermeneutic circle, Miles and Huberman (1994) suggest that critical realism achieves a balance by accepting that facts are value laden and are imbued with subjective theory, while still allowing for 'lawful and reasonable stable relationships' (Miles & Huberman, 1994) (proposition 2.5).

Furthermore, Vaujany (2008) suggests that the Critical Realism theory allows the researcher to escape the bounds of Actor Network Theory, which equates the person-hood of a human to a non-human. Moreover, he suggests that critical realism provides more developed distinctions between actors such as persons, agents, that can be utilised to bridge the 'biographical and social realms' (Vaujany, 2008). Bhaskar (1991) regards society as *'an ensemble of structures, practices and conventions that individuals reproduce or transform'* (Bhaskar, 1991, p. 76), and argues against the use of a flat ontology on the grounds that it can restrict explanatory power of theory. To this end, Vaujany (2008) suggests that most of the Critical Realism academic research deals with theory instead of qualitative or quantitative research. A reason offered by Bhaskar (1979) suggests that the critical realist manner of exploring social phenomena lacks in the ability

to predict due to the openness of the social systems, yet Bhaskar (1979) argues that Critical Realism can still be used for explanation of the phenomena.

Archer (1995) contrasts the pragmatic way of building theories using instrumentalism (with the focus on theories that can explain phenomena) with the critical realist manner of building theories that focus on explaining objective reality by suggesting that ontology and methodology are different issues. She suggests that the Critical Realism allows for a perspective, which can be utilised to focus both on the methodology of examining a social phenomenon, as well as allow for the explanation of the ontology (RG 5.3). Archer (1995) further suggests that by binding together the ontology (the real), epistemology (the actual), and methodology (the empirical), the critical realist manner of exploring reality can provide consistent and rigorous research (Archer, 1995)(RG 5.8).

The usage of Critical Realism allows for situating the research process under the philosophical method, which will be utilised for building a theory on the ontology of the Internet. The philosophical method will cast justified hyperbolic doubt on current theories and propositions regarding the ontology of the Internet invoking the principle of suspicion, and suggest propositions that will be used for theory building. Furthermore, principles of Fine's Natural Ontological Attitude that was explored in greater detail in Chapter 2 will be employed towards the formation of a shared position on the Internet upon which incommensurate positions can be united (proposition 2.1; RG 5.10). The intention behind the usage is to allow the development of a core theory to enable the construction of a framework that can be utilised to host auxiliary theories. Therefore, the method of philosophical enquiry is utilised to identify relevant factors for the considerations of the way in which the Internet exists and the manner in which the stakeholders engage therein.

The claim for realism made in Critical Realism is further adapted and qualified for usage into the thesis to guide the process for evaluating the manner in which the Internet exists as a complex reality. The revised realist position adopted in the thesis allows extending metaphysical commitment to an entity outside of human experience (propositions 2.3, 2.11), yet denies that it can be entirely understood epistemologically. Thus, extreme realist positions such as mad-dog realism identified in Chapter 2 are abandoned as useful positions to provide answers to the identified research questions in light of the advancements

made in fields such as quantum mechanics that shed new light on the way reality is made up. For instance, scientific understanding of matter and reality has undergone a fundamental paradigmatic shift with the acceptance that values of given variables are not discovered but determined through the very act of measurement (Karakostas, 2012). The revised realist position allows for a contextual realist view of a complex reality to emerge that although does not provide ascertainable methods to confirm the latching of theoretical constructs onto elements of reality, still allows for a view of reality that is independent of the human in its own terms. In other words, what is denied through the revised realist position is that there is a universal way of measuring reality, and that realism can only be philosophically held if localism is allowed to prevail (Neilsen & Chuang, 2010).

Similarly, the focus of the proposed approach is not toward the denial of anti-realism as a valid philosophical foundation for providing answers to the research question, but its inability in allowing a meta-view of reality to emerge that can be utilised for constructing holistic and overarching ontologies. As anti-realist positions lead towards research results that are not expected to be reconcilable with core theories in other disciplines due to the inability of accurately describing reality, its adoption poses difficulty for answering the second and third research questions identified in section 5.2. Furthermore, the revised realist position under the overall guise of Critical Realism provides a useful way of dividing the different strata in which the human epistemic efforts engage with the Internet. In addition, the revised realist position provides an opportunity to provide a core shared theory on the Internet in the manner Fine (1986) recommends through his Natural Ontological Attitude.

In order to explore the second and third questions of the thesis, once the Internet has been re-evaluated as part of answering the first question, relevant literature identified in Chapter 2 will be utilised to evaluate governance efforts on the Internet and identify reasons for their ineffectiveness in meeting their desired objectives. To this end, core suppositions will be drawn from the examination of the literature on governance to propose the manner in which an authority may be tasked for governance of the Internet. As the study attempts to construct a second order framework of how governance processes on the Internet may function, the

manner in which relations between the various stakeholders may be formed on the Internet will be explored. To this end, the role of meta-ethics and perspectival political positions in the construction of normative codes of conduct to facilitate governance will be explored.

5.4.1 Limitations of the proposed methodology

The research methodology operates on the second order of philosophical abstraction and in doing so exposes the research programme to the fundamental underlying tensions and tussles prevalent between competing positions on the Reality Continuum (figure 2.1), meta-ethical views and perspectival political positions. By extension, any framework constructed through the invocation of chosen positions faces the risk of incommensurability from other positions. For instance, a mad-dog realist description of quantum mechanics does not allow a reconciliation with an instrumentalist explanation of how sub-atomic particles behave. Whilst, there are fundamental reasons behind the continued opposition of views on reality between competing positions on the Reality Continuum and were explored in greater detail in Chapter 2, it is useful to revisit them briefly to outline the resulting limitations for the research programme.

In Chapter 2, Fine (1986) noted that metatheoric arguments face a greater burden than others by the virtue of the fundamental foundational support they aim to erect for subsequent theories. In this observation, a significant hint is provided regarding not just the significantly different ways in which such theories are accepted, but also on how they may be proven. For instance, Popper (1959) uses the differences in how theories may be judged accurate to weed out the metaphysically ambiguous and muddied systems from the pristine and well-understood systems derived from mathematics and logic. As explored in Chapter 2, there are well-intentioned reasons behind the recommendation made by Popper (1959) to utilise such criterion as relativity of theories leads towards a state where an acceptance that reality is largely socially constructed and defined lead towards increasingly greater number of incommensurable positions. To this end, even those first order research methodologies that deny the claim that all theories can be proven or are empirically verifiable to attempt to introduce rigour and measures to remove ambiguity from their research programmes. For instance, Lee

& Hubona (2009) allude to the phenomena where the argument is accepted that not all theories may be verifiable to the level that a strict positivist perspective may require, and yet strive to produce research outputs that meet varying degrees of validity and consistency checks. By way of further illustration, interpretive research methods begin with a subjective understanding of reality:

> *"Interpretive methods of research start from the position that our knowledge of reality, including the domain of human action, is a social construction by human actors and that this applies equally to researchers. Thus there is no objective reality which can be discovered by researchers and replicated by others, in contrast to the assumptions of positivist science" (Walsham, 1993, p. 5)*

To this end, Orlikowski & Baroudi (1991) also add:

> *"The interpretive research approach towards the relationship between theory and practice is that the researcher can never assume a value-neutral stance, and is always implicated in the phenomena being studied' and 'There is no direct access to reality unmediated by language and preconception" (Orlikowski & Baroudi, 1991, p. 15)*

However, the admission of the importance of human subjectivity in determining research outputs is not held as a hindrance towards constructing a theory of inquiry for phenomenon that cannot be internally consistent and adequately describe a complex reality. Similarly, other research methodologies like hermeneutics also utilise a subjectivist or philosophical realist approach towards reality, and posit that meaning of a symbol or representation is shared and constructed within a context. The hermeneutic theory can be contrasted against scientific realism, which suggests that ideal scientific theories must be falsifiable and replicable (Searle, 1995) and that entities have an objective existence outside of human minds (Berthon, Pitt, Ewing, & Carr, 2002).

Before the limitations of the research methodology are outlined, it is useful to conclude from the above discussion that a theory that cannot be strictly proven or falsifiable is not the only grounds for its non-admittance as a useful descriptor of phenomenon. At this stage, it is useful to examine the manner in which Mingers (2004) highlights the ways in which different research methodologies

inspired from competing positions on the Reality Continuum derive their mechanisms for the validity of the research outputs.

		Empiricism		Conventionalism	
	Logical Empiricism	*Hypothetico-Deductive*	*Pragmatism*	*Kuhnian Paradigms*	*Sociology of Science*
Purpose	Explaining events that can be empirically observed in terms of universal laws.	Explaining events that can be empirically observed in terms of universal laws.	A practical activity aimed at producing useful knowledge rather than truth.	Science aims at knowledge within a given framework of assumptions.	Science is essentially a social activity much like any other. It does not have a special hold on truth.
Method	Observations and measurements that can be represented mathematically. The derivation of universal laws through induction.	Proposal of hypotheses or conjectures that can be verified or falsified but not p.roven.	Theories are judged in terms of their usefulness in solving a problem or their acceptability.	Science always works within a deeply held set of theories and assumptions (paradigm) that shapes the nature of scientific activity.	In practice, science works like any social activity in terms of power and influence rather than pure access to the truth.
Assumptions	Humean causality: only constant conjunctions of events; Induction; Objective observation and measurement; Correspondence theory of truth.	Humean causality; Direct observability of the criterion for existence; Observations are theory and subject dependent; Hypotheses in principle are unproveable; deduction rather than induction.	We cannot and should not aim for ultimate truth but rather usefulness; theories are instruments. Consensus theory of truth. The meaning of a concept comes from its use.	The prevailing theoretical paradigm determines scientific activity: measurements, theories, acceptability. Over time, paradigms replace one another but these may be incommensurable. Truth is relative to the paradigm.	Knowledge is purely the outcome of power within social activity rather than a reflection of an external real world.

Figure 5.2 Different Philosophical approaches to research (Mingers, 2004, p. 296)

Mingers (2004) provides further support to the argument that research programmes utilising varying overarching worldviews such as empiricism of conventionalism can develop and apply methods to gauge their efficacy in alignment with the underlying assumptions.

As the proposed research is positioned as a second order research programme, and derives methodological support from views of reality such as Critical Realism and the revised realist position, the methods available for its verification are primarily those of consistency and the ability to describe the complex reality of the Internet suitably. Furthermore, as endeavour is made to construct a theory of governance for how the Internet may be governed, the resulting framework is not amenable to strictly scientistic ways of establishing

veracity. Consequently, the research process engages with the literature and attempts to create a theory for the Internet using the philosophical method to answer the first research question. As the research process does not involve any first hand qualitative or quantitative data, and instead relies upon an epistemological pursuit as defined above, the research process does not produce traditional Information Sciences research artefacts such as surveys or raw interviews. The limitation is that the research answers, in form of the theory of the Internet's ontology and proposed framework for governance, aim to establish theoretical foundations, which would require later work in order to test the suppositions. While the research attempts to test the viability of the ontological structure proposed for the Internet by utilising the results to explain the interaction between stakeholders and how governance may flourish on the complex space of existence, the key suppositional are philosophical in nature where an overall theory for a framework is proposed.

5.5 CONCLUSION

The chapter has defined the methodological approach that the study takes to enable an examination of the outlined research questions within the problematic context that has been defined in the previous chapters. The choice of a second order abstracted level of research that combines the primary fields of metaphysics, ethics, and politics with the literature in Information Systems through philosophical method has been defended.

The thesis now proceeds towards the investigation of the research questions in the chapters that follow, in accordance with the research approach defined in this chapter.

The below key research guidelines were introduced in this chapter:

RG 5.1 A research methodology should help identify the underlying ideological foundations that perpetuate conflict between stakeholders.

RG 5.2 Research into an aspect of a phenomenon should not be constrained by decisions within another aspect.

RG 5.3 A research programme should acknowledge the vital

	link between technological and human-orientated problems.
RG 5.4	A research programme should not arbitrarily remove stakeholders from its scope.
RG 5.5	A second order research programme enables an abstract examination of those systems that are in a constant state of flux.
RG 5.6	Research programmes within the field of Information Systems can extend across a plurality of disciplines.
RG 5.7	A research programme cannot assume that ethical frameworks are universally applicable in all cases.
RG 5.8	A research programme should maintain rigour and overall coherence.
RG 5.9	A second order research programme can help guide first order epistemological pursuits.
RG 5.10	A second order research programme can reduce the manifestations of incommensurable positions.

Chapter 6 – Re-visualizing the Internet

6.0 INTRODUCTION

The primary intent of this chapter is to answer the first research question of the thesis "What is the Internet?" To this end, propositions and key ideas developed in the previous chapters are utilised to guide the discussions. The first research question is answered through proposing a definition of the Internet based on its conceptualisation as a duality comprising of the physical implementation and the virtual Cyberspace. Furthermore, the definition of the Internet is advanced as a core shared position to enable the exploration of research questions 2 and 3 in Chapter 7.

The chapter is structured to explore first the reasons that contribute towards the prevalence of ambiguous understandings of Internet in the literature. Key ideas developed in the preceding chapters are utilised to challenge the axiomatic assumption that physical space inspired spatiotemporal models of phenomena can generate useful definitions of phenomenon. The literature reviewed in Chapter 4 is used in section 6.1 to define the Cyberspace and trace the reasons behind the often contentious and contradictory descriptions of it. The contentions of key positions are examined to outline the various ways in which the existence and essence of the Cyberspace are debated in the literature. A discussion is carried out on the difficulty in the application of physical space inspired models in explaining phenomena on the Cyberspace. It is argued that the primary reason the Internet remains an ambiguous entity is because its two primary aspects, being its physical implementation, and the sphere of interaction for the stakeholders are examined in isolation, or reconciled through the adoption of incommensurate worldviews and theories. Section 6.1 concludes by providing a summative account on how such ambiguity results in muddying auxiliary discourse (such as issues of governance) on the Internet.

Section 6.2 advances a definition of the Internet. This is done as an attempt at building a core shared position on the phenomena that can provide a firm foundation for all subsequent theories of inquiry. Subsequently, an epistemological framework for the Internet is proposed that enables the convergence of metaphysical and other inquiries through setting up useful markers to guide the discourse. The chapter concludes by discussing the ramifications of the proposed understanding of the Internet and key findings are stated.

6.1 THE ILL-DEFINED INTERNET

Chapter 4 (sections 4.1, 4.2 and 4.3) explored the conceptualisation of the Internet as a technological artefact (proposition 4.1) and examined its evolution and history as a manufactured object with an accompanying list of architects and designers that was designed for the main purpose of facilitating the flow of information. Whilst initially the intentional focus of the information was United States defence related, its focus has broadened into interconnecting computing nodes of various shapes and sizes spread across the globe. The understanding of the Internet as an artefact with a technological origin helps regard its accompanying issues as the by-products and waste productions of a human originated device (a consequence of development as per proposition 4.5). For instance, the invention of the artefact scythe was in response to a specific requirement, and waste products of the labour accompanied the construction process. The understanding leads to the following supposition:

Supposition 6.1

Manufactured artefacts are designed to meet an objective.

Thus, Chapter 4 explored the Internet as an engineered artefact designed to meet evolving technological needs (proposition 4.1). There are legitimate benefits in understanding the Internet as a technological artefact with accompanying issues in the way of waste products. The situating and bounding of a technical Internet as an artefact helps in creating a historical entity that is reducible and can be studied in isolation. Furthermore, the scientific approach can be employed for the technical processes on the Internet, which can illuminate the problem areas in the discourse using cause-effect models. Such an understanding has been highly

effective as observed in section 4.1 (proposition 4.11), where it was used to successfully create methods and frameworks to enable discussions and later adoptions on issues such as the technicalities of IPv6 and establishing the standards for Ethernet 802.11n. While there were debates on issues such as whether a proposed protocol for the Internet was as effective as the alternatives, these disputes could be resolved through established scientific principles such as Occam's razor to eliminate unnecessary complexity and arrive at decisions through consensus. Furthermore, the initial discourse on the nature of the Internet could follow the guidelines intended for artefacts such as the telephone and its network in the contemporary era, itself an extension of the discourse on mechanical artefacts in the Industrial age.

Proposition 4.7 contends that the discourse on one of the auxiliary issues on the Internet being governance was fundamentally altered due to the increased participation of empowered stakeholders. As auxiliary issues of human import arise after the adoption of a technology (proposition 4.12) and its perceived importance (propositions 4.14, 4.15), there has been an increase in governance attempts and resultant issues in line with the global adoption of the Internet. However, at this stage it is vital to pose the question: "Does the introduction of newer variables only change the discourse, or does it change the constitution of the phenomenon as well?"

6.1.1 Extending physical world models on the Internet

In spite of the consensus on the technological constitution of the Internet vis-à-vis its physical architecture and implementation that is empirically at-hand, the inclusion of the human actor which introduces his social and political problems onto the Internet has created issues of contention that have not been successfully addressable through the approaches that worked for largely technical issues. For instance, early governance attempts on technological issues examined in sections 4.2, 4.3 were largely successful in contrast to the political efforts to control human conduct on the Internet. One insight from the examination is that a greater representation of various human stakeholders within the affairs of a technological affair gave rise to new issues. The insight can be summarised as:

Supposition 6.2

The inclusion of humans into a technological sphere introduces human issues into the latter.

Additionally, the greater role of the human stakeholders within the technological affairs of the Internet results in fundamentally altering the direction of the overall discourse (propositions 4.7, 4.13). In the same way, the inclusion of entities into the discourse on Internet governance and as actors within the system with varying meta-ethical, political and metaphysical understandings results in muddying the discourse with the introduction of unique practices (sections 4.3 and 4.5). The manifestation of such practices weakens the bonds between the disparate stakeholders (proposition 4.6), disrupts attempts at setting abstracted ideals (such as governance per propositions 3.1), and leads towards varying understandings of governance of the Internet (proposition 4.2). In other words, through epistemological pursuits at understanding phenomena within the Internet (which is a study of reality as per proposition 2.1), the essence or purpose of the Internet is moulded (propositions 2.9, 2.10). Based on the insight in proposition 2.11, the following can be proposed.

Supposition 6.3

Increased human involvement with an artefact influences the latter's design purpose.

The matter of the human actor's inclusion into technological or affairs of innovation resulting in conflicts, has been explored earlier in the literature. For instance, while discussing the cause of such conflicts, Latour (1988) suggests that they are a result of the lack of understanding of relationships of humans with non-humans in a complex reality that is artificially simplified (Latour, 1988). Furthermore, attempts by various human stakeholders and their governance structures to control the happenings on the Internet follow from translation attempts of their local practices and sensibilities onto the artefact and its life-worldness.

Latour's (1988) observation leads to the critical insight that methodologies employed in the non-Internet physical or real world are modified to grasp the Internet (similar to governance attempts as per proposition 4.8). The introduction of the supposition means that some models for resolution of issues on the Internet

begin with the assumption that physical world regulations and mechanisms can be applied, with or without significant modifications, onto the Internet. The contention can be summarised as:

Supposition 6.4

Real world methodological practices can be applied on the Internet to explore issues of contention.

While some academics such as by Koepsell (2003) argue explicitly in favour of the idea, others such as Clark et al. (2005), Kokkinaki et al. (2008), Mueller (2004) implicitly accept the contention and carry out examinations of governance issues on the Internet through utilising explanatory models on the physical-world and projecting them on the Internet. In a further example of implicit acceptance, Vaishnavi and Kuechler (2007) utilise principles and practices of design research for the physical world within their research on IS Governance without questioning the assumption of an existent isomorphic relation between the physical world and the Internet, and by extension the similarity of frameworks that operate within them. Consequently, in discussions wherein resolution models are produced, there is no transition of the physical world space models into the contextual space or domain that the Internet appears to provide and facilitate but not act as the definitive cause. The contention can be summarised as:

Supposition 6.5

If two spaces are largely analogous to each other, the cause and effect models will be similar in kind.

The acceptance of the Internet as a technological artefact not different in kind to others provides support to the argument that the Internet occupies a sub-section of the spectrum of reality that humans have interacted with instead of creating a new kind altogether. By extension, another perceived advantage of such an approach is the presumed ability in continuing the usage of the approaches developed and refined in the physical non-Internet world on the Internet to address issues that accompany technological artefacts. To this end, Merleau-Ponty (1968) warns against unquestioning adherence to an ontological model without due consideration of the non-linearities and difficulties that acceptance poses and says that: "*The physicist frames with an objectivist ontology a physics that is no longer objectivist" (Merleau-Ponty, 1968, p. 25).* Latour (1991) also disagrees with the

blind acceptance for ontological certainties and argues that there is no distinct entity called a physical world, which can be utilised as a purely isolated artefact. Therefore, by extension of his argument, the assumption that models of the physical world can be exported to the Internet in the absence of an agreement on the physical world itself appears unwise. Others agree with the warnings of Merleau-Ponty (1968) and Latour (1991); for instance, Nietzsche (2005) warns against holding an entity as definable when it has an ongoing evolution and history, and Baudrillard (1983) cautions against assuming that supposed hyper-real world is an accurate representation of the real world. The insight can be summarised as:

Supposition 6.6

If sub-systems that occupy varying positions within the spectrum of reality are constantly evolving, they are not necessarily analogous to each other.

In summary, there are hidden assumptions behind attempts of human stakeholders to apply real world practices on the Internet, which utilise one of the following contentions to provide the initial grounding for their projects:

1) There is a real world, whose ontology is understood adequately enough to form general and normative codes of conduct,

2) General and normative codes of conduct for the real world can be adapted for the Internet to the same effect,

3) The Internet is a technological artefact that is not different in kind to other similar artefacts, and

4) Either the Internet's ontology is well established, or if not, the lack does not restrict their programs,

Additionally, the definition of the Internet as proposed in proposition 4.1 (the Internet is a technological artefact) or its depiction in proposition 4.10 (a duality of physical implementation and data) is limited in providing the necessary framework for exploring questions of human import raised in propositions 6.2 and 6.3. By way of explanation, whilst, an exploration of the entity in terms of either aspect of the proposed duality provides a useful avenue for epistemological research, the reviewed literature does not provide a summative description to enable a holistic examination of problem areas. The key insight can be summarised as:

Supposition 6.7

The Internet is an ill-defined entity.

The next section explores whether the Internet is analogous to the physical world, and whether by extension models of understanding reality for the latter can be applied on the former. Furthermore, it introduces the Cyberspace as an aspect of the Internet that has ontological ramifications for the artefact Internet.

6.1.2 Cyberspace: the troublesome space of the Internet

The stage of human actions influences the construction and depiction of the theatre where it is set and is in turn influenced by it. In other words, the building blocks used for understanding reality help construct a correspondent reality (proposition 2.11). For instance, it is the theatre of anarchy that Locke (1988) and Hobbes (1985) identify as the natural original human state due to the inherent selfishness manifested on the stage occupied by the humans. An enforcement of conditions of co-operation in the form of the Social Contract (proposition 3.9) founded on principles such as Habermasian (1989) precepts of deliberative democracy or the conception of pluralistic justice by thinkers such as Rawls, helps in fundamentally transforming the theatre and enables the production of similar stages through processes of evaluation and refinement (proposition 3.26). However, the task of configuring an authority is harder when the boundaries are difficult to establish (proposition 3.19).

Whilst it is vital to identify the players within the theatre on a stage in order to define the limits and domain for normative models, it is even more important to define the theatre first. For instance, an adoption of the principles of Farabi's (1998) envisaged Virtuous City can only be carried out in a meaningful manner in a defined domain where the mandate can be established as a result of mediations between well-defined actors. As the Internet is an ill-defined artefact (supposition 6.7), the task to construct such a theatre becomes difficult.

As human issues guided by competing paradigmatic views are increasingly played out within the theatre of Internet, the absence of a higher level abstraction does not offer assistance in staging the discourse nor at reaching resolutions. The task is made more difficult as a result of the tensions between the competing agendas of early technologists and the national governments that was

outlined in section 4.3. By means of illustration of the conflict, John Perry Barlow (1996), cofounder of the Electronic Frontier Foundation, makes a distinction between the Internet and the Cyberspace. He advances the Cyberspace as an amorphous medium of communication atop the tangible medium of the physical Internet, and then in his essay titled "Declaration of the Independence of Cyberspace" highlights the differences of purpose between the physical Internet and the Cyberspace. He says:

> "*Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. Governments derive their just powers from the consent of the governed. You have neither solicited nor received ours. We did not invite you. You do not know us, nor do you know our world. Cyberspace does not lie within your borders. Do not think that you can build it, as though it were a public construction project. You cannot. It is an act of nature, and it grows itself through our collective actions." (Barlow, 2001, p. 28)*

Whilst, the political ramifications of Barlow's (2001) views for the project of governance are explored in the next chapter, the de-coupling of the Cyberspace from the physical Internet provides a useful reason to explain the ill-defined nature of the Internet. The following suppositions can be made to summarise the view of Cyberspace advanced by Barlow (2001):

Supposition 6.8

The Cyberspace is distinct from the physical Internet.

And,

Supposition 6.9

Stakeholders can engage with others through the Cyberspace.

The term Cyberspace was invented by Gibson (1984) in his science fiction novel Neuromancer which he terms '*consensual hallucination'* in a '*non*-space' (Gibson, 1984, p. 5). This consensual hallucination for Gibson (1984) took place in a form much like the term Utopia refers to an imaginary place. In this manner and in the form of Cyberspace a fabric of reality was created for the virtual reality

(Deutsch, 1997). There are numerous definitions of Cyberspace that signify well-meaning attempts to visualise and communicate phenomena (Baloch & Cusack, 2009), but the differences in usage reveal a lack of consensus. To this end, Strate (1999) suggests that the polysemic neologism Cyberspace is ill defined and states that as *"cyberspace is everywhere, and through widening usage, threatens to become everything, the term has become increasingly more vague and drained of meaning*" (Strate, 1999, p. 17).

The variances on what Cyberspace is are not limited to the semantically differing definitions but are also influenced by the adoption of various positions on the Reality Continuum (figure 2.1). For instance, the usage of teleological anti-realist attempts at defining Cyberspace leads some academics to suggest that within Cyberspace, distance and space no longer matter (Cai, Hirtle, & Williams, 1999; Mitchell, 1995). However, a dialectically opposing view can be proposed by utilising the realist Physicalist position where it is suggested that distance is not dead on the Cyberspace but merely appears so (Floridi, 2005). In addition, the definition of Cyberspace also appears linked to the desire to use it simply as the primary signifier to the contextual space on the Internet without requiring a proper definition. By way of extension of such usages, the term Cyberspace can be used interchangeably with the Internet based on the understanding that what is being referred to through the synonym is in fact the same.

An acknowledgment of a new stage within the theatre of Internet that may be uniquely different from what it appears to complement or replace necessitates a rethinking on the Cyberspace. While some academics try to define the non-physical aspect of the Internet by acknowledging it in various guises (Cyberspace as the catch-all term), there is a group of academics that questions the existence of a Cyberspace by dismissing it as paradoxical and illusionary and deny offering a metaphysical commitment to it (Bukatman, 1993; Delaney, 1988; Lee et al., 2002). Denying the Cyberspace a realist existence outside of the human mind, Koepsell (2003) terms the Cyberspace a misleading term and instead prefers to use the term "*computer-mediated-phenomena"*, which is less "*mystical"* and more accurate. For those scholars who dispute the existence of a Cyberspace in the manner that positions within the realist position on the Reality Continuum (figure 2.1) offer, Umberto Eco's term 'the force of the fake' can be used to describe the

process in which the Cyberspace gets invented by those who claim it exists and forced to act as a signifier without an actual signified (extension of proposition 2.10). Casti (1997) gives an example of such reality being created while discussing prescriptive models in which reality gets created by those whose job it is to define it; for instance, the economic conditions of the market force are often not discovered, but invented by those who predict them.

The invocation of post-modernistic positions on the nature of reality on the Reality Continuum (figure 2.1) can offer the Cyberspace a symbolic yet fictional existence. For instance, Zizek (2006) defines the Cyberspace as a reality deprived of substance wherein the rules of the usual real world are changed. By way of explanation, Zizek (2000) offers an analogy and says that instead of the usual serial authorship in real world, the Cyberspace features *'procedured authorship*'. In his online essay, Zizek (2000) explains procedured authorship as a state where: *"the author (say, of the interactive immersive environment in which we actively participate by role-playing) no longer writes detailed story-line, s/he merely provides the basic set of rules (the coordinates of the fictional universe in which we immerse ourselves, the limited set of actions we are allowed to accomplish within this virtual space, etc.), which serves as the basis for the interactor's active engagement (intervention, improvisation)*".

It is revealed from examining the literature that attempts to define the Cyberspace or other similar terms derive their outlook from the competing positions on the Reality Continuum explored in Chapter 2. By way of illustration of the contrasting views, the Cyberspace either exists wherein humans interact in increasingly unique ways that may appear paradoxical or counterintuitive, or it does not exist and is purely fictional, or it exists in a symbolic and syntactic dimension where the rules of the game are different than those on the real world. The key insight is:

Supposition 6.10

There is no shared position on the Cyberspace.

At this stage, the key question is: "What importance does the Cyberspace have for the project of devising an understanding for the Internet?" To this end, the following sub-sections analyse the Cyberspace in detail before exploring its ramifications in sub-section 6.1.3.

6.1.2.1 Where is the Cyberspace?

An examination of the Cyberspace guided by a position on the Reality Continuum (figure 2.1) is concerned not just with the entity but also with its contextual relationships with other known entities in order to define it accurately (proposition 2.6). While the exercise is greatly manifested in realist systems of thinking that attempt to construct overarching ontologies of systems (proposition 2.2), it is present in other research programmes as well where it is considered vital to undertake epistemological work to understand an entity in the manner in which it interacts with others. For instance, whilst Latour (1991) denies the feasibility of accurately defining dividing lines in science through the setup of poles of reality (through purification as per proposition 2.19), he does not deny that works of mediation between the various actors in a system happen within a network. In the same way, Descartes (1985) offers the Cartesian model for understanding an aspect within reality through a relational examination within the contextual spatial world. Spinoza (1985) too offers an ontological explanation for substance in reality through situating it as spatial instantiations of a singular source. In other words, the insight can be summarised as:

Supposition 6.11

The latticework of interconnections enables the positioning of an entity and aids its understanding.

The Cyberspace does not appear to follow traditional spatial connection networks in providing useful coordinates. For instance, while the actors in Farabi's (1998) Virtuous City are constantly engaged with each other in order to mediate their differences within a defined theatre, the nature of the theatre where the Cyberspace appears as a key actor remains misunderstood (supposition 6.7). In the same way, whilst teleological attempts used by the early researchers on the Internet to determine its composition could make use of spatial models to provide co-ordinates for their research, such attempts on the Cyberspace appear fraught with difficulty in the absence of such a model. Below is a sampling of some views on the abstraction of the manner in which the Cyberspace resides:

> *"Cyberspace is profoundly anti-spatial – the Internet is ambient... nowhere in particular but everywhere at once." (*Mitchell, 1995, p. 8).

And,

> *"A world that is both everywhere and nowhere, but it is not where bodies live"* (Barlow, 2001, p. 28)

The difficulty in locating the space wherein Cyberspace functions leads towards the difficulty in understanding the entity and how it relates with other known and understood entities in a system of thinking. That there are various well-meant attempts at understanding and communicating the Cyberspace, drawn through established approaches at establishing ontologies, which have failed in adequately understanding the nature the Cyberspace exists, is troubling for the social fabric wherein the human actor engages with the technological artefact Internet. The insight can be summarised as:

Supposition 6.12

The inability to explain the Cyberspace renders the task of locating its stakeholders difficult.

In other words, the acceptance that Cyberspace is distinct from the physical Internet (supposition 6.8) with distinct ways of communication between stakeholders (supposition 6.9) and remains ill-defined (suppositions 6.10, 6.12), renders the task of describing the Internet that contain Cyberspace difficult.

At this stage, it is vital to restate that debates on the spatial composition of reality are not a recent phenomenon (section 2.4). For instance, Leibniz-Clarke correspondence engages in the classic debate between relational and absolute conceptions of time (Teller, 1991). Whilst classic Newtonian philosophy holds that absolute space remains constant and immutable as long it is not held in relation to another entity and suggests that it can be regarded as a quantifiable entity, Leibniz in Bryant's opinion argues against the absolutism conception and regards all space to be relative (Bryant, 2001). In the same way, whilst Einstein (1962) argues that space functions more as a social construct rather than objective reality, Kant (1998) offers his transcendent aesthetic and says that an understanding of space is a priori. Such differences arise when reality is subjected to a metaphysical and epistemological framework of understanding (proposition 2.1). The key issue here is the possibility of arriving at incommensurable positions by adopting contradictory standpoint (proposition 2.13).

In recent times, Merleau-Ponty (2003) offers a refined position on space and time. He agrees with Einstein (1962, 1997) and says that advances brought upon by the theory of relativity have challenged the conceptual validity of an absolute simultaneity in the classical events where events could be timed by a universal objective clock across the universe. However, he disagrees with the position that each observer possesses a unique time, which is objective in his own frame of reference and mediated to others through abstractions on the space-time continuum. He draws a difference between scientific simultaneity of space and time and the philosophical simultaneity. The core responsibility for philosophy does not deal with an absolute time, but with that time and space in which the entity to be investigated is placed. In Merleau-Ponty's (2003) words, "*my duration is not a purely interior one. Certainly universal time is not the same as mine (there is not objective simultaneity), but it cannot be absolutely other, either. Something responds to my duration…*" (Merleau-Ponty, 2003, p. 112). Whilst the mission of physics involves the search for reality behind scientific equations, the philosophical simultaneity *"emerges from our belonging to the world as the world from which we arise"* (Merleau-Ponty, 2003, p. 112). The key insight from the discussion can be summarised as:

Supposition 6.13

Simultaneity of experience (perceived or otherwise) forces a re-evaluation of reality.

Whilst Merleau-Ponty (2003) can be accused of resorting to metaphysics as the refuge for the philosopher under an assault made by advances in sciences on the philosophical notions on space and time, he still presents the argument on the importance of space and time in determining the ontology of an entity (supposition 6.13). Furthermore, he agrees with the centrality of the human consciousness in being the commonality across all attempts at understanding reality. He also argues for a reality that is formed through complex interconnections of various actors instead of creating divisions (supposition 6.11). To this end, he says:

> "*The concern is to grasp humanity first as another manner of being a body – to see humanity emerge just like Being in the manner of a watermark, not as another substance, but as interbeing, and not as*

imposition of for-itself on a body in-itself." (Merleau-Ponty, 2003, p. 208)

The argument made in supposition 6.13 can be applied on the Cyberspace. Whilst some understandings of the Cyberspace contend that matter, distance and time (or at least one of them) have been annihilated (e.g. Dreyfus (2001)), and others contend that these have been influenced in the least extreme proposals (e.g. Koepsell (2003)), they are united in the contention that the notions of space and time face a severe recalibration within the Cyberspace. For instance, Bryant (2001) argues that the Internet has helped in blurring the distinctions between reality, which Deutsh (1997) suggests is a result of granting a virtual reality the fabric of reality. The key insight can be summarised as:

Supposition 6.14

The Internet has blurred the traditional boundaries imposed by spatiotemporal frameworks.

As human consciousness creates or perceives a space, objective or subjective, to function in (proposition 2.21), and notions of space and time play an important role in determining its perceived reality by the consciousness (propositions 2.8, 2.11), the issue of settling the status of space and time within the Cyberspace becomes vital. However, the chasm between opposing vantage points on the impact of Cyberspace over human sensibilities results in greater incommensurability that detracts from constructing a unanimous understanding. By way of illustration of such positions, Zizek (2000) suggests that the Cyberspace offers promise of a '*false opening'* in which one can shed the ordinary body, and by attaining the spiritual body, overcome distances; while, Lovlie (2008) argues against such shedding of the body that he terms are instead better understood as disembodied subjectivities (Lovlie, 2008). Utilising supposition 6.10, the key insight can be summarised as:

Supposition 6.15

The lack of understanding of the Cyberspace leads towards incommensurate understandings.

The question that arises at this stage is: "What impact do incommensurate understandings of the Cyberspace (supposition 6.15) have on the development of

the Internet artefact that blurs traditional distinctions in reality (supposition 6.14)?"

Returning to the matter of how space and time are impacted by the Cyberspace, both absolutist and relativist understandings of reality can be justified. To this effect, Bryant (2001) says on her online essay:

> *Cyberspace shares two important features of substantival space: (a) two types of irreducible cyberspatial entities exist (cyber objects and places within cyberspace) and (b)cyberspace can exist in the absence of all information, but cyber objects depend on cyberspace for their existence. Regarding causality, however, it seems that we must go over to the relationalist's side, holding that cyberspace does enter into causal relations with cyber objects." (Bryant, 2001).*

Bryant (2001) argues that Cyberspace is roughly analogous to human understandings of the physical world and as such amenable to the imposition of similar philosophical perspectival positions. The primary difference between the Cyberspace and the physical world for Bryant (2001) is the intensification of an experience of simultaneity of space and time (supposition 6.13).

In the expressionist debate on whether the (collective or individual) human subjectivity can create a new space independent of topological concerns (extension of proposition 2.11), Dreyfus (2001) suggests that a reason Cyberspace feels more unreal than real world is because it fails to surprise the human body as much as being in the real world does. By way of example, driving a car at full speed with its associated risks, and driving a car in a computer simulation with lesser risks influences the way in which consciousness regards reality. In opposition, Lovlie (2008) contends that Cyberspace does not allow for a human consciousness to experience the truly idealist hope of a disembodied existence, as the topology of Cyberspace is still determined by the human body-mind. He further adds that *"the situatedness, orientedness and rhythm of our perceptions and actions carry over from the real to the virtual world, making them one experiential world." (Lovlie, 2008, p. 115).*

Dreyfus (2001), however, contends that if the experiences in the Cyberspace were to begin to hold uncertainty and instability of the same order as

that in the real world, as in providing surprises both on specific and general instances, the human will more readily accept Cyberspace as more real and a new kind of space. He also suggests that when the human being enters the Cyberspace leaving behind the emotional self that is similar to that of animal, his ability to decipher and act in the new space is severely compromised. As long as the human remains tied to his body that he has always been consigned to use, he remains situated and bounded, whilst the Cyberspace makes him ever-present and unbounded. He further suggests that the human need to utilise the concept of uncertainty is an indicator to identify stability in the unstable environment and as such necessary for the perception of a real world around him.

> *'Without our constant sense of the uncertainty and instability of our world and our constant moving to overcome it, we would have no stable world at all'. (Dreyfus, 2001, p56).*

Rosen (2010) suggests that unlike in the real world where the first law of thermodynamics and entropy dictate that matter can neither be created nor destroyed and actions can always be traced back, events may happen in the Cyberspace which cannot be traced back as they lack visible precursors, and act as '*footprints not preceded by feet'* (proposition 2.3). While traditional computer science may contend that a causative mapping is possible wherein deleted data can be restored, and a conversion is possible, in Rosen's (2010) view such an event happens on a different level to that on the physical world due to the manner in which humans are impacted on the Cyberspace where traditional spatiotemporal models do not provide adequate explanation of phenomena (supposition 6.14).

Dreyfus (2001) argues that the human experiences disembodiment when the consciousness of a subject is temporarily separated from the constraints of a physical body due to a diminishing of space and time that enables extension of the human experience into multiple communities (e.g. living the life of an avatar on Massively Multiplayer Online Role Playing Games (MMORGs)). There is risk in such disembodiment of the human if online communities threaten to replace real-life interactions, which Dreyfus (2001) argues would be unfortunate and inferior in experience. As bodily disembodiment is not a relatively new phenomenon due to the scientific advances in biology and telecommunications over the last century,

debate in the literature focusses on exploring the way human consciousness acts in a space of existence that enables interaction in new ways. The core insight revealed through the examination however is that the Cyberspace remains difficult to visualise and locate within a spectrum of reality.

6.1.2.2 The ontology of Cyberspace

While there is conflict of views on where the Cyberspace resides and how it interacts with the entities within it and those that reside within the physical space, the reviewed literature reveals instances of ontological examination of the Cyberspace. While it can be argued that the physical space is capable of abstraction to an extent but not comprehensively definable (proposition 2.19), there is no unified support for an abstracted description of the Cyberspace (supposition 6.15). By way of illustration, academics such as Koepsell (2003) warn against understanding the Cyberspace as an imaginary or unreal entity that is distinct to the real world, and assert that the entity is different to other similar entities in the real world in matter of degrees. On the other hand, other academics like Zizek (1997) strongly warn against a phantasmatic externalization of a subjectivity, which is illusional and phantasmatic to begin with, and therefore warn against the shifting of the intra-virtualized subjectivity to an extra-virtualization that questions Cartesian subjectivity. To this end, Zizek (1997) suggests that:

> *"with VR and technobiology, we are dealing with the loss of the surface which separates inside from outside. This loss jeopardizes our most elementary perception of 'our own body' ... it cripples our standard phenomenological attitude towards the body of another person, in which we suspend our knowledge of what actually exists* beneath the skin (glands, flesh…) and conceive the surface (of a face, for example) as directly expressing the 'soul'. On the one hand, inside is always outside." (Zizek, 1997, p. 134)

The key revelation from the examination is the divergence of views on the ontology of Cyberspace. Zizek (2006) offers another contrasting view of the Cyberspace without overtly appealing to a position on the Reality Continuum (figure 2.1). He suggests that the being and mode of operation of Cyberspace is determined and built by the ideologies that it sustains (when understood as an

artefact per supposition 6.1). One of such ideologies is Cyberrevolutionism, which relies on the existence of Cyberspace "*as a self-evolving "natural" organism." (Zizek, 2002, p. 294).* On the matter of ideologies, Geiger (2009) contends that the Cyberspace can be subjected to two different ideologies that it sustains and is sustained in return: that it supports and integrates a powerful discourse (Geiger, 2009) which uses "*the unforced force of the better argument*" (Habermas, 1998, p. 306), or that it fragments communities impacting the Habermasian (1989, 1998) public sphere. Underlying the disjunctive positions outlined by Geiger (2009) is a vital clash over the formative ideology of Cyberspace that provides its purpose. As per supposition 6.3, the emergent discord over the purpose of the physical-Internet as a result of examining the Cyberspace (suppositions 6.8, 6.9) is a result of the way the Cyberspace's ontology is understood.

The question may be raised at this stage: "Why is it important to define an ontology of the Cyberspace?" One reply to the question is that events originating in Cyberspace can have causative manifestations on events in the real world. In other words, despite a lack of consensus on an abstraction of the Cyberspace or the manner in which it exists on the space-time continuum, the issues that are raised within it carry consequences that affect actors in the 'real' world. To this end, Zizek (2006) provides an example and suggests that the Cyberspace allows a human (for instance, a shy introvert male) to take on a role in the guise of fiction that he may never have taken in the real world such as a seducer or a murderer. In doing so, the person is able to articulate the truth about his hidden dark-half and actualize his potential. Zizek (2006) warns that while that person's actions may be intended to stay fictional, the transformative effects on the person can reverberate into the real world. The insight can be summarised as:

Supposition 6.16

Events within the Cyberspace are influenced by and influence cause and effect models on the physical world.

There are further issues of a greater magnitude. For instance, Zizek (2002) contends that the excess of choice that results due to an adoption of the Cyberspace leads towards an impossibility to choose wisely, and helps create a situation where powerful actors band together to protect their interests at the expense of others that results in an intensification of issues (proposition 3.30). As

there is a causative linking between events on the Cyberspace and the physical world, efforts to disrupt the conditions of co-operation on the Cyberspace have the potential to lead to a disruption through exacerbating the asymmetrical distribution of power on the physical world. In his online essay, Zizek (2004) refers to such issues and says that "*the universal direct participatory community will exclude all the more forcefully those who are prevented from participating in it.*" (Zizek, 2004).

Heidegger (1962) too supports the importance of understanding an entity in terms of its relations (supposition 6.11). He says that an enquiry of an entity cannot successfully proceed without first understanding its being and how that Being comes into being in relation to things that enable it to function. In his words: "*the real problem is not to find an answer to philosophical question, but to understand how the problem could arise in the first place (Heidegger, 1962, p. 43).* Therefore, an ontological investigation of an entity allows for an investigation of the Being in terms of its being, rather than drawing on external biased reference points that introduce non-neutral foundations (proposition 2.8). However, as observed in the preceding sub-sections, there is considerable conflict of views on the nature in which the Cyberspace is. For instance, the Cyberspace can be regarded as either a purely imaginary space or something that appears different as a result of the compression of usual constraints of time and space. The lack of an agreement on how to construct a framework to set co-ordinates within the Cyberspace in order to guide the ontological discourse presents difficulty carrying out research of an entity in terms of itself.

At this stage, questions prevalent in the academic discourse on whether it is possible to encounter new kinds of realities that may not be understandable through a human originated perspective of reality borne out of traditional familiarity (see section 2.4), manifest on ontological discussions of the Cyberspace. Consequently, an important first question that needs to be answered for sake of understanding in discussions of Cyberspace's ontology is whether the difference between Cyberspace and any other contextual space, such as the physical world, is a difference of degree or of kind. Furthermore, if Cyberspace is a new kind, the question arises on how it can be understood.

Section 2.4 explored the manner in which encountering new kinds of reality increases the manifestation of incommensurable positions. In the same way, the phenomenon is encountered when the Cyberspace is examined. For instance, Koepsell (2003) suggests that the difference between Cyberspace and real world is that of degrees and proposes there is nothing inherently and innately different about Cyberspace that might, for instance, require the suspension or significant modification of physical world laws (such as Intellectual property) in computer-mediated-phenomenon, which is primarily electronics and nothing mystical. Similarly, in his online essay, Rosen (2010) contends that when talking of the Cyberspace, "*we are speaking of a simulation, an electronic imitation of living reality, not reality itself*." (Rosen, 2010). However, on the other hand, Zizek (2000) argues for the Cyberspace to be understood as a symbolic dimension, and provides a contrary view of its being. He suggests the Cyberspace is an emergent result of the intertwining of multiple-narrative ideology with technology, against a strict linear world in which time flows one way. In his online essay, he refers to it as '*another example of the well-known phenomenon of the old artistic forms pushing against their own boundaries' (Zizek, 2000).* Dreyfus (2001) takes a different approach to the question of ontology and compares the Internet (Cyberspace) to Nietzsche's (2005) Superman and uses the example of Zarathustra to imply that the Internet is a new *kind* of entity that the human can use to overcome and transcend himself. He suggests that the Cyberspace allows the human to create an external scaffolding to enable him to develop thoughts he could not otherwise (Dreyfus, 2001). Therefore, to him Cyberspace is a new kind of technological invention, instead of a new instance of technological invention.

The key insight of the sub-section then is that the utilisation of contrary foundations leads towards incommensurable positions (proposition 2.13) that are difficult to reconcile in order to construct a core theory (proposition 2.14).

6.1.2.3 Summarising the difficulties in understanding Cyberspace

This sub-section aims to summarise the difficulties in understanding Cyberspace identified in the previous sub-sections. Ludlow (2001) offers a vital first hint on why the Cyberspace continues to be ill defined and difficult to analyse (and by extensions the issues within it) through acknowledging the underlying metaphysical ambiguity:

> *"Most of the academic writing on cyberspace is just awful. It either reeks of half-learned post-modern cant, or is a dense thicket of bad sociology."* (Ludlow, 2001, p. xv)

In addition, the major difficulty in arriving at an understanding of the Cyberspace is that unlike the technological artefact physical Internet, literature does not offer a shared core position on it (supposition 6.10). The various understandings of Cyberspace are mutually exclusive to the level that they hint at a foundational chasm restricting efforts at developing a shared core position. Similarly, the lack of a central position prohibits the construction of a core theory around which auxiliary theories may be coalesced (proposition 2.14). The danger for research programmes is that choosing distorted initial fixed points results in introducing ambiguity at the expense of illumination (proposition 2.15).

The problems are not limited to situating the Cyberspace within reality, but also extend to issues of human import within the sphere of Cyberspace. Bennahum (2001) adds:

> *"I'm wondering what it means to form a social contract in cyberspace, one with the kind of authenticity and authority of a constitution. It sounds great in theory, but I don't actually live in cyberspace: I live in New York City, in the state of New York, in the United States of America. I guess I'm taking things too literally. Apparently my mind lives in cyberspace, and that's what counts. It's my vestigial meat package, also known as my body, that lives in New York. Government, geography, my body: all are obsolete now thanks to "cyberspace, that new home of mind." (Bennahum, 2001, p. 65)*

Extending his line of argumentation, Bennahum (2001) suggests that the act of placing cause and effect models within the Cyberspace results in a fundamental challenge to how events can be understood. In the same way as Bennahum (2001), Barbrook (2001) questions the validity of Barlow's (2001) argument for the Cyberspace as a separate sphere of existence:

> *"On the contrary, the privatization of cyberspace seems to be taking place alongside the introduction of heavy censorship. Unable to explain this phenomenon within the confines of the*

> *Californian Ideology, Barlow has decided to escape into neoliberal hyperreality rather than face the contradictions of really existing capitalism"(Barbrook , 2001, p. 48)*

Consequently, it becomes clear by studying the varying views on the Cyberspace that disagreements on the nature of reality and its observation are immanent in the literature on Cyberspace. Furthermore, the conflicting views draw their ultimate foundations from positions on the Reality Continuum (figure 2.1) and as such result in similarly incommensurable positions that are difficult to reconcile in order to construct understandings of the Cyberspace phenomenon. By way of illustration, Koepsell's (2003) views on the Cyberspace appear to derive their strength from those academics who argue for a neopositivist or anti-realist understanding of science to prevail over the realist account of its practice and hold scientific phenomena to be empirical and falsifiable. Koepsell (2003) displays disdain in extending metaphysical commitment to the Cyberspace in keeping with the anti-realist arguments against constructing unnecessary metaphysical ambiguities.

Support for Koepsell's (2003) views on the non-existence of Cyberspace can be drawn using Heidegger. Heidegger (1962) in his destruction of Cartesian places contends that his dasein (the being), in his act of being, engages practically and concernfully with the objects in terms of relation, instead of geometric co-ordinates. For instance, when a dasein makes contact with another dasein on the phone separated by two thousand miles, he acts more concernfully with that dasein than another sitting a mile away. In such practical concernful dealing, the mathematically calculable spaces are annulled and space and time contract. In Koepsell's (2003) understanding of Cyberspace, it could be suggested that while Cyberspace allows for the shrinking of both space and time, and allows for a disembodied and non-situated human experience to take place, no new spaces are created but merely the experience of the dasein or stakeholder on the Cyberspace modified.

However, in following the anti-realist contentions on the nature of reality, Koepsell's (2003) conception of the Cyberspace faces similar criticisms as other anti-realist approaches. For instance, Koepsell's (2003) attempts at setting the criteria of observability onto the Cyberspace prior to its acceptance as an entity in

reality is largely arbitrary and unsupported by any factual evidence. In other words, his explanation of a phenomenon arrives at a view of the Cyberspace tinged by the paradigmatic lenses of the Reality Continuum (figure 2.1) without building over the foundations of a shared core position.

While there are debates on the Cyberspace being imaginary versus real, a new kind versus a new innovation, a dichotomy between absolutism and relationalism (Teller, 1991), Cyberspace's ontology is often defined by comparing it against to practices in the real world. This could be due to the bias that Cyberspace is created by the human actor's involvement with the Internet. As such, most definitions of Cyberspace proceed from a real-world-centrist perspective that subjects the former to latter processes, practices and cause-effect models. While one effect of such assumption is that definitions of the Cyberspace become concentrated in comparisons to the real world (supposition 6.4), the assumption that the humans somehow affect the Cyberspace remains unchallenged and uncontested. There is also a second assumption that is implicit in such works wherein it is taken for granted that there is indeed a physical space, which has been adequately defined and understood, and that it can be compared to other spaces.

Furthermore, the approach of defining objects in Cyberspace as equivalent and analogous to those on the physical space offers indeterminate or unexpected consequences. By way of illustration, while investigating human communication behaviours in the virtual environment, Lin, Wu and Hseih (2009) draw parallels between the Internet and the dramaturgical theory. They draw analogies of the front-region performance and back-region behaviour at play in a drama with the public and private communication models on the Internet. The authors propose that while people complain about their circumstances as per the back-region behaviour exhibited at a drama, they share such complains on the Internet in a front-region performance arena. They contend that the public and private communication models that take place within the context of the dramaturgical theory are inversed on the Internet. Usage of real world practices on the Cyberspace is not unique as human consciousness firstly visualises all space as it relates to the body and its experiences (Lovlie, 2008). However, the excessive

usage of such analogies forces the implicit acceptance of the Cyberspace as being a space wherein the traditional body driven orientation mechanisms apply.

In summary, the two assumptions guide the discussion on the nature of Cyberspace towards a classical philosophical subject object dualistic discourse, where the varying definitions of Cyberspace appear to differ in degree between the poles of dialectic. Consequently, the inherent biases in the way Cyberspace is described ensures that the discourse does not evolve towards an understanding of the Cyberspace in terms of its own to further the research programme concerned with exploration of human issues.

Metaphysical ambiguity exacerbates the rise of normative issues (proposition 2.13). As an illustration, Bennahum (2001) argues against Barlow's (2001) insistence for different rules and legalistic boundaries over the Internet. He says:

> *"So when Barlow trashes government—by claiming "Cyberspace does not lie within your borders. Do not think that you can build it, as though it were a public construction project. You cannot. It is an act of nature, and it grows itself through our collective actions"—I look back at the Pentagon, the Defense Department, and American universities with federal funds paying AT&T, Sun Microsystems, and others to build a network of cables and computers and telephone lines, and I think, "What is he talking about?" (Bennahum, 2001, p. 41)*

Such views are in contrast to the argument made by Johnson and Post (2001) for the way in which the Cyberspace creates new forms of reality. They argue that within virtual worlds, "*this new boundary defines a distinct cyberspace that needs and can create new law and legal institutions of its own" (Johnson & Post, 2001, p. 145).* Furthermore, they argue that any insistence to apply physical space centric models to understand the manner in which geo-political realities are obliterated on the Cyberspace results in creating further problems (Johnson & Post, 2001). However, as outlined, Bennahum (2001) contends that the Cyberspace is not a separate domain for legalistic or metaphysical reasons. In Bennahum's (2001) view, it is better to understand the Cyberspace as an evolution of technology instead of an assault on reality. To this end, Bennahum (2001) adds:

"There is a precedent for seeing media this way (in the United States). The content of telephone conversations is seen as private, and moving through the spectrum of media the other extreme is broadcast television. Broadcast television is the ultimate public medium (and hence faces the most public restrictions on content). In between the telephone and television you get a series of media, moving from private to public, with print, videocassettes, and film falling in the middle. The tricky thing with cyberspace is that it is all these mediums rolled into one." (Bennahum, 2001, p. 44)

The fundamental issue then is that foundational uncertainty does not detract the emergence of normative theories of enquiry. Furthermore, carrying out research on the Cyberspace in isolation to the core shared position on the technological artefact Internet or the advances on it introduces the risk of drawing inaccurate conclusions. The insight can be summarised in the following supposition.

Supposition 6.17

Research programmes utilising divergent understandings of the physical Internet and Cyberspace risk arriving at inaccurate conclusions.

For instance, Dreyfus (2001) argues in his book first released in 2001 that the Internet does not truly allow a human to concernfully deal with geographically disparate entities. He finds support for his contention through the observation that the disembodiment, which a human experiences when he interacts socially within the Cyberspace is an inferior experience due to the organisation of data via hyperlinks. To this end, he says:

"*When information is organised in such a hierarchical database, the user can follow out the meaningful links, but the user is forced to commit to a certain class of information before he can view more specific data that falls under that class" (Dreyfus, 2001, p. 10).*

Dreyfus (2001) further argues that:

"*Web surfers embrace proliferating information as a contribution to a new form of life in which surprise and wonder are more important than meaning and usefulness. This approach appeals especially to those who like the idea of rejecting hierarchy and*

> *authority and who don't have to worry about the practical problem of finding relevant information. So postmodern theorists and artists embrace hyperlinks as a way of freeing us from anonymous specialists organising our databases and deciding for us what is relevant to what. Quantity of connections is valued above any judgment as to the quality of those connections" (Dreyfus, 2001, p. 12).*

In spite of whether there are legitimate concerns for the human when he undergoes disembodiment on the Cyberspace, Dreyfus's (2001) contentions are severely weakened through utilising inaccurate understandings of the underpinnings of the artefact Internet. For instance, he bases his contention that embodied humans can categorize data more effectively upon the incorrect view that all information on the Internet is presented exclusively through hyperlinks. Furthermore, he fails to anticipate that advances in semantic web and Web 2.0 technologies that return a result of sites not based simply on a query but in order of their interconnectedness might fundamentally alter the manner in which embodiment works. The risk then is that through surrounding inaccurate auxiliary theories as the protective belt, the validity of the core idea that human thoughts, meanings and character experience degrade without an embodied social experience, is crippled. The focus of the discourse gets diverted from introducing a positive problem shift to the idea that disembodiment is a *"masquerade that offers cautious experimentation but misses the rewards of the sort of bold experimentation only possible in the real world"* (Dreyfus, 2001, p. 120) towards a negative problem shift through constructing a stronger protective belt of auxiliary theories (proposition 2.15).

Similarly, on the matter of situating Cyberspace, Ludlow (2001) raises the contention that to say virtual worlds are lesser in certain ways than the physical world on the basis of how it affects us as humans does not provide a coherent argument. He adds:

> *"If the bulk of my social contacts are in VR rather than the RW, then why wouldn't VR have greater claim to the construction of my gender? That is, if social institutions determine gender and if the bulk of the social institutions in which I participate are VR*

institutions, then why isn't my VR gender my "real" gender?" (Ludlow, 2001, p. 4)

Ludlow (2001) identifies the virtuality of other human constructs such as governments and accepts that much of what is considered real is a result of social agreement and convention (as highlighted in proposition 3.1). Therefore, he argues that the actual insight is not on whether the virtual worlds are any more or less real than their physical counterparts, but that the latter is considered the yardstick for establishing the veracity of existence of the former. This is the key insight as he hints at the manner in which primacy of experience forces a re-shaping and re-interpretation of subsequent experiences.

Dreyfus (2001) builds on the line of argument that Ludlow (2001) provides, and extends it in his research work on the Cyberspace to assert that Cyberspace is a new kind of reality due to the manner in which humans are able to experience disembodiment. However, as a result of fixating on the fixed point of disembodiment, he disregards the impact of other externalities such as virtual currencies, spam, and governmental censorship control on the evolving nature of the Cyberspace. The disregard for advances in technology that offer increasingly effective manners of human disembodiment challenge his contentions in general and reveals the difficulty in constructing a shared core position on the nature of Cyberspace. For instance, while cybersex may not be entirely analogous to actual intercourse with another living human being, it can be a sexual experience in its own right. To this end, Dibbell (1995) argues that despite the apparent disembodiment, the human mind acts in a similar concernful manner through the Cyberspace. He adds:

"*Netsex, tinysex, virtual sex — however you name it, in real-life reality it's nothing more than a 900-line encounter stripped of even the vestigial physicality of the voice. And yet, as many a wide-eyed newbie can tell you, it's possibly the headiest experience the very heady world of MUDs has to offer" (Dibbell, 1996, p. 557).*

Hinting at the potential that advancements in computing provide to humans, May (2001) extends the above arguments to argue that fundamental human experiences such as communication and relationship face significant re-interpretation over the Cyberspace that exists as a result of the Internet. He adds:

> *"A specter is haunting the modern world, the specter of crypto anarchy. Computer technology is on the verge of providing the ability for individuals and groups to communicate and interact with each other in a totally anonymous manner. Two persons may exchange messages, conduct business, and negotiate electronic contracts without ever knowing the True Name, or legal identity, of the other."* (May, 2001, p. 61)

Despite the presence of widely incommensurate positions on the Cyberspace and its ramifications for the physical Internet and the wider real world, academics have offered conceptions of the Cyberspace and Internet to bridge these fundamental disputes. By way of illustration, a detailed examination of Dreyfus's (2001) analogy for the Cyberspace that utilises Nietzsche's Zarathustra reveals the usage of both the Realist and anti-foundationalist Nietzschean ways of regarding reality, which enables him to regard the Cyberspace (and the Internet by extension) as a new kind of being that allows for human transcendence onto a new level. Dreyfus (2001) utilises a mixture of hopefulness and cynicism on the nature of the Internet to contend that diverse views such as Platonic spheres of reality and Nietzsche's (2005) anti-foundationalism can be harmonized wherein the human gains the ability through disembodiment to simultaneously exist in different planes and better himself as a human. However, the issue is that such efforts are limited in scope and remain inconclusive to form core theory for phenomenon.

6.1.3 Issues as a result of the ill-definition of Internet

The previous sub-section has highlighted that Cyberspace is a distinct entity (supposition 6.8) that maintains an integral relationship with the physical Internet. Furthermore, it is argued that the Cyberspace is difficult to visualise for reasons covered in sub-section 6.1.2. As both Cyberspace and the artefact Internet remain ill defined metaphysically with no shared second order abstractions (suppositions 6.7, 6.10), normative studies situated within the spaces result in the manifestation of incommensurate positions (proposition 2.13). In other words, research programmes produce artefacts and conclusions based on a flawed understanding of the phenomenon.

The question “What importance does the Cyberspace have for the project of devising an understanding of the Internet?” is revisited. The physical Internet as an artefact produces a primarily technological viewpoint that cannot provide a robust framework for examination of largely human issues. Whilst the view provides useful description of some issues, it is ill suited to explore issues that arise as a result of conflict between various stakeholders. Similarly, the Cyberspace can be understood as the amorphous and ill-defined space wherein issues between stakeholders arise. Consequently, the need arises to re-evaluate the artefact Internet in order to enable an exploration of technological and societal issues that arise without exacerbating incommensurate positions. In other words, a second order description of the artefact Internet needs to reduce the incommensurable positions (RG 5.10) through acknowledging the vital link between human and technology (RG 5.3) and unite the Cyberspace and the Internet.

The artefact Internet remains ill-defined as a result of divergent understandings of the physical Internet and the Cyberspace. The issues that arise out of such ambiguity do not remain within the metaphysical realm. For instance, meta-ethical positions and perspectival political positions are influenced by the varying understandings on nature of reality (propositions 3.3, 3.4) and therefore give rise to incommensurable tensions between competing views. By extension, research programmes on the Internet that begin with the assumption that normative codes of conduct such as applied ethical theories or political ideologies can be utilised on the Internet in the same manner as they have been used on the physical world appear set to succeed only in replicating the incommensurability and underlying tensions instead of resolving the problem areas on the Internet.

The core shared position on the constitution and visualisation of the Internet is fundamentally compromised due to the involvement of the human actor (supposition 6.2). Humans do not merely interact with the technological artefact, but interact within it as well and in doing so challenge the core shared position on the constitution of the Internet (supposition 6.3). Furthermore, as there are various positions on the Reality Continuum (figure 2.1) that shape the motivations of the human, they manifest in the multifarious visualisation attempts of the Internet. The resultant stage that hosts the human actors torn apart by fundamental

differences of outlook is the Cyberspace within the overarching theatre of the artefact Internet. In other words, to arrive at a conclusive understanding of the artefact Internet, an accompanying examination of the Cyberspace is necessary. The key insight can be summarised in the following supposition:

Supposition 6.18

A fundamental reason for ill-defined definitions of the artefact Internet is considering the physical Internet and Cyberspace as unrelated entities.

The supposition and its implications can be examined in detail. Research programmes that proceed to the exploration of problem areas on the Internet make the cardinal mistake of constructing elaborate theories with no firm foundations when not utilising the insight of supposition 6.18. Whilst, it can be argued that despite uncertainty on the basics, useful conjectures can still be made (e.g. denial that true knowledge can be obtained of the real world yet manufactured theories can be useful in providing explanatory powers for encountered phenomenon), there remains the risk of deriving temporary results that cannot be easily reconciled with others. Furthermore, while this argument may be strengthened through the invocation of anti-realist positions, realism argues against deriving reductionist results in isolation to an overall ontology. For instance, realist research programmes can continue to be sustained despite continuing uncertainty in Physics on whether the four fundamental forces being gravity, electromagnetism, strong and weak nuclear forces encountered in nature can be reconciled in a single framework. In other words, the inability to utilise an abstracted understanding of the artefact Internet leads towards the introduction of a negative problem shift in the overall research field through constructing auxiliary or protective theories around a rotten core theory, and thus runs the risk of derailing the objectives of a research programme.

Furthermore, that differing definitions of the Internet can be derived from competing understandings of it is troublesome to all such activities that assume a prior agreement on the intended aspect of reality. By way of illustration, an understanding of the Internet as merely the tangible physical implementation leads towards defining the Internet as a physical entity, which subsequently results in shaping the subsequent discourse over its various functions and form based on a particular understanding of the Internet (proposition 2.11). Such an understanding

can be strengthened through foundational appeal to various views on the Reality Continuum (figure 2.1) and methodologies such as Realism and Scientific Realism. However, another understanding of the Internet that focusses on the cultural sphere that connects humans through the Internet and utilises post modernistic positions on the nature of such a sphere will develop a discourse on Internet with few commonalities with the former approach and develop the issue of incommensurability between theories.

The variation of understandings of the Internet that range from regarding it as a mere tool for the technologists or traditional stakeholders in the physical world, or an artefact of a familiar kind with the potential to cause significant impact on human society, appear to discard the possibility that it could form a reality of its own with a unique lifeworld. Consequently, the acceptance that the Internet is not significantly different from other phenomena encountered in the real world can restrain the appropriate discourse from leaving the bounds of technical specifications of the Internet and the efficacy of setting rules of conduct on it. Consequently, a false analogy can be made to artefacts such as the scythe that also carries transformative potential for the adopters, and rules on its operation can be set through grounding it firmly as an extended aspect of an existing and known reality.

However, there are significant differences between the scythe and the Internet. While both of the artefacts were constructed to mimic traditional human activities, the Internet outgrew its original envisaged mandate as against the scythe (supposition 6.3). The broadening of mandate is referred to in section 4.3 where a reason for the conflict between the technologists and the political stakeholders is the former's contention that the latter attempted to use the Internet as an extension of their existing governance mechanisms without considering the intents behind its development (proposition 4.8). The conflict over shifting conceptualisation of technology and its artefacts is not new. For instance, as observed in Chapter 3, Aristotle was one of the first thinkers to offer the view that a human made object may or may not imitate nature as a defining function, and may achieve what nature cannot conclude. There is another parallel between the Internet and the mechanised artefacts of the Industrial era that were originally created to lighten the burden of human workload but soon manifested the

transformative power of their adoption through fundamentally challenging the manner in which human societies had functioned and regarded work.

Furthermore, due to the mathematical underpinnings of the artefact Internet, the argument can be made that no technical definition of it would be both complete and consistent in keeping with Gödel's incompleteness theorems. The difficulty in accurately defining manufactured entities in reality even in the abstraction that thought provides is a further challenge to the capability of human as the subject in parsing the world he resides in. For instance, while Ibn Khaldun (2004) and Claude-Levi Strauss (1974) observe the limitations of the human intellect in understanding the complexity of relations between the plethora of entities that engulf the human senses and in this deny the aspirations of holism, they do not explicitly rule out the possibility of reaching a stage where the human may be able to make sense of such with the invention of appropriate tools and artefacts. Reductionist practices therefore emerge as viable alternatives ways of explaining phenomenon against the holistic landscapes that realist views on the Reality Continuum (figure 2.1) attempt to prepare. The advances in quantum physics have largely quashed such realist ambitions as observed by Fine (1986a, 1986b) and Einstein (1997). To this end, Smolin (2006) observes that despite the rapid scientific advancements in the last two hundred years, no certainty has been added to the laws regarding quantum entities since the 1970s (Smolin, 2006). The question that arises is: "What then is the impact of such complexity for constructing an understanding of the Internet that acknowledges its scientific heritage as well as the sociocultural problem areas?"

It appears that just as mathematical unifications of the fundamental blocks of reality appear infeasible, it is similarly not possible to accurately define the manufactured artefact Internet in the technical terms and the contingent spectre that emerges as a result of its involvement with the human actor. Rosen (2010) acknowledges the difficulty and notes that while the String Theory attempts to serve classic ontology through sidestepping the question of ambiguity on entities that exist at the sub-Planckian level, doing so results in an epistemic ambiguity to rise in its stead. Through an eradication of unmanageable entities and infinities in the ontological model, it still enables the theorists to solve highly abstracted equations to help produce a description of reality. In other words, the anti-realist

manner of examining reality allows for the development of models of reality that provide useful innovations to enable the setting of bounds on the limits of a theory and act as a core theory for subsequent research work. The key insight can be summarised as:

Supposition 6.19

Despite the difficulty in producing a comprehensive description of the artefact Internet, the attempts at description enable the construction of firmer foundations and clarification of epistemic ambiguity.

Despite the difficulties in defining Internet, in the reviewed academic literature a dominant unified and agreed-upon abstraction of the Internet that addresses both the tangible aspect of it being the infrastructure and the accompanying technical underpinnings, and the contingent aspects that carry the transmutative potential on human societies, remains absent. Scholars such as Dreyfus (2001) have attempted to define the Internet in terms of its impact on the human, and others such as Koepsell (2003) have focussed on the technical aspects, however, the positions continue to appear incommensurable to each other with few points of commonality. The ensuing ambiguity of the entity as the primary point of departure between competing theories means that discussions and debate on and for the Internet, such as governance models, remain concentrated at lower levels of debate unguided by higher abstractions. Although there are constructs and forums to facilitate such discussions to a degree for issues on the Internet, the missing second-degree abstraction hinders the creation of a scaffolding to host the discourse and in Lakatonian (1980) terms act as the core theory enabling a belt of auxiliary theories to form.

The lack of a scaffolding means that divergent approaches are applied to address issues on the Internet, such as cyber-crime or child pornography, without an overarching guiding philosophical agreement on the Internet. By way of illustration of such approaches, the application of mapping real world solution to problems on the Internet for issues such as theft of Intellectual Property, or reconciling Mueller's (2004) work on the top level domains with Dreyfus's (2001) exploratory work on the ontological design of the Internet, produce results that are not universally accepted nor achieve the same levels of effectiveness as they achieve on the non-Internet physical world. Despite the lack of a meta-

understanding of the Internet, stakeholders have continued to propose methods and processes to deal with various issues that rise within and due to the Internet. However, the omission of the changed nature of the Internet, a hybrid due to the human actor's involvement in a technological sphere (Latour, 1998), results in a lack of clarity on the ontological understanding of the Internet which is different than the physical-Internet. A denial of the viability of exporting codes of conduct and models of behaviour from the physical space to the Internet can be explained in two ways: either the positions were not adapted enough to meet the difference in degrees that the Internet exhibits, or that they were exported into a reality of a different kind.

By extension, it appears that an Internet that remains undefined in its own terms, even when it is not possible to achieve a perfectly accurate description, will continue to manifest problem areas when dealt with mutually exclusive approaches unguided by a higher abstraction. For instance, the discourse on the Internet and its governance reflects problems of conjunction of theories. For a realist scholar who intends to build an overarching picture of reality, combining a technical theory on the underpinnings of the Internet that works well with an effective theory on governance ought to provide a theory of governance for the Internet. Alternatively, even when the conjunction appears to fail, it should be reasonable to expect the construction of a foundation to refine further adaptations. However, as explored in the literature, the approach to conflate understandings of the mathematically syntactic Internet of the technologists with the governance theories on the physical world appear to fail largely in not providing predictive and enforceable models of the entity.

Supposition 6.20

The task of conflating two disparate theories rests on the premise that they share an unambiguous term that is well understood.

Latour (1991) insists that in a complex society where quasi or hybrid entities proliferate in increasing numbers, the task of defining unique identities is an attempt at creating artificial divisions not found in reality. As explored above, the Internet is ill defined as an entity, and it follows that any attempts at building elaborate normative and applied codes of conduct would appear doomed for

failure until they could be linked to each other through epistemic chains on a well-understood entity.

Furthermore, there are higher-level issues that are exhibited as the result of lack of an abstraction for the Internet. For instance, approaches to the Internet that grant it the status of a mere technological toolset ignore questions of meta-ethics and nature of reality towards developing an understanding of the Internet and its waste products. For instance, the application of instrumentalist approach to technology that posits neutrality for technological artefacts over the Internet results in leading the discourse away from the possibility of considering it as an entity of a new kind. Similarly, other perspectives of examining the world utilise their particular worldviews on how the Internet is to be grasped and dealt. For instance, political approaches towards the Internet proceed based on conceptualising technology as a political phenomenon that can be controlled and embodied in a manner to reflect the institutional power relations between the various stakeholders in a society. As a result, problem areas proliferate on the Internet.

6.2 THE INTERNET

The section provides an answer to the first research question of the thesis "What is the Internet?" through presenting a definition of the artefact Internet. Firstly, the core shared position on the Internet is constructed with the view to provide a starting point in the effort utilising the revised realist position. Subsequently, the core shared position is expanded with the intent to develop a second order abstraction that allows for a holistic view of the Internet to emerge whilst acknowledging the vital linkage between the physical Internet and Cyberspace, technology and humans (RG 5.3). Consequently, freedom is sought from the immanence of normative human issues that obscure the higher-level debate on Internet and lead towards incommensurable positions (RG 5.10). Furthermore, the viability of the proposed definition of the Internet is examined in its ability to provide a scaffolding for the resolution of normative issues (RG 5.9).

6.2.1 The core position on the Internet

As explored in section 2.5, one of the ways to bridge incommensurability between various competing views of reality is to adopt the core position that allows for the existence of an external entity based on sensory evidence. In other words, stripping away all embellishments regarding the entity as part of a philosophical paradigmatic outlook leaves the entity bare to the court of senses without unnecessary epistemic or metaphysical crutches. However, based on the revised realist position, the fundamental caveat is that it cannot be argued that entities can be abstracted and explained through human descriptions. Moreover, the explanatory success of a phenomenon in reality does not provide assurance that it has latched on to an aspect of the external entity. Furthermore, the revised realist position argues for a denial of sharp dividing lines in science that result in the imposition of arbitrary limits on the scope of a theory. In other words, the practice of defining constraints on the notion of truth of an entity detracts from the core position on the entity itself and therefore create an artificial division.

The core un-contested position of the Internet that emerges as a result of evaluating through the literature (see section 4.1) is a technical one. Koepsell (2003), Dreyfus (2001), Clark et al. (2002), Mueller (2005) and other referenced academics agree either implicitly or explicitly that the Internet is a technological artefact with an established history and a complement of technological rules that keep it functional through a consensual interconnecting of the disparate and widespread computing nodes in the world. Private clouds and commercial enterprise networks link with the networks of their Internet Service Providers, which in turn connect with higher tiered networks, which ultimately connect with the backbone networks on the Internet, on a voluntary basis through the adoption of networking protocols such as IPv4 and IPv6 over an agreed physical architecture. Resources on the internetwork are located through passing queries from one DNS server to its peers in the internetwork and the responses are honoured and replicated to the requesting nodes. Similarly, through the acceptance of routing protocols, a network advertises its constituent networks to the wider internetwork helping create routing tables that enable computing nodes through the internetwork to calculate and adopt the most effective route for reaching each other. The insight can be summarised as:

Supposition 6.21

The core shared position regarding the Internet is that fundamentally it is a technological artefact.

The above core position on the Internet is unsullied from issues that obscure the discourse on the Internet, such as the clash on the mandate over the Internet between the early technologists and national governments, and as such one that is adopted universally. The core position offers a pragmatic commitment to the technical form of the Internet instead of either extending a metaphysical commitment or denying the possibility to it. Questions such as "How to govern the code of conduct of humans on the Internet?" or "What is the nature of interactions that happen between virtual avatars of a human and computing nodes?" are shirked by the core contention, and instead the focus is shifted at a core shared starting position on the nature of the Internet.

6.2.2 The Physical Internet

The core shared position introduced in the previous sub-section provides a unified starting position for stakeholders. Consequently, that the Internet is an artefact, which is designed and operated by humans to interconnect disparate computing nodes is not held in doubt in varying research programmes. However, the problem areas of governance that form research questions 2 and 3 of the thesis remain difficult to answer utilising the core shared position. Whilst, the core shared position offers a starting position, it does not offer an evaluative framework for auxiliary issues. The difficulty was explored in sub-section 6.1.3 where it was highlighted how the inclusion of the human onto the affairs of a technological artefact results in a recalibration of the purpose of the designed artefact (supposition 6.3) and raises new areas of contention.

At this stage, it is vital to revisit the manner in which the technological artefact Internet exists as explained by the core shared position. Physical components such as routers, computing nodes, constitute the architecture and implementation of the Internet. The aggregation of these individual components in a uniform manner allows for the existence of a physical Internet to emerge and acts as the first observable cause of origin. Similarly, it is the continued adherence to substantive rules of conduct that does not just govern the network, but also

provides continual existence to the Internet. Therefore, in chains of causative links, the existence of the Internet is necessarily contingent on the physical components. In other words, without the underlying components, the conception of the physical Internet does not proceed from a mere potentiality to an actuality. The insight can be summarised in the following supposition as an adjunct to proposition 2.9:

Supposition 6.22

The artefact Internet is necessarily contingent on the physical Internet.

An understanding of the essence of an entity as becoming-and-unveiling-of-its-being, leads to the insight that the essence of the physical Internet due to the way in which it is constituted to exist, is interconnecting information nodes. The form of the Internet builds upon the foundations of core matter. In other words, the manifestation of the actuality of the Internet depends upon the matter conforming to an acceptable form to enable the essence to come to being (proposition 2.9). Furthermore, the physical Internet is not a uniform being that is ontologically distinct from others by virtue of itself, as it is the result of the form of its constituents, and does not possess a necessary existence but a possible one that remains conditional on its constituents. For instance, if the core routers were to stop accepting IPv4 traffic from their peers and insist on a non-standard source and destination calculation algorithm, the Internet's essence in connecting the various networks together would be severely compromised. In terms of Heidegger (1962), the changed nature of the existence of the physical Internet would therefore affect the modes of being in which it operates, and force the calculations of a new final cause or essence as a result of the changes. The insight can be summarised in the following supposition.

Supposition 6.23

The essence of the physical Internet is interconnectivity of information nodes.

The underlying components of the physical Internet are often upgraded or replaced. For instance, due to the shortage of available IPv4 addresses to identify the nodes on the Internet uniquely, it would eventually be phased out in favour of IPv6. Similarly, since the conception of the Internet, the core routing protocols that advertise their peer networks have undergone significant refinements. However, while the shape and constitution of these components changes

continually, the manner in which they are aggregated continues to be configured in such a way to enable the continuation of the identity and essence of their aggregate. The manner is not unlike a human, who through his lifetime loses hair, teeth, nails and other constituents, but continues to calibrate the replacements to preserve his identification as a unique individual and the unveiling of his essence.

The organisation of physical matter to allow actualization of the aggregate reflects the implicit workings of a pattern generating dynamical system. The rules that are associated with the system appear immanent in the constituents even when they are imposed by a transcendent authority, and embody the relevant dynamical law that governs the behaviour of the overall system. Whilst the identity of a transcendent being or system that allows such immanence to prevail in an aggregate may be fiercely debated when the human is examined, the human appears clearly as the transcendent force that provides the immanence within the constituents of the physical Internet. By way of explanation, the behavioural patterns of the Internet's constituents are explicitly programmed by the transcendent human that exists outside the system to possess the necessary properties to operate in an automatic and self-functional basis to cope with changes in the dynamical network of the Internet, and adhere to the desired possible essence of the Internet. The contention can be summarised in the following supposition.

Supposition 6.24

Humans provide the first external cause for the existence of the physical Internet.

Based on the discussion so far, the physical Internet possesses a first cause for existence, the identity of the originator, a clear list of its constituent entities, a unique history, and an essence dependent on the nature of its existence. The lack of ambiguity on the core characteristics of the physical Internet thus allows for a consensus of scholarly opinion to form. Furthermore, the core shared position also enables the physical Internet to lend itself amenably to realist, anti-realist and other manners of examining reality introduced in the Reality Continuum (figure 2.1). For instance, the limits of observability and explanatory potential of theories that anti-realist methodologies impose on a phenomenon can be easily measured and applied on the physical Internet. In a similar manner, realist scientific

methodologies can be utilised to sustain various qualitative and quantitative research programmes on the component artefacts of the physical Internet. As an applied example of such research on the well-defined technological artefact Internet, the effectiveness of a new routing algorithm can be tested and verified empirically and its efficacy can be measured once implemented.

However, the involvement of the human on affairs of the physical Internet causes issues (supposition 6.2) that are not entirely of a technological nature or restricted within the confines of physical Internet. Problems can appear concentrated on the physical sub-components of the physical Internet, myriad of other areas such as governance structures that attempt to standardise the institutions and processes of the physical Internet to allow it to continue functioning, or debates on ways to direct the conduct of humans that utilise it. Notwithstanding the considerable divergence of views on the various areas of contention, the artefact Internet faces constant attempts at refinement of its essence and the make-up of its constituent components (supposition 6.6). The attempts may be well meaning or otherwise, however, they are useful in reflecting the continually evolving constitution of the Internet that remains in the state of a perpetual flux. Based on the insight, further suppositions can be added to the core shared position on the Internet:

Supposition 6.25

The physical Internet is in a state of continuous technological evolution.

And,

Supposition 6.26

The increased adoption of the Internet results in a greater number of debates over it.

6.2.3 The Cyberspace

The core argument for existence of the physical Internet as an entity due to the existence and usage of physical components in a certain form has implications for Cyberspace. In a manner similar to the physical Internet, research on the Cyberspace too reveals distinct artefacts and components that are virtual in essence and exist only within the Cyberspace. For instance, members of the social aggregator website www.reddit.com engage with each other in the virtual

community sustained by the website and show their appreciation to each other by awarding karma, a social currency that is entirely virtual and has no isomorphic connection to an entity on the physical world. Patterns of social behaviour prevalent in the physical world are replicated on the virtual sphere of the website on the physical Internet, but do not acquire a physical presence. Research on such phenomena faces difficulties. Whilst a realist position can readily engage with a physical analogue in the form of currency in the physical world, a fundamental challenge is raised when the virtual karma has causative effects within the Cyberspace and possible repercussions in the physical world, but an ambiguous existence that cannot be easily grasped or explored. To this end, another supposition can be proposed:

Supposition 6.27

The virtual Cyberspace contains virtual artefacts that may follow familiar causative links.

Utilising suppositions 6.23 and 6.27, two distinct areas of contention within the literature on the Internet emerge: "How to govern the entities of the physical world through the Internet?" and "How to govern the virtual artefacts and processes within the Cyberspace wherein humans interact through technology?" In order to proceed towards governance of the virtual artefacts within a space that appears virtual, the question need to be answered: "Does the existence of virtual artefacts that persist in their peculiar manner within a virtual sphere situated atop a physical Internet imply an existence of the Cyberspace?" This is a fundamental question, as an answer in the affirmative leads towards a wider examination from the whole gamut of primary philosophical inquiries, such as "What is the nature of being of Cyberspace?" However, before subjecting the question to a wider examination, it is vital to revisit the arguments presented in the literature that reject the view of the Cyberspace as a new kind of existence with a unique essence.

Denials of the Cyberspace on account of it being virtual can be based on the assumption that it is similar in kind to other entities, which are also virtual and not different in kind in relation to other entities in the physical world (see section 6.1.2). Consequently, a unique metaphysics for the Cyberspace is disavowed. The argument is made that humans are well versed with virtualities that are not

tangible or observable in themselves, but follow cause and effect models. For instance, the laws of modus ponens can be applied on other virtual entities such as empires or governing bodies to provide explanatory potential for phenomenon and can provide foundational support to normative modes of human conduct. As the Cyberspace is not dissimilar to such entities, it follows that any ambiguity that may appear regarding its being or mode of existence can be cleared through the application of familiar approaches.

Furthermore, it is argued that the aggregate of basic units do not always create a new whole on a metaphysical level. For instance, the set of ten or more bushes in close physical proximity to each other may make a thicket in the linguistic sense, but do not develop a metaphysically unique existence. Therefore, to assert an existence of any kind or type through according a metaphysical commitment to the copse is unwise. Similarly, that a person can concernfully and meaningfully communicate with another located ten thousand miles away through means of a telephone call does not suggest that a reality of a new kind with distinctly new kinds of virtual artefacts is constructed, or that if there are existential implications then a case can be made for a unique essence of the telephony network. Further repudiations of a metaphysics for the Cyberspace can apply a two-pronged contention: arrangements of virtual artefacts cannot build a real existence, and a make believe pseudo existence does not possess an essence.

As a corollary, the explored definitions on Cyberspace tend to have a physical space centric language that presents their suppositions as syntheses that differ in degree between different poles of dialectic. For instance, a definition drawn from a philosophical outlook that holds to Cartesian dualism between the subject and object tends to position its understanding of the Cyberspace as a dilemma between poles constructed in line with the paradigmatic view and foreclose other solutions. The axioms of their outlook on reality shaped over the physical space that is vastly familiar are mostly left untested and regarded useful for guiding discourse on the Cyberspace. Such an outlook has major repercussion. For instance, it can be used in denying an existence to the Cyberspace on account of it being different than the physical space by matters of degree instead of kind. As the physical space is space and time dependent and the Cyberspace appears to be the same, despite the manner in which contracts the usual constrains, it does

not exist as a different plane of reality. Such a view maintains that the assumptions governing traditionally understood spatiotemporal models can be utilised in developing an understanding of the Cyberspace.

Despite the divergence of views on the composition and nature of the Cyberspace, an examination of the literature reveals that its first cause is the physical Internet. The vital insight can be summarised as:

Supposition 6.28

The first cause of Cyberspace is the physical Internet.

Without the presence of the underlying physical architecture of the Internet and the manner in which its constituents are formed, the Cyberspace would not appear as an entity for scholarly examination. For instance, the website www.reddit.com and its associated virtual artefacts such as the virtual currency of karma would not manifest had a web browser not been setup on a server and exposed to other computing nodes on the internetwork in a prescribed manner. This is a key insight for it hints at a relationship that may be denied, but still appears intertwined and entangled in the literature. A further shared position can be advanced at this stage:

Supposition 6.29

The Cyberspace, whether denied or accepted, appears immanent within the physical Internet.

The above views on the nature of the Cyberspace proceed from varying philosophical foundations. For instance, as explored in the previous chapters, all studies of reality proceed from the human consciousness as the primary driver (proposition 2.21). Whether an independent reality outside of the human observation is acknowledged through a realist paradigmatic view or denied through anti-realism, all positions place the subjective human as the judge on the metaphysical question (proposition 2.8). For instance, whilst realist positions assert a continued metaphysical and ontological existence for entities when not being observed by the human, such a view is only a position towards an external entity in terms invented and understood by the human. As outlined in the Reality Continuum (figure 2.1), there is considerable debate on the nature of the 'physical space' or 'real world' wherein humans operate in a spatiotemporal capacity. Whilst some positions deny that there is an external reality and that all

descriptions of it serve merely an explanatory function, others insist that there is an independent reality that may or may not be comprehensibly describable.

6.2.4 The revised realist position

As outlined in section 6.1.2, almost all views of Cyberspace that deny it the status of a new reality or a separate existence derive foundational support from anti-realist positions, while some views derive support from realist and non-realist positions and appear hesitant in extending metaphysical commitment to the Cyberspace. Similarly, almost all such views that acknowledge the presence of a new plane of existence in Cyberspace derive their foundational support from realist or non-realist positions. Consequently, the task of reversing a position that holds the Cyberspace as a non-space is difficult to achieve unless the underlying views of reality that provide the foundational support can also be successfully challenged. At this stage, a fundamental question can be posed: "Can views on reality based on the familiar world that humans occupy be utilised on all manners of entities?" In other words, are there fundamentally new kind of entities that reside in new kinds of existences that cannot be adequately explored through established methods?

The question is not a recent one. For instance, the advances in quantum mechanics have readily displayed the inability of the realist positions on reality in explaining the manner in which sub atomic particles exist. Until there is an agreed unification theory, anti-realist ways of explaining reality at its most basic units appears to provide better explanatory powers to theories of entities and phenomena in the quantum domain while acknowledging the human inability in comprehensively understanding it. Whilst, an anti-realist outlook of the reality that axiomatically accepts the futility of ever claiming to latch onto an aspect of a reality through scientific descriptions would not be overly concerned with the inability, the realist agenda remains unsatisfied. In the confrontation posed by the quantum challenge, an outlook that all reality is ultimately independent of the human and exists in its terms, and may or may not be describable, either needs to acknowledge the anti-realist view, or develop new realist positions to explain a new manner of reality. In such a revision, classical conception of physical reality

and traditional presuppositions would need to be radically re-interpreted or abandoned altogether.

The effect of scientific advancements on traditional philosophical outlooks of reality and works of ontology was explored in section 2.4. That a fundamental new doctrine has been introduced through quantum mechanics, which holds that measurement of a property does not reveal the pre-measured value, is deeply troubling for the realist positions on the Reality Continuum (figure 2.1). Similarly, the classical atomistic view of the sciences that entities can be understood in terms of separable analysable parts that are self-contained appears restricted in providing a comprehensive picture of reality on the sub-atomic level. What rises from the debris of the classical realist models of the world and reality then is the view that spatiotemporal relations of physical interactions of the parts can no longer be carried out in isolation to the whole of the quantum reality. As it is not possible to build a framework that can account for all possible states of each sub-atomic particle within a framework, search for a realist model of reality that insists on a reality that does not depend on the observer, and which can be described through latching onto aspects of it through the means of describing it in scientific theories appears in vain.

Furthermore, theories of relativity and advances in quantum physics contend that there is no universal perspective for describing physical reality. If realism is to hold that there is one objective reality independent of the human, then experimental data reveals the futility of such a position where a change of perspective changes the results. In the same way, the Copenhagen view of reality puts the human firmly as a partial and biased judge on what is real in much the same manner the Ptolemaic view did in astronomy. The advances made by Copernicus, Galileo and Newton during the era of classical physics era which displaced the human and introduced the conceptualisation of a universe that operated in a clockwork manner without any human observation appear as a mere interlude between the Ptolemaic and recent era where representational and visualisable descriptions of entities and phenomena are no longer unbiased.

As discussed in section 5.4, realism need not die as a valid approach towards reality if its classical axioms can be modified to meet the newly discovered reality of the quantum world. However, contentions such as reality

operates on deterministic laws, entities are carriers of pre-determined properties, metaphysics of reality is independent of epistemological works, causal reasoning and inference is the best course of scientific research, atomistic and localized reductions assist in understanding reality, need to be re-evaluated in order to meet the implications for realism, and escape human-centric non realist positions such as post-modernism that shirk the debate altogether. Despite the apparent unassailable contentions of anti-realism, it appears unjustifiable to insist that positions within realism cannot be recalibrated to account for reality of a new kind in which an external reality of a different kind is still acknowledged, but the validity of the Coherence Theory of Truth is denied.

Key insights from the above discussion can be applied on the Cyberspace through the usage of a revised realist position (the RRP) that denies the feasibility of an overarching ontology of reality adamant on visualizing the whole, and yet retains its insistence that reality can exist independent of the human. Furthermore, such a position advances towards a commensurable position with anti-realist positions in setting limits on proposed scientific theories. To this end, the utilisation of Critical Realism, which divides reality into different strata being the real, actual and the empirical, appears useful. The application of the revised realist position utilising the Critical Realist perspective results in uniting positions within the realist and anti-realist views on the Reality Continuum (figure 2.1) on the actual and the empirical strata, if not on the domain of real as well. This is a significant advancement as classical realist theories would disagree with the anti-realist contentions on the strata of actual and empirical.

The revised realist position that allows varying epistemic understandings for dissimilar categories of reality while acknowledging a human-independent existence can now be utilised to answer the fundamental question: "Are there new types and kinds of reality by virtue of themselves, or do they only appear different due to the human's inability in providing an overarching ontological framework?" In other words, do the traditional epistemological frameworks drawn from positions on the Reality Continuum (figure 2.1) fail in adequately explaining the truth of the Cyberspace as it is a genuinely new plane of existence not hitherto encountered, or whether the failure is due to the inability of the models in latching onto the various manifestations of a singular reality in domain of the real. As it is

not possible to provide an empirically accurate explanation of reality through the revised realist position, the quest then is to determine how we know that our scientific theories are true in relation to reality, and how they may be used to map entities through the strata of real, actual, and the empirical. Whilst the human is denied a view of the whole as originally promised by classical realism, it is still possible to construct frameworks of thought concerning complex realities in order to provide useful markers for discourse. For instance, socio-cultural, political, and economic models of human conduct can be re-evaluated subsequent to a clarification of the Internet wherein the contentious Cyberspace appears to exist. Subsequent to that, views can be advanced to be considered as part of a shared core of understanding regarding the Internet to guide further research.

6.2.5 A definition of the Internet

The ill-defined artefact Internet (supposition 6.7) is formed as a consequence of the existence of physical Internet (supposition 6.22) which was formed by the humans (supposition 6.24) to interconnect various nodes of information (supposition 6.23). Despite the differences, Cyberspace and the physical Internet are significantly linked together (suppositions 6.16, 6.28, 6.29). As both the physical Internet and the Cyberspace are in a constant state of flux (suppositions 6.25, 6.27), research programmes that attempt to provide answers to normative issues without considering both aspects exacerbate the problem areas (supposition 6.18). The key insight then is:

Supposition 6.30

The artefact Internet comprises the physical Internet and the Cyberspace.

In light of the above supposition, the artefact Internet can be described through reconciling the ways in which the physical Internet and Cyberspace exist and operate. Whilst, the invocation of the physical space as the standard against which Cyberspace is measured may appear feasible through the revised realist position that does allow for a multitude of perspectives, it cannot be justifiably held as the only correct starting position nor the preferred one. On the contrary, the recognition of the difficulty in both defining and agreeing on the physical world can be regarded as an impediment towards its usage to furnish theories of phenomenon for other complex realities. Thus, while explorations of the

Cyberspace still need to be carried out by the biased human who may use differing perspectives on reality, the task itself need not be muddied further through the ambiguous and contentious lens of the physical world. Although, descriptions of the Cyberspace through the discarding of the assumed starting position also may not appear as absolute at the conclusion, the clearing of ambiguous lenses through the revised realist position allows for scientific objectivity to be preserved in reflecting the immanent frameworks of reality within the Cyberspace that are independent of the cognition of the observers.

The Cyberspace is distinct from the physical space in that it challenges the traditional spatiotemporal model of reality that work well on the latter. Space and distance between two individuals appears meaningless when the conceptualisation of time is influenced by the simultaneity of relativity and experience. A re-examination of the analogy of the telephony network reveals the key insight that whilst it connects two individuals through technological artefacts and tools to achieve a temporary mediation between the poles of space and time that separate embodied and localized human beings, the Cyberspace (and by extension the artefact Internet) obliterates the poles entirely. The telephony network operates on a space that axiomatically separates its constituents in line with the traditional conceptualisations of space, whereas on the Cyberspace the actuality of the manner in which they connect is built into its very potentiality. The insight can be summarised in the following supposition.

Supposition 6.31

Actions within the Internet are not constrained by the limitations of physical space.

The absence of traditional poles such as human and nature, or space and time, on the Cyberspace provides another argument against the usage of the physical space to determine the constitution of the Cyberspace. By way of illustration, processes of purification that attempt to mediate between the assumed poles on the physical space can either be codified or allowed to proliferate into quasi objects. However, in the absence of such poles within the Cyberspace, there is no way of easily replicating the processes of the physical world that have only been defined as result of continuous refinements. Whilst, the practice of setting up processes in the physical space axiomatically assumes chaos as a by-product of imposing order,

the very notions of order and chaos are difficult to locate within a sphere of reality with no evident poles. The breakdown of socio-temporal constructs in providing explanations for the phenomenon of Cyberspace is not unique; it impacts primary scientific theories of the physical space as well. By way of illustration, the theory of relativity that provides an explanation of the relativeness of all perspectives when the observers are spatiotemporally located in distinct frames of reference has explanatory powers for the physical space, but fails in providing a framework on the Cyberspace where it is possible to exist simultaneously within multiple frames of reference.

Supposition 6.32

Entities within the Internet can simultaneously exist in multiple frames of reference.

By the virtue of existing in multiple frames of reference without the bounds of space and time, entities within the Cyberspace exhibit disembodied presences that can be at many places without being forced to acknowledge a privileged position due to the constraints of space and time. This is a key difference to the manner in which an entity manifests its existence on the physical space where it can be distinctly located. Additionally, the state of disembodiment without the usual shackles is a perpetual one for such an entity. Consequently, whilst the two individuals utilising the telephony network have a necessary existence that can be manifested in a limited number of possibilities, a disembodied entity on the Cyberspace theoretically exhibits an unlimited number of possibilities.

Additionally, from a second order abstraction perspective, the human no longer interacts with technological artefacts exclusively within the real or physical world. The disembodiment grants the human the ability to interact with artefacts in a reality that appears to mimic the real world but provides a different framework that does not adhere to traditional expectations. In Cartesian terms, the mind-body problem appears as a duality between the human consciousness and a tangible externality on the physical space, however, the Cyberspace succeeds in supplanting the latter. In such a manner, the claim of the physical space for primary suzerainty of human consciousness is further weakened when it can no longer be justified as the primary starting position for theories of enquiry of other complex entities.

Supposition 6.33

The Internet challenges the claim that physical space possesses the primary dominion over the orientation of human consciousness.

The involvement of the human actor on the Internet (through Cyberspace) results in an accompanying manifestation of the usual patterns of his existence. For instance, in addition to the virtual artefacts that proliferate within the Cyberspace, there are unique structures and processes that appear to draw inspiration from the physical world. Even if some of the artefacts and entities are virtual in the manner in which they exist, they appear as a continuation of human behaviour. For instance, www.reddit.com operates as a democracy where members may freely award the virtual currency of karma on an item of their choice; however, they may also appeal to an aristocratic body in case of conflicts. Yet, the key insight is that while the entities within the Cyberspace may exhibit patterns of behaviour drawn from traditional codes of conduct on the physical space, they undergo separate courses of further refinements. As the Cyberspace allows for the accumulation of practices and processes from various frames of references traditionally separated by spatiotemporal concerns, a state of fluidity accompanies the evolution of such processes. Consequently, although a website (or virtual entity) may attempt to follow a specific physical space practice of governance, it cannot continue to mirror the evolution of the practice on the physical space amidst the proliferation of issues specific to the manner in which the Cyberspace functions.

Despite the limitations of a curtailed explanation of Cyberspace through the usage of the revised realist lens and Critical Realism, the picture of the Internet that emerges positions it as a unique space that challenges fundamental human conceptions. Furthermore, the usage of the revised realist position allows for an acknowledgement of the Internet as a uniquely different entity in its own right, and provides a framework wherein entities and their relationships can be mapped and explored without being muddied through the usage of contentious metaphysical claims.

The key insight then, which can be contributed as core theory to the literature, is that while the Cyberspace is immanent in the physical Internet, it forms a highly complex symbiotic relationship with artefacts on the physical space. Consequently, descriptions of Cyberspace that concentrate on the human

involvement with the Cyberspace in isolation to the technical underpinnings make the cardinal reductionist mistake in ignoring a critical aspect of the duality. In the same way, explanations of human conduct on the Internet that utilise the paradigms and standards of the physical space commit the same omission.

An examination of the Internet therefore reveals Internet as an entity with two distinct aspects: the physical implementation and the virtual Cyberspace. Just as descriptions of the Internet as a mere technological artefact are incomplete, its visualisation as a virtual space suspended in nothing is inaccurate as well. In response to the question posed in Chapter 2 "Are there realities of a new kind that require a new set of philosophical perspectives?", a qualified answer can now be provided in the affirmative with the proposed description of the Internet. Whilst, it cannot be categorically stated whether there are new kinds of reality, as reality cannot be adequately grasped in its own terms without the human frameworks to begin with, it can still be argued that the Internet manifests itself as a reality of a new kind due to the manner in which it is constituted (supposition 6.30) and operates (supposition 6.31). Furthermore, the investigation reveals that:

Supposition 6.34

The Internet creates a way of existence in which the entities, humans or non-humans, interact in ways that were not possible before its constitution.

Another key insight is that without the particular manner in which the physical Internet is implemented, the Cyberspace would not exist; however, the manner in which the Cyberspace functions is not dependent on the physical implementation; and, both aspects of the duality continue to influence each other.

6.3 DISCUSSION

The Internet is a unique phenomenon in the history of humanity in that it comprehensively succeeds in providing a space wherein traditional limitations of the human due to spatiotemporal concerns no longer apply (supposition 6.31). For instance, whereas societies were historically formed on the basis of proximity and geo-political realities, societies and communities can be created and sustained over the Internet without obeying such traditional impediments (supposition 6.34). Such virtual worlds operate as spaces wherein the constituent users can interact with each other, share ideas and contents, engage in trade through barter or other

virtual economic artefacts, and setup elaborate models and frameworks to streamline the conducts of behaviour. For instance, whereas historically a Cricket match could only be played in a meaningful manner between two teams of individuals present on a physical ground at the same time, the Internet allows for elaborate competitive matches between players that do not have to congregate on a physical spot, and can join in from any place connected to the Internet. As the Internet is a scale free technology, it is possible to participate in a game of Star Wars: The Old Republic against other players located on heavenly bodies far away from the Earth.

The Internet has also created a plane of existence where contemporaneity and simultaneity of space and time are the norm (supposition 6.32), and the human consciousness can reside and interact with it as its primary externality (supposition 6.33). For instance, just as the Gutenberg press allowed for the vast proliferation of ideas and thoughts across swathes of peoples through forging new communities based on identification with espoused ideas, the Internet allows an individual to define his own primary identification and manifest that in a manner of his choosing unhindered by restrictions of space and time. The disembodiment of the human consciousness or the enlargement of an individual human's footprint has also challenged the notion of isomorphic relations between the physical space and the Internet. For instance, while the ideas of the author and audience were incorporated onto the Internet from the physical space, the notions have undergone fundamental change where the roles are no longer static but fluid; text is no longer considered a fixed statement of a position but in a state of flux.

Furthermore, the presence of the virtual space that the Internet provides enables the setting up of virtual communities where new kinds of societies can be setup to enable an in-depth investigation of the human condition. For instance, the synergy provided by the Internet allows for the evolution of governance structures or other normative codes of conduct that have the potential to better the conditions on the physical space. The Internet exhibits openness as one of its most significant and hallmark characteristics (sub-section 4.3.1). In other words, the potentiality of any member of an online community being able to interact with another in an instantaneous and open manner can be actualized on the Internet. As explored in proposition 2.9, if the essence of an entity is understood to be its final cause and

purpose of existence, then indiscriminate interconnectivity appears to be the essence of the Internet.

However, there is a significant challenge to the defining characteristics of the Internet and its essence when its mandate can be usurped through manipulations on the physical layer. As explored in the previous section, the dualities of physical Internet and the Cyberspace form a complex symbiotic relationship where they continue to be influenced by each other (supposition 6.30). To this end, a decision made on the physical Internet can cause an impact on the manner in which entities on the Cyberspace exist and function. For instance, despite the potential of the Internet in connecting inter-galactic players to play a session of Star Wars: The Old Republic Online through the Cyberspace that eradicates spatiotemporal distinctions, the physical Internet could be configured in a manner to stop the routing of traffic between the heavenly bodies. The ramifications of such actions are explored in detail in chapter 7.

An overview of the manner in which conceptualisations of the Internet have evolved can provide useful clues for understanding the significance of the Internet. As explored in section 4.3, there has been little contemporary research from scholars on determining the ontology and nature of the Internet with most attempts at understanding and defining the physical Internet taking place in the 1990s. The magnified focus on the physical Internet resulted in the absence of Cyberspace in the discussions. Zizek (1997) warned against the continued absence and contended that humans are in the transitional moment of forgetting the virtuality and novelty of the Cyberspace. He further suggested that the current generations of humans is the one that functions as the mediators for the gap between the Cyberspace and real life, a distinction that will eventually cease to exist. The observation was largely accurate in predicting the course of literature that followed in which the Cyberspace was initially examined purely in the metaphysical sense divorced from its technological underpinnings and subsequently omitted. Through focussing on the network aspects of the physical Internet, and subsequently the physical Internet, a hegemony of stakeholders was constructed with the task of devising the evolution of the Internet, which failed to engage all the stakeholders in the debate.

The chapter has explored the way in which various positions on the Reality Continuum (figure 2.1) provide ideological foundational support to definitions of the Internet and its related artefacts. The fundamental challenges posed by the Cyberspace in particular were examined through the experiential perspectives drawn from the physical space. In some research programmes, the difficulty that Cyberspace presented against creating effective theories of the phenomenon was recognised as a result of encountering a new kind of metaphysical entity. For instance, Lovlie (2008) observed that no perception or experience is direct as all sensations are passed by the medium to the human receptor, and as such argued that human *body-mind* forces all experience to be situated and orientated against the human body. This, he argued, raised the question of the reality of the space in which perceptions were gained and orientation forced. As a corollary, further fundamental questions were raised regarding the effect of different mediums on the human experience, and whether the inability of philosophical apparatus in grasping the entity hinted at the need for its revision, or whether a new metaphysical place of existence had been discovered.

Other findings from the literature can also be summarised. Despite Zizek's (2004) warning and Lovlie's (2008) insights, the majority of academic research on the nature of the Internet in general and Cyberspace in particular utilises perspectives that prevent the exploration of the Cyberspace in its own right and invoked real world practices as the benchmark for comparison. By way of further illustration, bounded mathematical and scientific models of a system were employed to assert supremacy of logic in being able to explain the phenomena and predict the future of what was understood to be largely a technological artefact. Although, the idea that all systems are ultimately reducible to logic, such as arithmetic, has been proven impossible by Gödel's theorems on incompleteness, the popular belief that non-contradictory and sound laws (theorems) can be derived for systems such as the Internet persist. In addition, such models are often imported from the real world under the assumption that it is feasible. Such translation attempts from the real world into the Cyberspace also carry through the traditional spatiotemporal markers and associated tensions across to the discourse on Internet.

The chapter also explored the way in which the Internet remained little understood as a duality of the physical Internet and the Cyberspace within the literature. Its lack of ontology did not minimize its impact on the real world and the actors within it. In particular, the concentration of problems on the physical space in the discourse of the Internet encumbered the construction of a core theory of the Internet that could be enhanced through auxiliary theories. By way of illustration, the domain and application of governance processes on the Internet were often designed to be applied on the physical-Internet, understood to be applicable on all actors within the Internet, and were inspired from a specific frame of reference on the physical space (proposition 4.8). The ill-conception of the core theory of the Internet therefore resulted in introducing a negative shift in the research programmes that proceeded in increasing the domains of knowledge atop a negative problem shift core.

The debates on the nature in which the Cyberspace in particular exists have been vociferous in the literature, and reflect similar questions that have been put forward in other disciplines since the fundamental challenge was posed to realism as a result of the advancements in the field of quantum mechanics. For instance, Grenon and Smith (2011) raised issues with the difficulty of adequately grasping entities such as collateralized debt obligations that appear to be virtual and yet carry severe consequences on the physical tangible space of the supposed real world. The debates were carried out in conjunction with re-imaginings of the role of technology and its artefacts on the human condition. For instance, Poster (2001) argues that limited definitions of technology that regard them as mere machines for acting upon elements of nature is not accurate. In this, a hint is made to the manner in which machines and technological artefacts increasingly construct virtual artefacts that cannot be traced easily back to an element of nature. Artefacts of technology create operational domains wherein they interact with the abstract, virtual, representational, symbols and information. To this end, the role of data or information as a technological tool was examined in the literature where despite its distinct metaphysical nature in comparison to historical tools such as the scythe, it displayed its effectiveness as a tool that granted the wielder the potential to gain advantage. In light of these observations, the research programme concerned with the development of an understanding of the Internet

prevailed in a context where fundamental metaphysical questions were being raised on the nature of reality and its complex artefacts, which if not clarified in a research programme, contributed towards increasing the tensions on the discourse on Internet.

The proposed understanding of the Internet in the preceding section can be likened to a complex system which Casti (2007) defines as a domain wherein no one actor has global knowledge, and contains intelligent actors that possess local knowledge who adapt the rules of the game to their liking (Casti, 1997). In line with his arguments, it is contended that no complex system can be adequately modelled, as the quest for defining, bounding, and controlling a complex system is not an easy one and largely arbitrary in the way of anti-realist programmes. The pursuit of the quest becomes more difficult when there is a lack of points of commonality between the stakeholders on how to regard the complex system. The inability to adequately model complex systems, such as the Internet, is made greatly visible in the difficulty in creating suitable constructs to act as markers to guide the discourse.

The Internet therefore is a complex system by design and evolution, regardless of whether it is understood as a new kind of space or mere computer-mediated-phenomenon. It also fails to be comprehensively bounded by a specific scientific definition when the revised realist perspective is utilised; and through the innovations that happen in the complex system and game-changing rules, it continues to evolve in a manner to render previous fixed definitions of it obsolete. In a complex system, the number of variables can potentially be very large and as much as infinity. Computer modelling and other traditional analysis methods such as statistical predicting fail to predict the future in a reliable manner. It appears that while computational and mathematical modelling of physical-Internet is accurate in defining phenomena, informational theoretical modelling (as against models based on matter and phenomena) furnishing conceptions of Cyberspace are either too idealized or too abstracted to resemble reality.

As suggested in the previous section, the proposed understanding of the Internet helps in situating the discourse through providing a useful description in the manner in which the artefact Internet functions as a result of a complex symbiotic relationship between the physical technological implementation and the

virtual Cyberspace. A middle commensurable ground is provided where views on the physical Internet and the Cyberspace can be reconciled. For instance, the proposed view does not advocate the supremacy of information over the network but instead outlines the symbiotic relationship that enables the greater phenomenon of the Internet to emerge. In the proposed view, data and network are both regarded as technological artefacts that may exist in different planes of existences subject to differing frameworks of reality, yet equally subjectable to an overall view that places them as useful markers.

Consequently, issues such as one reported below by Gilmore (1996) become addressable for the next chapter through providing an abstraction of the Internet:

> *"A 'virtual' software corporation, ACD, with software engineers in both California and Hungary but no real physical business infrastructure, was recently slapped with an $85 fine by U.S. Customs." ACD's product, EPublisher for the Web, was developed over the Internet with no physical meetings or other contact between the developers. When Hungarian developers sent versions of the software on diskette to their U.S. counterparts, the shipment was stopped by U.S. Customs at Los Angeles International Airport for "mark violation." The Hungarians had marked "Country of Origin" on the forms as "Internet" because the product was not decid-ably made in Hungary or the United States and the owners of the intel-lectual property rights to the product were in no single physical location. In the words of ACD's Laslo Chaki, "We had to pay an $85 fine for mark violation. Virtual company, in virtual city with $85 real fine!" (Gilmore, 1996)*

A fundamental insight from the proposed definition of the Internet is that:

Supposition 6.35

The essence (purpose of being) of the artefact Internet is dependent upon the manner in which its existence is maintained.

A change of the manner in which the physical implementation of the Internet is carried out has ramifications not just for the physical Internet, but also on the Cyberspace that is immanent within the tangible architecture (supposition 6.29), and by extension for the essence of the Internet. For instance, the act of a national

government or relevant empowered authority in setting up network routing rules to block access to the web servers that host contentious information negates the manner in which the physical implementation of the Internet is designed to route against blocked pathways. The act on the physical space has consequences on the Cyberspace where individuals can no longer interact with others on the internetwork due to the imposition of artificial poles, and consequently the essence of the Internet is compromised.

The Internet is a radical origination of recent times that has the potential to be regarded as a turning point for humans in times to come. In light of the immense societal changes that have been brought as a result of its adoption (similar to ages of Renaissance and Industrialisation) and the manner in which the Internet has obliterated traditional conceptions of reality, it is possible that the age preceding the development of the Internet would be termed the pre-Internet era by future human generations in the post-Internet era. Similarly, the manner in which the Internet is dealt with in recent times may act as a precedent for similar technologies in the future.

6.4 CONCLUSION

Despite the assumptions regarding reality itself, and the manner in which they are applied on the Internet, the chapter has argued that prevailing definitions of the Internet within the literature remain incomplete and inaccurate. A detailed discussion has been carried out on the way the ambiguity arises, and is perpetuated through the usage of incorrectly defined perspectival lenses. Furthermore, it was showed that the underlying views on the nature of reality result in either the suppression or promotion of various aspects of the Internet that are forced to be regarded in terms of dichotomies and reductionism.

The chapter creates a central core of theory around the Internet that is envisaged to provide a shared position for academics in the field of Information Systems, which can help reduce incommensurable positions. It has been argued that a well-defined frame of reference regarding the happenings within the Internet allows for exploration of complex causal relations such as governance and commerce.

The thesis now applies the key insights of Chapter 6 to guide the discourse on governance of the Internet in the next chapter.

Below is a summary of suppositions identified in the chapter.

Supposition 6.1 Manufactured artefacts are designed to meet an objective.

Supposition 6.2 The inclusion of humans into a technological sphere introduces human issues into the latter.

Supposition 6.3 Increased human involvement with an artefact influences the latter's design purpose.

Supposition 6.4 Real world methodological practices can be applied on the Internet to explore issues of contention.

Supposition 6.5 If two spaces are largely analogous to each other, the cause and effect models will be similar in kind.

Supposition 6.6 If sub-systems that occupy varying positions within the spectrum of reality are constantly evolving, they are not necessarily analogous to each other.

Supposition 6.7 The Internet is an ill-defined entity.

Supposition 6.8 The Cyberspace is distinct from the physical Internet.

Supposition 6.9 Stakeholders can engage with others through the Cyberspace.

Supposition 6.10 There is no shared position on the Cyberspace.

Supposition 6.11 The latticework of interconnections enables the positioning of an entity and aids its understanding.

Supposition 6.12 The inability to explain the Cyberspace renders the task of locating its stakeholders difficult.

Supposition 6.13 Simultaneity of experience (perceived or otherwise) forces a re-evaluation of reality.

Supposition 6.14 The Internet has blurred the traditional boundaries imposed by spatiotemporal frameworks.

Supposition 6.15 The lack of understanding of the Cyberspace leads towards incommensurate understandings.

Supposition 6.16 Events within the Cyberspace are influenced by and influence cause and effect models on the physical world.

Supposition 6.17 Research programmes utilising divergent understandings of the physical Internet and Cyberspace risk arriving at inaccurate conclusions.

Supposition 6.18 A fundamental reason for ill-defined definitions of the artefact Internet is considering the physical Internet and Cyberspace as unrelated entities.

Supposition 6.19 Despite the difficulty in producing a comprehensive description of the artefact Internet, the attempts at description enable the construction of firmer foundations and clarification of epistemic ambiguity.

Supposition 6.20 The task of conflating two disparate theories rests on the premise that they share an unambiguous term that is well understood.

Supposition 6.21 The core shared position regarding the Internet is that fundamentally it is a technological artefact.

Supposition 6.22 The artefact Internet is necessarily contingent on the physical Internet.

Supposition 6.23 The essence of the physical Internet is interconnectivity of information nodes.

Supposition 6.24 Humans provide the first external cause for the existence of the physical Internet.

Supposition 6.25 The physical Internet is in a state of continuous technological evolution.

Supposition 6.26 The increased adoption of the Internet results in a

greater number of debates over it.

Supposition 6.27 The virtual Cyberspace contains virtual artefacts that may follow familiar causative links.

Supposition 6.28 The first cause of Cyberspace is the physical Internet.

Supposition 6.29 The Cyberspace, whether denied or accepted, appears immanent within the physical Internet.

Supposition 6.30 The artefact Internet comprises the physical Internet and the Cyberspace.

Supposition 6.31 Actions within the Internet are not constrained by the limitations of physical space.

Supposition 6.32 Entities within the Internet can simultaneously exist in multiple frames of reference.

Supposition 6.33 The Internet challenges the claim that physical space possesses the primary dominion over the orientation of human consciousness.

Supposition 6.34 The Internet creates a way of existence in which the entities, humans or non-humans, interact in ways that were not possible before its constitution.

Supposition 6.35 The essence (purpose of being) of the artefact Internet is dependent upon the manner in which its existence is maintained.

Chapter 7 – Governance of the Internet

7.0 INTRODUCTION

The intent of this chapter is provide answers to the second and third research questions of the thesis: “Is it possible to develop an authority tasked with governance of the Internet?” and “How could such an authority tasked with governance of the Internet enforce its decisions?” through exploring the manner in which the Internet can be governed. The secondary goal of the chapter is to evaluate the various ways in which the Internet is subjected to governance attempts outlined in Chapter 4 and examine the reasons behind their ineffectiveness in meeting the desired objectives. For this purpose, the Framework of Effective Governance (FoEG) is developed and applied.

The chapter builds upon the core shared theory on what the Internet is (described in the preceding chapter) and the manner in which it enables engagement between different stakeholders. The ontological and metaphysical clarity is utilised to steer the discourse away from how the Internet exists to how the stakeholders interact within it, the way codes of conduct are derived, and the manner in which they are enforced.

The first section in the chapter (7.1) develops the Framework of Effective Governance (FoEG) based on key propositions explored in the preceding chapters to identify prerequisites for effective governance regimes. Section 7.2 applies the FoEG to carry out an examination of governance attempts on the Internet to show the reasons behind their ineffectiveness.

The key findings are utilised to present an argument for the way in which the Internet can be governed through a central authority in section 7.3. The limitations of such an arrangement are also explored in the section. Thereafter, the chapter concludes by discussing the findings.

7.1 DEVELOPING THE FRAMEWORK OF EFFECTIVE GOVERNANCE

The following sub-sections employ the key propositions developed in the preceding chapters to identify the factors that influence governance attempts by an authority. The findings are utilised to show the Framework of Effective Governance in sub-section 7.1.5.

7.1.1 The scope for governance

Humans in the real world or physical space operate within the paradigms of space and time, which influences the extent, and nature of their interactions with others (proposition 2.21). The need to define the structure and form of these relationships presents itself as either a basic need or useful innovation whenever humans form communities (proposition 3.9). Traditionally, the primary externality where the human first experienced restraints to thoughts and desires was the external world that encased his physical body ensconced within a space subject to spatiotemporal frameworks. Consequently, attempts to form appropriate codes of conduct to lead towards models of governance were influenced by the manner in which the all-encompassing space that provided the domain of existence was understood. In other words, the study and understanding of metaphysics of the space provided the necessary grounding for subsequent construction of models for social interaction (proposition 4.8).

Similarly, with the increase in number of human communities that were increasingly constituted on the basis of geo-political proximity on the physical space, varied kinds of governance models were evolved (through application of proposition 3.2). The domains for a governance model or normative codes of conduct were determined to be that within which the community of individuals that formed the Social Contract resided and interacted. For instance, the governance ideals for Farabi's Virtuous City were promoted for the society formed on the basis of adherence to the religion of Islam and its control of believing Muslims. Similarly, applied governance models such as monarchy were based on the temporal control of physical land by an individual, and by extension were deemed applicable on those humans who resided within the defined bounds. In other words, the key insight was that cohesion and composition of society

members of the community largely influences the manner in which it is governed (proposition 3.24).

The intertwining of multiple domains (first order and second order as per proposition 3.4) that produces overlap of domains of governance, and expands the scope of politics to different kinds of societies (proposition 3.22) produces tensions. For instance, Muhammad Iqbal (2000) introduces the idea of a Muslim ummah that binds together all Muslims spread throughout the physical space on the basis of a shared belief. Members of such a community simultaneously become subject to the laws of Islam by the virtue of belonging to the ummah and remain subject to the laws of the temporal lands that they reside in. It is possible for a subject in such a scenario to encounter contradictory expectations of his behaviour. For instance, an individual may wish to join the British armed forces to serve his country of birth and citizenship loyally, and yet find it morally unconscionable to obey an order to fight Muslims of another country due to the virtue of belonging to the community of Ummah. This conflict is also outlined through the Biblical warning on the inability for a human to serve two masters equally well without prejudice. The key insight then can be summarised in the following supposition.

Supposition 7.1

An overlap of domains of governance introduces problems for affected stakeholders.

On a macro level, key political perspectival positions such as neorealism recognise the prevalence of communities whose claims for absolute suzerainty over their carved domains are at best merely tolerated by others, and therefore remain in a constant state of political intrigue and distrust. To counter against the possibility of outright violence becoming the norm, such communities often form loose associations where they align on the basis of either a shared geopolitical heritage such as the European Union, common political ideological basis such as the NATO, or in order to represent their national interests on the world stage such as the United Nations. However, such arrangements cannot be enforced through appeals to an external arbitrator that leads towards the perpetuation of tensions (proposition 3.23). The insight can be summarised as:

Supposition 7.2

An overlap of domains of governance introduces problems between competing authorities.

An examination of suppositions 7.1 and 7.2 reveals the finding that tensions arise when the scopes of governance overlap or compete against each other. The key question that arises is: "What determines the scope of governance?" As claims for a governance mandate that ensures conditions of co-operation are maintained on space are advanced on the basis of an assumed scope of governance (proposition 3.19), it is vital to explore the manner in which such claims are supported. The insight that such a space needs to be identified, contested and claimed by an authority can be summarised in the following supposition.

Supposition 7.3

An authority tasked with governance identifies and claims a scope of governance.

7.1.2 Identification of stakeholders

As explored in the preceding chapters, the composition of a community influences the manner in which governance structures and processes advance (proposition 3.24). Similarly, rising class differences such as those between the bourgeois and proletariat that favour one group over another place strains on the governance mechanisms. A failure to address the concerns weakens the legitimacy of the authority and leads to a weakening of its functionality (proposition 3.18). The question that arises then is: "How can the stakeholders within a society be identified?"

The identification of stakeholders is not an easy task or an exact science. Ibn Khaldun (2004) suggests it is easiest to build cohesive societies based on shared values when the society is in its nascent or nomadic phase. Similarly, in the natural human state that Hobbes (1985) identifies, it is easy to determine an individual as the basic unit that builds the community. However, with the rise of communities and the many different ways in which individuals form overlapping communities (proposition 3.29), one individual presents himself in the guise of many stakeholders. For instance, in the discourse surrounding the war on terror that has become prevalent since the attacks on US soil in 2001, an average

American citizen is simultaneously a victim for having been terrorized, the aggressor by the virtue of tax-funding the armed conflicts waged by the government, and oppressed due to the increase in surveillance and curtailment of previous liberties. Similarly, if an American citizen also happens to belong to the Muslim Ummah as Iqbal (2000) explains, he can be perceived as a terrorist as well despite sharing the same geopolitical community as other American citizens. What appears from this examination is the difficulty in identifying the stakeholders, which has consequences. By way of illustration of the ramifications, the concerns of Plato (1997) and Locke (1988) regarding societies where one group may obtain enough authority to dictate their will over others (proposition 3.25) are harder to identify in societies where it is difficult to identify the stakeholders.

Despite the difficulty in fully identifying the stakeholders, a governance regime for a defined spatiotemporal domain concerned with the behaviour of a collection of humans in the physical space and moulding the conditions for co-operation for their externalities affects all individuals that reside within it. For instance, making a decision that no citizen within the domain of a government may keep personal firearms without accounting for the concerns of firearm owners who have legitimate reasons weakens the cohesiveness of the society. As political decisions can acquire moral characteristics (proposition 3.27), such an oversight can have moral consequences as well. To this end, Rawls (1999) argues that it is a moral obligation that all individuals within a society be treated in a just and fair manner and be consulted when decisions involving them are taken. However, in a complex society with many stakeholders and individuals that manifest themselves simultaneously as multiple stakeholders, it becomes increasingly difficult to be fully inclusive to be just. The difficulties are exacerbated when advances in technology intensify existing problem areas (proposition 3.30) and challenge traditional conceptions of society (proposition 3.29).

Despite the difficulties, just as the nature and domain of the governance regime is vital as a prerequisite to governance attempts, accurate identification of stakeholders allows for their concentration in a pervasive discourse to form on matters related to governance. In other words, once the scope of the governance

has been defined, the next consideration is the identification of the stakeholders in order to promote effective governance. The insight can be summarised in the following supposition.

Supposition 7.4

Accurate visualisation of stakeholders is necessary for effective governance.

7.1.3 Derivation and legitimisation of Authority

An authority tasked with governance can be setup in many ways. It could derive permanence and formal structure from temporary de facto arrangements, be setup by the consensus of the governed, or outfitted through appeal to external code such as a religion. As explored in section 3.3, often the manner in which an authority is initially setup influences the ways in which it derives its governance mechanisms and legitimacy (proposition 3.16). For instance, future decisions in Farabi's (1998) Virtuous City on matters of public morality can be accurately predicted to a large degree through carrying out an examination of the religious foundations of the authority. Consequently, a justified starting point on the study of an authority appears to be the examination of the initial rationale behind its inception in order to discover the original motivations and intent (proposition 3.16).

An authority with the power to shape codes of living for humans is justified through attempts at developing its legitimation (proposition 3.28). Section 3.3 explored the exhortations by Nozick (1974) and Williams (2005) to demand the reason why an authority exists and whether that should continue to be the case (proposition 3.14), as a prerequisite to all other questions concerning the authority. To this end, Williams (2005) offers his 'Basic Legitimacy Demand' as a question that an authority must answer in order to offer justification for its existence and powers.

Attempts at deriving legitimacy for an authority often take the guise of moral reasoning. For instance, increases in the surveillance powers of the secret agencies in the United States post the terrorist attacks in 2001 were morally justified through both utilitarian and deontological ethical arguments. In other words, normative political decisions can be justified through invoking meta-

ethical and perspectival political positions. The key insight from the discussion can be summarised in the following supposition.

Supposition 7.5

It is necessary for an authority to justify the manner in which it was setup and provide reasons for its continued existence in order to govern effectively.

7.1.4 Setup of institutions for enforcement

A governance regime takes the form of a government when it asserts its writ through the usage of its institutions and processes (proposition 3.13). In other words, the denouement of a governance regime is to exert its will on the governed, to both establish normative codes of conduct and act as the arbitrator when there are conflicts. In other words, the abstract and metaphysical concept of governance takes life when its description is enforced on the physical space to cause changes.

The development of the institutions provides a way for the processes of governance to emerge. Additionally, they also protect the authority from attempts at its dismembering. Similarly, an authority through the usage of its institutions can strengthen the cohesive bonds between various stakeholders (proposition 3.26). If cast in terms of a Cartesian duality, the abstract governance (proposition 3.1) is the analogue of the mind which interacts with the tangible and physical space through the means of its institutions as the bodily externality. The key insights are:

Supposition 7.6

An authority manifests and asserts itself through its institutions.

And,

Supposition 7.7

Effective usage of institutions assists effective governance.

7.1.5 The Framework of Effective Governance

An examination of suppositions 7.1 to 7.7 highlights the context within which an authority operates. Furthermore, the suppositions reveal the way in which contextual factors influence the manner in which an authority functions. The relationship is visualised in figure 7.1 that illuminates the role played by domain

of governance and stakeholders in determining the scope of governance, legitimacy of an authority in justifying the mandate of governance, and powers of coercion through institutions in defining the boundaries of an authority. The figure also shows how the various factors influence each other, and as a result determine the mandate, scope and powers of an authority tasked with governance.

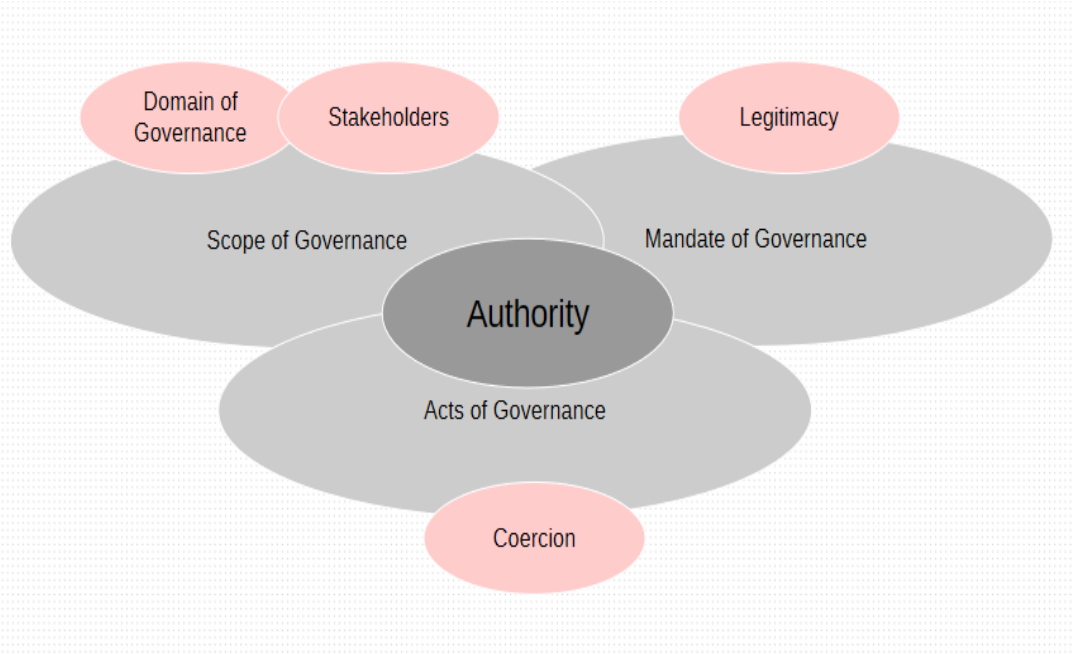

Figure 7.1 Framework of Effective Governance

The effectiveness of the FoEG can be examined through its application on problem areas, and its role in providing a framework for a theory of governance. To this end, the following supposition is proposed.

Supposition 7.8

The Framework of Effective Governance can assist the process of constructing effective practices of governance.

7.2 REVIEW OF GOVERNANCE EFFORTS OF THE INTERNET FROM THE LITERATURE

The section critically reviews the attempts at governing the Internet discussed in chapter 4 and examines the reasons behind the encountered difficulties. To guide the review, the Framework of Effective Governance (figure 7.1) is utilised. The section concludes by carrying out a discussion on the ramifications of an Internet ill suited to traditional methods of governance that are supported by the reviewed literature.

7.2.1 The Ill-defined Internet and missing stakeholders

Proposals for Governance of the Internet often proceed from the assumed truth-value of the contention that the Internet is an entity that can be governed (section 4.3). The claim appears strengthened by the metaphysical assumption that the Internet is not an entity ontologically dissimilar to others such as cities, countries, organisations (based on propositions 4.1, 4.5). As the analogous entities have historically been governable, consequently, the Internet ought to be governable as well. In the same way, it follows that normative behaviours on the physical space are translatable on the Internet as well. Due to the power of the associative connections in sustaining all subsequent governance attempts, it is useful to examine the governance potentiality of the Internet through first evaluating the claim that it is similar to other experienced entities.

Whilst the physical Internet is a well-understood artefact in the literature of Information Systems (proposition 4.1) based on the manner in which its architecture is setup (section 4.1), the adoption of this assessment as a comprehensive definition of the artefact Internet has been challenged in the preceding chapter. The definition of the Internet that is proposed acknowledges a realist existence for the Internet of a kind that is uniquely different than what has been encountered so far (suppositions 6.30, 6.33), based on the manner in which the traditional constraints and rules of the physical space are defied over the Internet (supposition 6.34). Based on the insight, the following supposition is proposed.

Supposition 7.9

The argument that the Internet can be governed in a similar manner to other entities or systems present in the physical space on the basis of similarity loses its foundational status in the discourse on Internet Governance as a result of the revisualisation of the Internet.

Literature reviewed in Chapter 4 (section 4.3) reveals areas of governance that have been amenable to models inspired from the physical space. For instance, the adapted governance models by the United States for governance of aspects of the physical Internet were largely successful in meeting their objectives. An understanding of the top-level-DNS root infrastructure as analogous to the topographical co-ordinates of locations on the physical space allowed for a

migration of the latter's rules to the former. Just as there were processes for management of new streets and zip codes for areas in the United States, similar mechanisms were setup on the physical Internet to ensure that each node on the wider Internetwork could be uniquely identified. Likewise, the devolved management of IPv4 addresses through local Internet Registries follows a similar pattern in countries such as New Zealand where national governments devolve powers to local city councils.

Further support for the apparent success of physical space governance models over the physical Internet can also be founded on the observation that the governance structures and processes on the physical Internet exhibit similar political tensions and tussles as prevalent in the physical space (section 4.3). As the effects of the governance attempts are similar, the argument is made that the causes are similar too. Accordingly, literature reviewed in section 4.3 reveals that the adaptation of traditional conflict resolution mechanisms has been largely successful in providing the appropriate frameworks necessary for mediating conflicts and discord over the physical Internet. By way of illustration, concerns of various stakeholders regarding the technical evolution of the Internet's architecture can be addressed within the frameworks supported by the appropriate technical bodies outlined in section 4.1.

However, as proposed in the preceding chapter, an understanding of the Internet as merely its physical implementation is inaccurate and incomplete (supposition 6.30). Similarly, governance of some aspects is not necessarily equivalent to governance of the whole. A review of the literature reveals that in contrast to the successful adaptations of physical space models to control the physical Internet, attempts at governing the Internet through moulding the human codes of conduct have not been similarly successful (section 4.3). Furthermore, the traditional frameworks based on territorial boundaries also appear unable to resolve issues within the Internet that comprises both the Cyberspace and the physical-Internet (supposition 6.30).

The manner in which traditional boundaries between competing spheres of influence have been obliterated on the Internet (suppositions 6.33, 6.34) leads to disputes that raise fundamental and primary questions. By way of an example, a quarrel between two business partners on the Internet can be hard to resolve when

they are physically situated within different physical territories and as such subject to differing laws (suppositions 7.1, 7.2). If the conflict between them happens over a space that is not strictly under the purview of either person's jurisdiction, what then is the best avenue for arbitration? To this end, the suggestion made by David Post (2001) can be examined where he says that the Internet helps construct a new boundary for legal institutions that cannot be easily crossed through the physical-space oriented approaches. Such a situation is threatening and alarming for the potential the Internet presents to the status-quo (Post, 2001). An examination of his views helps reveal a reason why governance attempts in opposition to supposition 7.9 face difficulties. Post (2001) says:

> *"We take for granted a world in which geographical borders – lines separating physical spaces – are of primary importance in determining legal rights and responsibilities: "All law is prima facie territorial." (Post, 2001, p. 146)*

In his observations, Post (2001) also raises the issues of legitimacy explored in section 3.3 for the form of authority that is ill suited for the domain in which it expects to function (proposition 3.24). In acknowledging the difficulty of placing the 'where' in matters on the Internet, Post (2001) asserts the difficulty in applying traditional modes of governance that are firmly founded according to the sensibilities and constraints of the physical space, over the Internet where no such artificial divides exist (supposition 6.33). For instance, as against the visible and tangible boundaries present on the physical space, such divisions are absent on the Internet unless artificially setup and created. By way of illustration, any individual with access to the Internet may watch videos on the BBC website unless artificial boundaries based on his IP address are placed to restrict access to a subset of users.

The difficulty of locating a 'where' therefore acts as a warning against the applicability of other traditional manners of human conduct. Just as the definition of proximity as a co-factor in cause and effect relationships on the Internet needs to be reinterpreted where proximity is no longer bound by space and time (suppositions 6.32, 6.34), the insight is that the same needs to happen for governance attempts as well to re-establish the legitimacy of a governance regime that respects the different manner in which entities exist on the Internet. In other

words, the question is not why the governance attempts on the Internet fail to achieve the desired outcomes, but whether the salient expectations placed on them are unachievable (see section 7.1).

By way of another illustration, in 2008, the Pakistani government instructed the removal of objectionable content from the website www.youtube.com; upon refusal by the parent company Google in conjunction with the Pakistani government's disability in dissuading its subjects from accessing it, all Pakistani Internet Service Providers were directed to block access to the site (McPherson, 2008). However, the decision resulted in the offending videos being shared in a greater number on other websites, where users situated within the Pakistani territorial jurisdiction could view it. Thus, the traditional expectation of a national government in being able to censor the Internet as analogous to a newspaper was proven incorrect. Consequently, the failure reveals the following insight:

Supposition 7.10

Governance of the Internet through restricting interconnectedness from a network to another is not an effective way of stopping the propagation of data.

The failure at the governance attempt by the Pakistani government also reveals the difficulty of asserting governance claims over multiple domains of jurisdictions (suppositions 7.1, 7.2). Companies that carry out business over the Internet and provide services to individuals situated in various physical jurisdictions can choose a primary jurisdiction and pick the extent of the rules they honour in other jurisdictions. For instance, whilst Google largely honours requests made by media companies to remove pirated content in accordance with the anti-piracy laws of the United States, it denies jurisdictive claims of the Pakistani government through not honouring the Pakistani anti-blasphemy laws and court decisions based on the law.

Whilst issues such as overlapping domains of jurisdiction or access to offending computing nodes can be addressed by the frameworks in place that allow for disputes to be mediated through agreed governance structures and processes over the physical Internet (section 4.1), the same cannot be done for controlling human behaviour. In disregarding visualisation of the Internet

comprised of both the physical implementation and the virtual Cyberspace, governance attempts over the entity face overwhelming challenges when an agreed metaphysical and epistemological framework does not guide them. Furthermore, as understandings of governance are interlinked with the domains they are exercised in, within a complex society such as the Internet, contradictory definitions and implementations of governance emerge as a result of the externalities establishing their frames of reference without referring to the whole. The ill-defined Internet also restricts the search for stakeholders. For instance, an understanding of the Internet as the physical Internet or the Cyberspace ultimately casts a net that only allows certain stakeholders to emerge. For instance, while the preceding chapter contends that the stakeholders could contain non-human actors as well, their presence cannot be suitably addressed in an ill-defined Internet.

In summary, incorrect visualisations of the Internet detract from defining the scope of governance as well as locating the stakeholders within it. The omissions ensure that the overall project of governing the Internet is weakened.

7.2.2 Deriving an empowered Authority

A key insight from section 3.2 is that meta-ethical and perspectival political positions that lead towards normative codes of conduct follow metaphysical progress (proposition 3.4). In other words, an agreement on the scope of assumed reality sets the boundaries for human activity (proposition 2.11). Furthermore, there is a significant relationship between the study of action or ethics exhibited in questions such as “What ought to be done?” and the study of force or politics that addresses questions such as “How can this be enforced?” (Proposition 3.3). To this effect, as explored in section 3.4, authorities tasked with the governance of aspects of human conduct often utilise political solutions that are assumed to derive support from ethical frameworks from the physical space. Subsequently, utilising the Framework of Effective Governance on governance attempts over the Internet that allows for an examination from metaphysical, ethical and political perspectives, the primary question “What is the basic legitimacy demand of the Internet?”, or in other words, “Why does authority exist over the Internet and can the manner of it be justified?” can be explored.

The literature reviewed in chapter 4 reveals the absence of a universal authority tasked with the overall governance of the Internet (section 4.3). The nonexistence is manifested greatly on the physical Internet where different bodies work with each other on peer basis in establishing rules for their individual domains of control (section 4.1). For instance, while the ICANN retains control over the manner in which top-level domains are setup on the physical Internet, they cannot forcibly impose their wishes on the decision-making mechanisms employed at other peer organisations such as the IEEE. The setup has significant ramifications for authority over the Internet:

Supposition 7.11

An understanding of the Internet as a mere toolset allows for the proliferation of largely independent governing authorities concerned with aspects of its functionality, but deters the development of a singular authority in charge of its overall governance.

By way of explanation, the casting of the Internet as a mediating tool between the poles of reality in the physical space such as nature and human, or space and time, forces its visualisation in terms of its perceived function instead of its role in challenging these assumptions. The casting ensures that the manner in which it operates becomes subject to reductionist regimes and authorities without the oversight of an overarching body, instead of being treated as a universal body such as the United Nations with a justified authority and a clearly stated mandate.

As discussed in section 4.5, incommensurable stands that emerge on issues such as the role or future of the Internet are a by-product of the absence of a universal medium wherein fundamentally opposite views may be discussed and an authority can help arbitrate the differences. For instance, it was discussed in section 4.3 that the concentration of the technologists in governance bodies over the physical Internet such the Internet Society allows for the demonstration of their opposition to decisions taken at the ICANN influenced by national political concerns, where they remain in opposition. However, the application of the Framework of Effective Governance towards these governance regimes allows for the understanding to emerge that such conflicts arise not as a result of fundamentally opposed worldviews, but are instead a result of the absence of a legitimised and justified authority. By way of further explanation, when Mueller

(2004) observes that the discourse on Internet Governance was transformed as a result of the inclusion of a greater number of stakeholders (proposition 4.7), the implicit assumption is that there was prior agreement on the manner in which the Internet was to be governed that was challenged due to external changes. However, the addition of a greater number of stakeholders only muddies the previously ambiguous state of governance. In other words, the cohesion of the community is further weakened by introducing entities with competing interests without the presence of an initial Social Contract resulting in the formation of authorities that lack the mandate for setting conditions of co-operation and authority to develop a framework for future conflicts to be discussed.

The implications of the lack of a Social Contract or an initial governing authority for the physical Internet is deeply troublesome for governance attempts of the Internet described in the preceding chapter. As explored in section 6.2, the physical Internet has been largely understood within the literature as an artefact within the physical space and as such subject to its governance models that are expected to perform on a similar level. The key insight can be proposed as:

Supposition 7.12

The ill-defined Internet allows un-justified governance models to assume de facto status within the discourse on Internet Governance, and inhibit the search for an authority within a new space of existence that could proceed towards the formation of a Social Contract.

In the same way, the de facto authorities do not need to present an answer to the challenge of providing justification for their existence. In other words, attempts at governance of the Internet incorrectly continue to proceed upon the assumption that the present governance structures and authorities are legitimate point of departure.

An examination of the authorities tasked with governing aspects of the Internet explored in section 4.1 appears to offer justification for their mandate. For instance, the United States' continued influence of the ICANN can be justified through appealing to tradition wherein the US government has historically provided technological, material and political support for the evolution of the Internet from a military network to the vast internetwork of the recent times. It can be argued that the continued involvement of the US government provides a

useful anchor to ensure the Internet continues to evolve when opposed by powerful stakeholders such as other nation states. However, an appeal to historical practices does not offer legitimacy to an authority (proposition 3.17). Furthermore, as argued in the previous sub-section, the ill-defined Internet grants asymmetrical powers to stakeholders in the discourse on the Internet. The asymmetry ensures that the cohesion bonds between stakeholders on the Internet fracture when amplified views of a group of stakeholders drown out the others. In other words, the imbalance between the stakeholders who cannot contribute in the debate over justification attempts of an authority with the power to force changes on the manner in which they engage with others results in creating divides that over time build additional tensions.

A review of section 3.3, leads towards the following supposition:

Supposition 7.13

An authority that cannot justify its existence on a continual basis faces the constant threat of dismantlement.

Utilising the Framework of Effective Governance, the mandate of an authority to carry out wide ranging changes is curtailed when they are not supported by the majority of stakeholders. By way of illustration, when the UN ICT Force devoted a session to determine the principles for the Internet at the March 2004 Global Forum, there were calls for guiding principles such as transparency, and participation (UN, 2004). However, there was an implicit acknowledgment that there was no single legitimate and justified body, which could enforce such norms over the global Internet. Similarly, in 2012 58 nation states staged a walkout against the ITU perspective on the governance of the Internet and refused to vote on the proposal (Burton, 2012). The trend of getting a majority of stakeholders together has been growing since the 1980s when the civilian stakeholders were introduced in the discourse on the Internet for the first time, despite the difficulties on getting agreements from them and other actors such as nation states to consent. Whilst the inability to arrive at a far reaching consensus on contentious issues could also be held as an indication of the ill-suitability of applied governance theories such as democracy over the Internet that exacerbates the state where unequal actors do not get equal recognition and forces the task of drafting to a halt, it is vital to acknowledge the source of the matter where the authorities

tasked with governance are not themselves subject to a justified account to enable towards discussions of applied political matters. Based of the insight, the following supposition can be proposed:

Supposition 7.14

The authorities in charge of aspects of the Internet are blamed for their inaction when the inability is in effect a symptom of an authority engaging within a sphere of human activity without continually justifying its powers and mandate.

The manner in which an authority orients itself determines the norms that it supports. For instance, the authority in charge of a religious community aligns itself with the precepts of the religion, which ultimately guide towards applied and normative governance and ethical models. A lack of the conceptualisation of the authority from its nascence also hinders the adoption of meta-ethical or perspectival political positions. To this end, one of the fundamental omissions in the literature on Internet Governance reviewed in Chapter 4 is a meta-ethical model aligned with perspectival political positions for governance of the Internet adopted by authorities tasked with governance of the aspects of the Internet. By way of illustration, differing conceptualisations of the Internet ranging from an international sovereign entity with the potential to disrupt the local status-quos and conditions of co-operation in governance domains, to a mighty weapon that can provide an edge over adversarial nation states, force stakeholders such as national governments to consider the manner in which they engage with the Internet (section 4.3). To this end, stakeholders attempt to align their engagement in line with their meta-ethical and perspectival political positions. For instance, the literature reveals that the intents of the national governments in attempting to gain more authority on the operation of the Internet can be founded in political perspectival positions such as Political Realism in which the state acts to protect its interests and forces a renegotiation of its worth in the discourse on governance. However, while the Internet forces a reconsideration of approach by other authorities, the empowered de facto authorities over the Internet do not exhibit the same behaviour.

While there appear to be glimpses of perspectival political positions such as political moralism in some of the positions adopted by the early technologists

inspired by Enlightenment era political philosophers (section 4.3), in tandem with exhortations of meta-ethical obligations to hallmark characteristics such as liberty and unrestrained freedom of expression, such considerations are largely absent in the contemporary discourse on Internet Governance. The diminishing of research on fundamental foundational questions concerning authority on the Internet results in moulding the discourse on the Internet towards its conceptualisation as a resource in the physical space that does not require justification for the continued existence of its authorities and thus considered immune to the risks of usurpation and dismantlement (supposition 7.13).

An authority that derives its origin through mediatory efforts with stakeholders in a defined space of governance adopts defining characteristics or virtues to guide the manner in which it acts as the arbitrative agent in times of conflict with the necessary coercive power (proposition 3.16). For instance, a militaristic society that owes the continued existence of its governing authority to perennial conflict may promote virtues such as loyalty and patriotism within its sphere of influence. As an extension, the legal code of the country may be calibrated to deal in a harsher manner against those who are judged traitors to the society in contrast to a largely pacifist society. To this end, the absence of a universally defined authority on the Internet, and lack of justified authorities pose fundamental challenges to the manner in which hallmark characteristics evolve on the Internet to guide an authority. By way of an illustration, in contrast to the government of the United States that promotes as its key characteristics the virtues of liberty and freedom of expression enshrined in its adopted constitution, no such declarations can be found in the literature regarding the governance of the Internet. While there are individuals who demand the promulgation of certain key characteristics over the Internet, such as Barlow (2001) who declares: "*Your legal concepts of property, expression, identity, movement, and context do not apply to us. They are based on matter. There is no matter here. Our identities have no bodies, so, unlike you, we cannot obtain order by physical coercion. We believe that from ethics, enlightened self-interest, and the commonweal, our governance will emerge*" (Barlow, 2001, p. 29), such demands are not supported by bodies tasked with governance of the physical Internet such as the ICANN (section 4.3).

The problem is further exacerbated when the Internet as a whole is considered that comprises both of the physical Internet and the Cyberspace (supposition 6.30). The literature reviewed in Chapters 4 and 6 reveals the lack of functioning authorities over the Cyberspace (suppositions 6.10, 6.12), which allows for an unopposed adaptation of the authorities on the physical Internet over the composite Internet. In other words, an ill-defined Internet contributes towards the configuration of authorities that are ill suited for it. By way of explanation, the Internet exhibits the hallmark characteristics of universal bodies such as the United Nations and the European Union. As such, it has a universal presence and succeeds in granting a voice to all views within the network. The Internet spans multiple domains of jurisdictions (propositions 3.22) and conflates various contrasting philosophical traditions. However, identified authorities in Chapter 4 such as the ICANN or the IETF appear ill suited at addressing issues that rise as a result of tensions between competing paradigmatic views (suppositions 7.1, 7.2). The issue lies in appealing to bodies with strictly defined and controllable spheres of influence instead of an empowered overall authority that can help arbitrate and coerce order. To this end, Komaitis (2008) observes the current state of Internet Governance and suggests that there is no singular normative governance regime that can be used to guide the processes of governance. He focusses primarily on the physical Internet, and in doing so follows other academics in the implicit agreement that the Internet can be treated as an extended entity in the prevailing understanding of reality that equates it to an artefact on the physical space and as such conformable to similar political arrangements. Despite the narrower focus of his observations, Komaitis (2008) finds characteristic traits of monarchy, oligarchy and plutocracy in various guides across the many governance bodies on the Internet along with his preferred solution of modern participative democracy. A key finding based of his observations is that despite the attempts of actors such as national governments to import their current political regimes onto the Internet (proposition 4.8), that migration is either incomplete due to omission or purpose. As a corollary to his findings, it can be argued that the incompletion and omission is a result of artificially expanding the mandate of authorities concerned with aspects of the physical Internet over the Internet that consists of the Cyberspace as well.

Building on the observations of Komaitis (2008), the lack of an original Social Contract between adequately identified stakeholders and justified and legitimised authorities results in the rise of contrasting and competing characteristics. While authorities promote the adoption of certain characteristics within their domains, the same cannot be achieved on the Internet. For instance, based on the literature explored, the virtue or characteristic of justice cannot be upheld in a universal manner in various governance regimes adopted by the many organisations responsible for aspects of the Internet, when it is defined and understood through competing meta-ethical and perspectival positions (incommensurability as an adjunct to proposition 3.6). The non-accompaniment of a history of evolution that establishes the legitimacy of an authority hinders the promotion of a desired outcome, which can have repercussions for the smooth functioning of the society. For instance, sub-section 3.3.1 explored the adoption of justice as the primary defining characteristic of a governance regime as it ensures that an entity affected by an institution has an equal right to most extensive liberty. Furthermore, justice ensures that an action carried out by an institution vested with an authority is done in the best interests of all in the society, and that such actions can be held accountable. However, the characteristic appears not to play an important role within attempts at governance over the Internet. For instance, invoking its institutions on the physical space and physical-Internet, the US government in 2012 unilaterally decided to confiscate the digital property of www.MegaUpload.com, a company that was headquartered in Hong Kong (Williams, 2012). There were no means of redress provided to the affected parties except to accept the jurisdiction of the United States legal code. While there are significant nuances to the case, it is apparent from the manner in which the company was shuttered that there is a lack of an empowered body on the Internet that could be utilised to debate the concerns of the competing stakeholders and allow principles of justice normally present in contemporary democracies to guide decisions. Similar cases are explored in detail in the following sections of this chapter.

The key findings of the section can be summarised in the following suppositions:

Supposition 7.15

The Internet lacks an overarching authority tasked with governance.

And,

Supposition 7.16

Current authorities on the Internet lack legitimacy either derived through an initial Social Contract or continued acts of legitimation in consultation with stakeholders.

7.2.3 Discussion

The previous sub-sections have highlighted the manner in which the key factors for effective governance presented in the Framework of Effective Governance are not manifested in governance attempts over the Internet. The review reveals the role an ill-defined Internet plays as a flawed starting position for enquiries of governance over it. An examination of the literature has revealed the dearth of authorities over the Cyberspace, and plentiful authorities on the physical Internet that are founded on governance models based within the physical space that axiomatically accept territorial differences as useful markers for defining domains of influence. Whilst equivocation of the physical Internet as the Internet enables the promotion of accompanying governance models originally designed for aspects of the physical Internet to the wider Internet, it remains difficult to establish governance structures and processes for the wider Internet. To this end, Barlow (2001) adds:

> *"We have no elected government, nor are we likely to have one, so I address you with no greater authority than that with which liberty itself always speaks. I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us. You have no moral right to rule us, nor do you possess any methods of enforcement we have true reason to fear." (Barlow, 2001, p. 28)*

The key insight then is that such equivocated models of applying governance on the Internet violate the basic fundamental prerequisites for effective governance highlighted in the Framework of Effective Governance. While governance

attempts on the physical space progress in tandem with the cohesion of the community, the ill-defined Internet acts as a misstep towards that journey.

The preceding chapter proposed an understanding of the Internet as a social space inhabited by humans as well as the tangible technological artefacts of the physical Internet (supposition 6.30). A disregard for such an Internet aids in proceeding with an incorrect visualisation of the Internet, hinders the formation of a Social Contract and the emergence of empowered authorities that draw justification for their existence and mandate through continual efforts of mediations. In other words, the authority propped up remains unjustified and susceptible to dismantlement (supposition 7.13).

In the same way, governance models designed according to the sensibilities of the physical space fail in forcing a re-evaluation of meta-ethical and political perspectival positions. For instance, the form of democracy practiced in the United States is an effect of the constant negotiations between the stakeholders, and the form derives continued justification for its existence and future acts through appeals to meta-ethical and major perspectival positions (proposition 3.6). Difficult decisions such as whether or not to invade another country to protect the national interests can be morally justified through appealing towards a meta-ethical obligation to promote liberty throughout the world, and politically supported through appealing to perspectival political position that encourages the protection of national interests on the world stage. The key insight is that whilst a difficult decision of the authority may become challengeable when it weakens the cohesive bonds of the community, such a challenge can only be mounted and addressed appropriately when there are clear governance ideals that can be used as markers. Such a situation does not appear within the Internet governance discourse on the Internet where the authority remains unjustified and un-legitimised.

Furthermore, there is little consensus on the future direction of the Internet as an entity in itself, and the form of its governance structures. Despite self-interested calls being made from various stakeholders, there remains the lack of an overarching authority that derives its mandate from a meta-ethical perspective to promote a normative model of conduct (supposition 7.15). Consequently, any actions taken up by a contested authority at developing normative codes of

conduct encounter resistance as the community further weakens entailing a reduction in the authority's sphere of influence. As explored in the previous sections, the inability of the authority has ramifications for governance, chiefly in its inability to assert its decisions and risking not just its own existence but also the breakup of the community itself (proposition 3.18).

An ill-defined Internet results in a state where governance attempts lag behind the increasing technological advancements. As newer methods and protocols of communication are configured on the Internet, and governance attempts continue to be derived through authorities ill equipped for the Internet, the normative codes of conduct quickly become obsolete. For instance, just as the lack of a governance framework on the Internet hindered the ability of the government of Pakistan in successfully censoring information from the website www.youtube.com, the inability of the government in preventing access to the website through blocking through the ISPs was easily circumvented through employing private VPNs or the anonymous TOR network. An inaccurate understanding of artefacts and assets within the Internet as analogous to entities in the physical space results in failed governance attempts in a context where there are no geographic borders to guard or claim (supposition 7.9). In other words, the inability to assert control over the artefacts within the Internet, which is a defining characteristic of sovereignty, reveals the lack of coercive power (a characteristic of an effective governance as per supposition 7.7).

From the above discussions, the traditional conception of authority as a mandated division between the institutes of state that provide the coercive arm and the government that gains the right to wield it is also absent on the Internet. Not only is there no overarching authority that is justified and legitimised on the Internet (suppositions 7.14, 7.15), but the current authorities are dispossessed of suitable power to coerce their writ. Consequently, governance attempts in a domain that invariably entail adoption of certain rules through its instruments and processes fail on the Internet. The traditional bases of power on the physical space, such as tradition, shared geography and history, culture and language do not provide the requisite foundational support to the current authorities such as the ICANN, the United Nations, or a national government, over the Internet. The erosion of such foundational support for authorities with limited power and

justification on the Internet creates an illusory state wherein it is assumed that governance can be carried out. The illusion is troubling when the ineffective processes of such authorities are expected to propagate rules.

Glennon (2005) contends that rules and processes are analytically inseparable, and in that suggests a symbiotic relationship. However, the privation of such a relationship on the Internet allows for a proliferation of rules around human conduct on what they ought to be able to do on the Internet, without having empowered processes to achieve the intent. The state that emerges can be summarised in the following supposition.

Supposition 7.17

Rules are exposed to abandonment through non-enforcement or non-compliance.

A rule's abandonment leading to it falling in disuse leads towards the state of desuetude, which is in effect a weakening in the coercive potential of the governing agent and a deviance on the authority of norms. While such attempts may achieve the rhetorical requirements of a rule, the objective of the ruling remains elusive. Glennon (2005) further warns:

> *"My theory is that excessive violation of a rule, whether embodied in custom or treaty, causes the rule to be replaced by another rule that permits unrestricted freedom of action. The theory thus gives asymmetric weight to disconfirming evidence—violation—over two types of evidence that confirms it—behaviour that is consistent with the rule, and rhetoric which is functionally identical to no rule." (Glennon, 2005, p. 940)*

In other words, the construction of rules that cannot be enforced allows those very conditions to flourish that the rule intended to prohibit. For instance, the Pakistani government's attempt at censoring the information on the Internet resulted in the increased proliferation of the information.

The lack of enforceability over the Internet is also influenced by the manner in which the physical Internet is constituted. As explored in the previous chapter, the Internet exists in the manner it does in recent times due to the way the physical Internet's make-up allows for the Cyberspace to be. That mathematical laws, which provide the underpinning for the physical Internet, enable hiding or

obfuscating the contents of data through a myriad of ways such as encrypting the data at block level, or routing it through private proxies, increases the difficulty of governing the flow of data on the Internet. The innate ability on the Internet to block potential attempts at censoring or monitoring it, unless it is tapped at the source or destination computing nodes or if it flows in the plain-text mode where it can be easily sniffed, poses a lasting challenge to data governance over the Internet. To this end, May (2001) contends that "*…just as a seemingly minor invention like barbed wire made possible the fencing-off of vast ranches and farms, thus altering forever the concepts of land and property rights in the frontier West, so too will the seemingly minor discovery out of an arcane branch of mathematics come to be the wire clippers which dismantle the barbed wire around intellectual property. Arise, you have nothing to lose but your barbed wire fences!*" (May, 2001, p. 63)

Noting the ability on the Internet to discourage attempts at governing it, Barlow (1996) suggests that political independence can be achieved on the Internet by making governance attempts unfeasible and unenforceable on technological grounds. Spaces can thus be created on the Internet that can remain entirely independent of meddling from an unwelcomed authority by the virtue of being ungovernable as a result of lying under the purview of no nation state or traditional authority. Such sentiments were commonplace in the late 90s and early 2000s with the rise of movements like crypto-anarchism that reflected the political leanings of the early technologists explored in Chapter 4. The key insight then is that governance of the Internet through means of controlling what data may flow over it has been difficult to enforce from the early days due to the composition and makeup of the Internet and remains so. In more recent times, since the revelations of Edward Snowden in 2013 of US spying on the Internet traffic (Greenwald, 2013), calls have been made for the encryption of all traffic to become the norm on the Internet to deter attempts at detecting the contents of a packet of data by making them harder to decipher. In the same way, there are technical means available to obfuscate the identity of an Internet node through methods such as fast flux DNS and bot attacks that challenge the assumption that traditional notions of jurisdiction that have been historically been effective will

continue to be useful on the Internet. The later sections explore this particular issue in detail.

A review of literature reveals that views such as Barlow's attracted early opposition. For instance, Ludlow (2010) argues that government has always been virtual and faceless since Grecian times, and therefore a space without any semblance of an authority may only host temporary dysfunctional societies. He says:

> *"Given all of the things that are virtual or at least partially virtual, it is a short step to ask whether things like states can be virtual too. The answer is that of course they can. Not only can they be virtual, but they already are. You don't want to confuse the United States government with buildings in Washington DC, or with military hardware, or with the politicians and leaders of the government. These are all important agents in the conduct of governmental activities, but the government itself is a virtual entity that is layered on top of the buildings and hardware and politicians." (Ludlow, 2010, p. 4)*

Ludlow (2010) further contends that the promotion of a space entirely void of any form of authority is similar to the quest for a utopia and as such not feasible: *"Well, we've heard a lot about possible utopias since Thomas More (indeed, since Plato's Republic), but so far we haven't seen anything remotely utopian in the real world. But perhaps that is because we are looking for a grand, even global, utopia. Genuine utopias are more likely to be small, community-based, and fleeting."* (Ludlow, 2011, p. 18).

Ludlow (2010) appears to construct a straw-man argument by advancing a definition of anarchism rejected by supporters such as Chomsky (1975) and Nozick (1974) in section 3.3. For instance, the form of anarchy proposed by Chomsky (1974) does not argue for disassembling all forms of authority, but instead argues that hierarchical authority must be justified as often as it can, and only upon the lack of such justification should dismantling be considered. In other words, the focus of the position is not blanket anti-authoritarianism, but placing a burden on authority to continue to justify its survival and modes of power (supposition 7.13). The claims of Barlow (2001) and sympathisers of the anarchist

ideals on the Internet can also be viewed from another angle: that instead of arguing for abolishment of authority, they contend that due to the manner in which the Internet is constituted, it allows for the realisation of certain anarchist ideals that were not possible on the physical space. For instance, the hierarchical forms of authority are all enveloping on the physical space, which bind all forms of communities. However, the Internet potentially allows the formation of both macro and micro forms of communities without any form of overt governance. While it may be possible to sustain a micro community on the physical space in abeyance to anarchist ideals, Barlow (2001) and others argue against Ludlow (2001) in suggesting that the entirety of human existence on the Internet could be anarchic.

Ludlow (2001) also agrees with the general inability of maintaining the purity of ideals such as an existence independent of authoritarian structures as the society evolves. While a radical theory may provide the ammunition for a revolution, upon its success, pragmatic concerns ultimately result in the dilution of the original ideological ferocity. The insight can be summarised as:

Supposition 7.18

Second order ideals cannot always be maintained when translated into first order acts.

By way of illustration, the struggle in the 1940s to carve out the independent nation state of Pakistan when the British Empire relinquished control of united India were fuelled by the two-nation theory that declared Muslims and Hindus as two separate nations that could not live to their utmost potential in a single country (Talbot, 2009). Whilst the ideology largely united the Muslims who formed a minority in India under the leadership of the political party 'The Muslim League' resulting in the realisation of the state of Pakistan on 14th of August 1947, the initial Social Contract appeared inept in guiding the course of policy making post-independence.

As long as Muslims in India stayed under the shadow of a larger Hindu majority, they founded a community based on a shared fear of the tyranny of the many. However, upon independence, the Muslims became a majority in the borders of the new nation of Pakistan and the shared identity that forged the early community and provided the links of cohesion became irrelevant as internal sects

and factions within Islam asserted their own roles in forging competing stakeholders (Talbot, 2009). Furthermore, the identities of the stakeholders who worked together towards the conception of Pakistan were not recast, and consequently the original intent of the Social Contract was diluted. Whereas the Muslims were united pre-1947 to work together for a Pakistan where they could live in accordance with the teachings of their religion, post-1947 the non-inclusion of new stakeholders such as Barelwis, secularists, Deobandis, Wahabbis, ethnic groups, communists in an ongoing discourse to justify the manner of existence of state authority in charge of deriving normative codes of living resulted in sowing seeds of discord. By way of illustration, Barelwi Muslims visualised a Pakistan that honoured the traditions of venerating saints, the Deobandi Muslims expected the Pakistani state to oppose the Barelwi agenda, the secularist Muslims wanted more representation for the religious minorities, and the ethnic groups aimed to have their regional grievances addressed. The Bengalis in erstwhile East Pakistan who formed the largest ethnic groups were particularly vociferous in their demands for Bengali to be recognised as the national language of Pakistan, a demand that was not met. Thus, the framework of Pakistani politics did not succeed in providing a suitable forum to address issues, which ultimately resulted in the secession of East Pakistan to become the independent nation of Bangladesh.

Ludlow (2001) warns against similar risks when he criticizes the 'Greek god model' of governance for virtual worlds on the Internet. He observes the lack of coherent systematic policies to deal with discord within the worlds formed on the Internet, and contends that the absence allows stakeholders to form fleeting alliances that let them dabble as it suits their concerns. Whilst there may be initial realisation of the objectives of such a grouping, the danger lies in the eventual dismantling of the group when the bonds of the community can no longer be maintained. Additionally, the question posed by Ludlow (2001) can be rephrased in another way: "Even if it is possible to achieve contentious goals on the Internet such as those espoused by Barlow (2001) in his 'Manifesto for the Internet', ought they to be applied?" However, an answer to the question requires appeal to a meta-ethical or perspectival political position for guiding the debate, which the inaccurate account of the Internet does not provide. Thus, the realisation that the ill-defined Internet lacks a Social Contract (supposition 6.7) and the stakeholders

remain undefined presents the argument that such a state of affairs cannot be carried out perpetually (supposition 7.14). Furthermore, conflicts which rise cannot be addressed through appeal to second order abstractions providing useful guidelines as the authorities on the Internet are not just unjustified and ill-equipped at arbitrating conflict (supposition 7.16), but also devoid of accompanying meta belief sets to guide their activities.

In spite of his well-intentioned position to promote structures of governance on virtual societies akin to those in the present space by pointing out commonalities, Ludlow (2001) commits the fundamental mistake that has been outlined earlier: the Internet is not axiomatically similar to the physical space, and consequently the communities formed on the Internet are not axiomatically similar either (supposition 7.9). The second distinction that Ludlow (2001) fails to highlight is the difference between macro and micro governance. While a virtual community such as Facebook may adopt a particular form of governance, such as enlightened aristocracy in the Aristotelian tradition, and strike a Social Contract between the authority and the stakeholders through the adoption of contracts such as Acceptable Usage Policy, Code of Conduct, or End User License Agreement, an agreement on a particular community does not translate to the wider society at large. The insight can be highlighted as:

Supposition 7.19

Practices of micro governance do not necessarily derive from macro governance practices.

The issue can be further highlighted by the continuing ambiguity on issues of e-commerce. For instance, during the Rugby World Cup in the year 2011, the company adidas acquired the license to sell official merchandise in form of replica rugby jerseys. The price it set for the sale of All Blacks jersey (the New Zealand national team) was considerably higher within New Zealand, but cheaper in other countries. To get around the high prices, some New Zealanders bought the jerseys in foreign countries through the Internet and had them shipped to New Zealand for their personal usage, thus saving cost (Westbrook, Levy, & Cooke, 2011). The scenario sets up interesting questions that pose challenges such as identifying legal jurisdictions, the morality of preferential pricing by adidas for selling the

same merchandise, and taxation within different countries, that cannot be easily addressed.

While existing frameworks may be evolved to deal with physical artefacts that are manipulated or engaged through the Internet, the challenge becomes even more pronounced when virtual artefacts are at stake that render the conception of jurisdiction based on geographic boundaries obsolete. For instance, if avatar A manages to trick avatar B physically situated in a different jurisdiction on the physical space on the online game Star Wars: The Old Republic in giving up her treasure cache, are there any meta or macro authorities that B may refer to if she cannot find suitable redress by the immediate authority in charge of the community? Thus, while Ludlow (2001) is justified in questioning the assumption that a completely anarchic society is not feasible, and that at best a society may be minimally anarchistic, his contention that governance is possible for the Internet in the manner it operates on the physical space appears naïve.

Attempts by ill-defined authorities to carry out acts of governance forcibly, even if they largely fail to achieve the objectives, over a domain of influence risks integrity of the space. Furthermore, as the manner in which the authorities on the Internet evolve their political apparatus is not in tandem to an accompanying moral evolution, concerns rise where actions taken cannot be justified through appeal to overarching principles. As explored in the preceding chapter, an insistence that nation states on the physical space provide analogous support to similar governance structures on the Internet is inaccurate. Similarly, the implicit assertion that just as micro or localized governance regimes on the physical space can be scaled up to a macro governance regime on the physical space, the same is a priori possible on the Internet is incorrect as such a link does not manifest on the Internet (supposition 7.19). The previous chapter introduced a conception of the Internet that does not grant the nation states exclusive claim on the governance of the Internet due to the virtue of hosting technological artefacts of the physical Internet. Similarly, the Internet allows for the construction of a tribe or community of humans where all participants are potentially granted equal voices where in principle they may engage with each other in a manner that they choose. For instance, avatar A and avatar B on the Star Wars: The Old Republic

decide of their own sovereign will to join a community loosely administered by a localized authority not strictly under the purview of another being.

In light of the reviewed literature that reveals the lack of justified authorities on the Internet and the issues it entails, the discourse on Internet governance is often shifted towards proposals on what authorities should be setup and suitably empowered towards resolving the issues of governance. However, fundamental considerations are omitted from the dialogue. For instance, the absence of a shared core position on the Internet helps exacerbate the inaccurate visualisation of the Internet that leads towards incommensurable models of governance and the defences of authorities that demand legitimacy on the basis of might of stakeholders in the physical space. To this end, the discourse promotes un-legitimised authorities formed to derive consensus on technical standards for the physical Internet as justified authorities for the wider Internet. By means of illustration, the ICANN continues to derive its mandate for the governance of the top-level domains on the Internet through the support of the national government of the United States of America.

It is vital to acknowledge that despite the potential of the Internet in providing equality, anonymity, freedom of expression to the participants, governance attempts on the Internet through authorities such as national governments and their institutions like the legislative parliament and spy agency, can appear to succeed. For instance, through obtaining necessary orders from the court, a US government agency can force Internet companies such as Google to grant access to an individual's personal emails. However, the scenario is not too different from Ludlow's observations on virtual communities. Just because some form of first level, governance attempt appears to succeed or function does not entail its future success or existence, nor establish the justification of acts. Through the straining of relations between the stakeholders, an unjustified authority such as a national government, risks harming the cohesive bonds of the wider community and negatively influencing the makeup of the Internet itself. By means of illustration, the entanglement of narrow traditional territorial claims on the global entity Internet pose the risk of splintering or balkanization of the Internet. For instance, if the Chinese government was unable to block data emanating from servers based in the Western world from propagating through to

their populace, a more effective decision might be to block all Tier 1 Internet backbone companies based in the Chinese mainland from interconnecting with other international Tier 1 network backbone providers, and form a more controlled Chinese Internet (the issue is explored in detail in the following section). In other words, an authority with asymmetrical and unjustified powers, challenges the existence of the Internet through severing its formative bonds.

As explored above, the manner in which the physical Internet is designed allows methods to hide contents of data through means of encryption or obfuscation. An inaccurate understanding of the Internet used for carrying out unenforceable decisions over the Internet means that even the severing of the Internet might not be enough for a national government to govern what data flows over it. Even in politically anonymous islands on the Internet, it would be possible to carry out engagements behind the veil of mathematical encryption. Additionally, the problems identified with the governance attempts of the Internet would also remain on such severed forms of the Internet. By means of explanation, attempts at suitably locating stakeholders on the Internet in order to sustain political governance attempts of the Internet would continue to base the foundations of their authoritarian claims on factors such as physical location of the infrastructure used to create and transport the data, the originator of the data, and the impact of the data on stakeholders. Consequently, the Internet would remain overwhelmed with massive amounts of data traversing it with the difficulties in governing it due to the severe uniformity of standards that enable such chaos to exist in the first place. In other words, the current set of problems and issues with governance of the Internet due to it being a global entity would shift to a regional outlook. While national governments may appear to achieve complete suzerainty on all stakeholders physically located in its geographical boundaries on the Internet, the activities of the stakeholders would continue to weaken the formative bonds of the community due to the lack of a Social Contract and a justified legitimised authority.

The section has explored various reasons behind the continued failure of governance attempts over the Internet. Governance practices and their foundations have been explored through the application of principles introduced in the

Framework of Effective Governance. In the next section, ways in which the Internet can be governed in abeyance to the FoEG are explored.

7.3 GOVERNANCE OF THE INTERNET

This section answers the second and third research questions of the thesis. Furthermore, the section defines the feasible scope of governance for entities and stakeholders over the Internet, explores the possibility of striking a Social Contract and the way in which an authority may derive its legitimacy and obtain the powers of coercion to achieve governance objectives.

To this end, the visualisation of the Internet as its technical components that constitute the physical Internet and the Cyberspace that allows for new kinds of communities to be sustained (supposition 6.30) is utilised to provide the starting position to explore the questions of governance. In other words, the shared position on the Internet proposed in the preceding chapter acts as the core theory around which the inquiry and its results are positioned as auxiliary theory.

The four key factors for effective governance introduced in the Framework of Effective Governance (figure 7.1) are utilised. Thus, the below sub-sections explore the scope of governance of the Internet, identify the stakeholders, examine the form an authority tasked with governance of the Internet (propositions 4.3, 4.4) may take and outline the limitations placed on the powers of such an authority.

7.3.1 The scope of governance and stakeholders

An understanding of the Internet as an entity dissimilar in kind to the physical space provides the foundations for scoping the domain of governance (supposition 7.9). The foundation is strengthened with the acknowledgement that physical space constraints of time and space that lead towards models of conduct that rely on factors such as geo-political or cultural proximity, do not determine the composition of communities on the Internet (suppositions 6.31, 6.32). The foundations provide the necessary grounding for determining the manner in which relations of power are formed on the Internet by discounting the power networks on the physical space as valid markers.

Secondly, the proliferation of ethical and political issues on the Internet that cannot be tackled within a suitable framework discloses the absence of an underlying agreement between the actors on the Internet (supposition 7.12). Whilst micro communities may exist on the Internet modelling the divisions on the physical space, such as localized servers for Star Wars: The Old Republic, or regional forums in different languages, the macro community on the Internet lays in a Hobbesian natural state where stakeholders engage with each other in a contested space to safeguard their own interests (supposition 7.19). Consequently, endeavours at disregarding the natural state through methods such as artificially limiting the pool of stakeholders on the Internet through the imposition of divides on the physical space hinders the formation of a Social Contract for the Internet as a whole. Moreover, the inductive argument acknowledging an existing Social Contact for the Internet is flawed when the physical-space inspired definition of the Internet are incorrect that leads towards the understanding that the Internet lacks an initial Social Contract. The finding can be summarised as:

Supposition 7.20

There is no Social Contract on the Internet.

A paradigmatic shift in how a phenomenon is considered through a repositioning of its core theory results in significant recasting of the auxiliary theories (propositions 2.11, 3.2). As the second order disciplines of metaphysics, ethics and politics are interlinked (proposition 3.4), a revisualisation of the Internet through the Reality Continuum (figure 2.1) forces a reconceptualization of the manner in which meta-ethical and perspectival political positions are aligned to lead towards normative codes of conduct. The following supposition is proposed:

Supposition 7.21

A metaphysical revisualisation of the Internet has ethical and political consequences.

The task then is to either develop a new model of governance or utilise existing ones for the Internet. The argument for scaling up the governance models of micro communities can be countered with the realisation that it does not logically follow that models of governance for communities such as Star Wars: The Old Republic or the online forums managed by a national government, can be scaled up for the wider macro community (supposition 7.19). By way of explanation, the inductive

argument made in the literature in support of the contention is founded on the understanding of the Internet as a phenomenon within the constraints of the physical space. Just as the principles of Farabi's (1998) Virtuous City can be expanded, it ought to be possible that principles drawn for governing aspects of the Internet can be applied on the wider Internet with suitable adaptation. However, shoring support for the argument through invoking real world practices further weakens its validity.

The foundations also acknowledge that it is not possible to develop a view of reality that is entirely independent of the human (proposition 2.8). By way of explanation, an understanding that statements about being are statements of knowledge in disguise (proposition 2.1), in conjunction with the abandonment of classical realist positions on the nature of reality independent of human cognition, reveal the fallacy of the claim that knowledge of an entity is an unmediated relation between the subject and being. For instance, while theories derived from the revised realist view aim to latch onto aspects of reality itself and anti-realist positions aim to provide useful working definitions of a given phenomenon as a subset within reality, it is granted that a complete view may not emerge. To this end, an understanding of the Internet as a kind of reality that has not been encountered earlier (supposition 6.34) allows for the radical rethinking of the efficacy of previous modelling approaches towards it. Just as advances in the science, such as quantum mechanics, have profoundly affected the manner in which reality is understood leading towards the abandonment of coherent classical realist contentions, an accurate visualisation of the Internet enables the derivation of juridical systems and practices best suited for the Internet through the abandonment of obsolete practices. To this end, a rejection of classical understandings of the Internet that lead towards a physical-space inspired view of how the entities relate to each other in the Internet enables a revisualisation of the Social Contract on the Internet.

Forming a Social Contract has advantages (proposition 3.9). For instance, it allows for the definition of an original scope that lays ideals as foundations that can act as mediatory beacons in times of discord (proposition 3.12). More importantly, a Social Contract allows for an initial determination of the scope of

governance and identification of the stakeholders. The contention can be proposed as:

Supposition 7.22

It is advantageous to construct a Social Contract on the Internet.

Thus, the key differentiator for renewed efforts towards governance of the Internet is expressed in the acknowledgement that a Social Contract needs to be formed on the Internet as against the approaches reviewed in the literature that assume one already exists or deny the need for one. To this end, regardless of the way in which a Contract is derived, the freedom of the Internet from the subjectivity of physical space models needs to be acknowledged.

Due to the centricity of the human in all endeavours of understanding reality (proposition 2.21), it is vital to note that even when the efficacy of carving boundaries based on the physical space on the Internet is disavowed, a recalibration of philosophical positions on the Reality Continuum (figure 2.1) can empower the construction of an evaluative framework for the Internet. In other words, just as the positions on the Reality Continuum enable a description of the Internet that is no longer entirely corporeal, recalibrated ethical and political perspectival positions can be utilised to construct a scope of governance that deals with codes of conduct.

Based on proposition 3.2, a clarification of the abstract artefact Internet leads towards forming normative and applied theories. Similarly, the proposed understanding of the Internet is section 6.2 in effect sets the scope of governance for an authority tasked with governance of the Internet. As per the Framework of Effective Governance, the initial task of defining the scope of governance can be fulfilled through the adoption of the Internet proposed in the preceding chapter. The contention can be stated as:

Supposition 7.23

The scope for governance of the Internet is the duality of the physical Internet and the Cyberspace.

After the identification of the scope of governance, the discussion can be focussed on the formation of a new Social Contract to enable conditions of co-operation between the stakeholders. However, at this stage, it is vital to identify the stakeholders.

A key difference between physical space and the Internet discussed in the preceding chapter is that the latter allows for new kinds of communities to form that can host non-human actors as stakeholders in addition to humans (section 6.2). The acknowledgement that stakeholders are not restricted to humans only allows for a more diverse set of stakeholders to emerge than what has been explored in the reviewed literature. Subsequently, a question arises: "How can governance models that primarily aim to provide normative codes for humans through appeal to human derived meta-ethical and political perspectival positions be enforced on non-human actors?" The question is explored in the following sub-section; however, it is vital to acknowledge that societies on the physical space also contain complex stakeholders that may belong to various groups with competing interests. For instance, the Islamic ummah proposed by Iqbal (2000) is a set of individuals that belong to other groups such as nation states, which may hold contradictory views on issues within the wider society. In the same way, an average American citizen may be simultaneously viewed as a victim and aggressor. To this end, the Internet allows for the conflation of all possible perspectival positions and normative codes practiced in varying degrees by the stakeholders (adjunct to proposition 3.30). Whilst positions like Actor Network Theory explored in section 5.3 allow for the inclusion of non-human actors as capable of causative agency, the preceding chapter allows for their inclusion as agents capable of carrying moral agency as well and therefore subject to codes of conduct and responsibility, alongside being receptors of rights and privileges. The key idea can be summarised as:

Supposition 7.24

The stakeholders on the Internet can be either human or non-human actors.

Approaches towards reality such as Critical Realism allow for the bracketing of reality (proposition 2.5) in the domains of the real, actual and empirical (section 5.3). The key insight is that a descriptive metaphysics cannot derive from an immanent metaphysics. Similarly, the classical realist contention that there is a fundamental structure to reality, which can be uncovered through iterative refinements through scientific endeavours, cannot be defended in a robust manner. To this end, a revisualisation of the Internet in the Critical Realist domains of the real and actual, where human and non-human actors proliferate and engage in

complex mediatory relationships with each other, presents a space that is in constant flux and evolution. Such behaviour is troubling for empirical attempts at defining the underlying complex structures. For instance, the revelation that empirical calculations of the sub-atomic particles reveal a state of flux on the abstracted strata of reality prohibit the development of overarching scientific ontologies of phenomena. The application of such a scenario on a governance scope presents issues when stakeholders cannot be adequately defined. For instance, the governance model of a traditional nation state is firmly grounded on the foundations of a well-defined community that evolves with the passage of time instead of one that cannot be located. In addition, whilst the actors may be in a state of constant evolution, it is still possible to identify their stages. Such a possibility appears difficult on the Internet due to the number of human and non-human stakeholders who are in an accelerated perpetual phase of becoming. However, it is vital to note the inability of empirical methods as the labourer to uncover the overall design of a structure is not the denial of the latter. In other words, whilst the task of identifying stakeholders becomes harder on the Internet, it does not detract from the overall goal of founding a Social Contract to enable conditions of co-operation. The key finding can be summarised in the following supposition:

Supposition 7.25

The difficulty in accurately identifying all possible stakeholders does not stop the construction of a Social Contract.

As the composition of stakeholders has ramifications for the configuration of governing authorities (proposition 3.24), acceptance of supposition 7.25 leads towards a weakened Social Contract due to the manner in which the task of identifying stakeholders becomes harder.

A key finding from examining the manner in which the Internet exists and hosts the Cyberspace that enables the proliferation of stakeholders in the wider community (section 6.2) is of their existential dependence on the composition of the Internet. For instance, the community of stakeholders on the Internet can only exist so long the physical Internet allows for the interconnectivity of disparate computing networks on a voluntary basis. Severing the interconnectivity between

Tier 1 networks on the physical Internet results in the division of the wider community. Based on the finding, following supposition is proposed.

Supposition 7.26

Entities on the Internet exist as stakeholders due to the composition of the Internet.

Despite the differences in composition (supposition 6.33), the scope of governance for the Internet (supposition 7.23) is similar in kind to the natural state on the physical space in which human stakeholders find themselves prior to the formation of a Social Contact, in terms of chaos and absence of shared ideals. An inductive argument at this stage would suggest that upon formation of a Social Contract, the stakeholders on the Internet would be bound in a similar manner to their counterparts on the physical space. However, while it is relatively harder in recent times for an individual to disagree to an existing Social Contract within the physical space he occupies, it is easier for stakeholders on the Internet to withdraw from an arrangement as a by-product of their inherent freedom on the Cyberspace from legalistic bounds based on spatiotemporal basis. In other words, the stakeholders on the Internet, human or non-human that are in constant state of becoming, may agree to form cohesive bonds under a Social Contract, but do so in a neorealist manner where they act as free sovereigns. The insight can be summarised in the following supposition.

Supposition 7.27

Stakeholders on the Internet join binding agreements on voluntary basis.

The voluntary manner in which free networks connect with others reveals a key insight with severe ramifications for governance. While humans born into communities that are already formed inherit a Social Contract that grants them rights and assigns expectations, the same cannot happen on the Internet, due to the difficulty in locating static stakeholders. Similarly, whilst certain aspects of the Internet are governed in recent times, such as domain names and IP addressing schema, the rules are followed by the stakeholders out of consent instead of coercion. Not only are the stakeholders difficult to identify on the Internet due to the level of complexity involved with identifying human and non-human actors that are in a constant state of becoming and unveiling, but the scope of the governance over the Internet is dependent on all joining networks remaining

connected to the global internetwork. While a person born into a nation state may decide to sever his individual Social Contract with his government and choose to move into another domain of governance, the networks on the Internet can severe their connections from the Internet and retain their own individualistic governance mechanisms. Such individual governance regimes already exist on the Internet. For instance, communities on the Internet such as www.reddit.com or Star Wars: The Old Republic follow uniquely derived governance models that are independent of any overall governance attempts over the Internet as a whole. In other words, in contrast to the physical world where humans may form sub-societies within a society with different codes of conduct yet remain ultimately subject to a higher authority, such a state does not exist for Internet communities. Not only is there an absence of an overall authority on the Internet that can enforce an all-encompassing governance position, but any such attempts can be easily circumvented by the affected networks through deciding to withdraw from the internetwork.

The ability of individual networks to disband from the whole and either retain individual presences in the form of private clouds cut from the rest of the Internet, or form limited forms of the Internet through connecting with chosen networks presents the problem of a governance scope that is itself in a constant state of flux and risk of dismantlement. The inability of the Pakistani government in censoring information hosted on webservers under the physical jurisdiction of the United States government, which was explored in the previous section, could have hypothetically been bypassed had the former chosen to withdraw the Pakistani Internet backbone from the rest of the Internet. Through disconnecting from those networks that could not be governed and fundamentally reworking the architecture of the physical Internet that allows for the passage of anonymous data through means such as encryption, the Pakistani government could have constructed a scope of governance over its local Internet. While such a move would carry severe economic and social ramifications, it would have achieved better results than getting websites blocked through the local ISPs, which failed at restricting access to the undesired information. Furthermore, ineffective governance attempt over the Internet result in the formation of communities where stakeholders can easily bypass restrictions imposed by regimes such as the

Pakistani government, and setup a parallel Social Contract for their community on the premise that denies authority of another stakeholder in determining their code of conduct. The finding can be summarised as:

Supposition 7.28

The bounds of a Social Contract for entities on the Internet are restricted by the ability of stakeholders to leave the wider community.

The reviewed literature also does not support the contention that once a Social Contract over the Internet is struck, it can be sustained through controlling the scope of governance attempts. In a real world analogy, while the independent nation states on Earth are members of the inclusive organisation of the United Nations, their membership is voluntary. In such a union, while there are economic, social and political benefits though membership, the individual states retain the ability to secede at a time of their choosing. The united body may exhibit a collective will concerning an individual member through reflecting the wishes of the other member nation states, although, the nation state is free to leave the United Nations and join a rival organisation where it may be more welcomed. However, despite the secession of the member state, the scope of governance can be extended on the physical space through carrying out an act of coercion. For instance, despite objections by some member states to the arguments offered by United States of America and her allies to justify an invasion of Iraq in 2003, the country was invaded and the incumbent government was dismantled. The key insight for the Internet, however, is that such an arrangement cannot be enforced on the Internet. The membership of the Internet is different in kind to membership on the physical space, in a similar manner to how the stakeholders form communities of a new kind over the Internet (supposition 6.34).

Whilst, in principle a Social Contract over the Internet may extend to all stakeholders that exist within the Internet, individual stakeholders retain the freedom to form private networks either outside of the wider Internet (through creating private Internets), or create an esoteric network within the wider Internet that remains outside the scope of governance attempts by arbitrary authorities. In other words, the manner in which the Internet exists perpetuates the state of neorealism where stakeholders continue to assert the right to form communities and domains of governance in opposition to others stakeholders.

In summary, the scope of governance can be understood as the Internet (supposition 7.23), and the stakeholders can be identified as independent stakeholders (supposition 7.24). Whilst, it is not possible to impose a Social Contract over the stakeholders unless voluntarily agreed upon by the latter, it is still possible to develop conditions of co-operation. The insight can be summarised in the following supposition.

Supposition 7.29

An inclusive Social Contract can be formed over the Internet, but cannot be imposed.

7.3.2 Authority and its foundations

An understanding of what the Internet is (supposition 6.30), how the stakeholders exist within it (suppositions 6.33, 6.34, 7.26), and how they can be joined through developing bonds of co-operation (suppositions 7.25, 7.29) satisfy the two key requirements of identifying the scope of governance and locating the stakeholders mandated by the Framework of Effective Governance (supposition 7.8). The next stage for forming an effective governance regime is to construct a justified authority that can legitimate its existence and directives through acts of legitimation and present its actions as directives for the stakeholders (section 7.1).

A key insight from reviewing the literature (sections 4.3, 7.2) is that the absence of a Social Contract on the Internet (supposition 7.20) does not prevent problems of governance from arising. For instance, the physical space tussles between stakeholders in a society, such as the Pakistani government and the perpetrators of the offensive information, arose as an issue that required appeals to governance mechanisms for arbitration (sub-section 7.2.2). Furthermore, the absence of governance mechanisms or methods of arbitration do not prevent a stakeholder from asserting acts of governance over other stakeholders through consent or coercion. In other words, the vacuum of governance does not remain devoid of attempts. The insight can be summarised in the following supposition:

Supposition 7.30

Absence of governance on the Internet prevents neither the problems of governance nor arbitrary attempts at governance by stakeholders.

As the Internet intensifies the problems of physical space (proposition 3.30) as well as introduces newer problems, problems of governance are intensified through an amplification of tensions between sovereign stakeholders with misaligned expectations (adjunct of proposition 4.6). Whilst, legal codes of conduct or normative ethical codes on the physical space allow for arbitration and enforcement of decisions to resolve such issues within domains of governance, the same cannot be easily adapted over the Internet. Consequently, not only do problems of governance continue to proliferate on the Internet, but are strengthened over the passage of time. This phenomenon provides the key motivation and concern in the literature to focus attempts at developing and empowering an authority that can help resolve issues of governance that increase with greater adoption of the Internet (proposition 4.15).

Setting up an authority is difficult when the extent of its boundaries is unclear or in a state of flux (proposition 3.19). As explored in the previous sub-section, the introduction of a greater number of constantly evolving stakeholders has ramifications for an authority that aims to reflect the composition of stakeholders in order to remain effective (proposition 3.24). As the Internet is not similar in kind to physical space (supposition 6.31), a starting position for beginning the construction of an authority over the Internet is to discard conceptualisations of authority based on physical space models that fundamentally rely on spatiotemporal models for deriving the scope and mandate of governance. Similarly, the usage of the modern nation state as a suitable analogy for the Internet is rejected. As governance is primarily an abstraction (proposition 3.1) until it is applied through normative models by an authority, the task of forming an authority is oriented against a domain of governance (supposition 7.23) that does not exhibit useful markers like physical borders and spans new kinds of societies (proposition 3.22).

One of the primary challenges for an authority is to justify its existence (proposition 3.14). To this end, an authority that is in alignment with the expectations of the stakeholders in the community manages to offer a primary reason for its justified existence through relating its effectiveness in meeting the original envisioned mandate of governance. By way of illustration, democratically elected governments in the United States attempt to justify their actions and

continued existence through demonstrating their efforts at upholding the cherished ideals of the United States constitution such as freedom of expression, and individual liberty. However, it is vital to note that the specifics of the form an authority takes is often secondary to the endeavours it takes in relation to the original envisaged mandate (supposition 7.18). For instance, in Pakistan where military coups often dismantle democratically elected governments, justification for governing authorities is sought not through how the authority is setup, but in the manner in which it manages to meet the original expectations of the Muslims of India who sought independence from the British Empire to forge their own nation state. Similarly, while Farabi (1998) offers the early Islamic Caliphate as the role model for imitation in his Virtuous City, the focus is lesser on how it comes to being (the first four caliphs of Islam gained power in varying ways) and more on the ultimate mission to uphold the teachings of Islam. The key insight for the task of forming an authority over the Internet can be summarised in the following supposition:

Supposition 7.31

An authority tasked with governance of the Internet needs to acknowledge the scope of governance and the manner in which the Social Contract is formed.

In other words, an effective authority would be bound by the manner in which stakeholders agree to the Social Contract, which also means acknowledging that the primary ideal of the community is an appreciation of the freedom of stakeholders in leaving any binding contracts (supposition 7.29). Furthermore, the manner in which the Internet is constituted determines the theatre and scope for governance. Similarly, the intricacies and considerations of the scope influences the derivation of authority, its subsequent attempts at remaining in power through acceptance of the stakeholders through consent or obligation, deriving its legitimacy through continual mediation under the norms of law, and enforcing its decisions.

An understanding of the Internet similar to a universal body on the physical space such as the United Nations or the European Union due to the manner in which it allows for the conflation of various stakeholders and agendas provides a useful hint for the way an authority might be configured for the

Internet. The realisation that due to the manner of its existence (suppositions 6.30, 6.35), the Internet enables the proliferation of sovereign stakeholders leads towards its examination from the neorealist perspectival position that builds on Political Realism and promotes a view of largely independent stakeholders that cannot be governed through a central government (proposition 3.23). In other words, the stakeholders on the Internet co-exist and maintain conditions of cooperation not through the dictates and coercion of a higher authority, but instead out of voluntary consent. Furthermore, such consent is driven by the impulse of the stakeholders to form stronger alignments in order to protect and strengthen their own interests in the theatre, instead of the desire to form a community in order to promote conditions of co-operation for the betterment of the wider group. As an extension of the argument, the cohesive bonds of the community are maintained through tools such as diplomacy and promotion of a common law for the sake of self-interest. The insight can be summarised in the following supposition:

Supposition 7.32

The bonds between stakeholders on the Internet can be explained through invoking the neorealist perspectival political position.

Another difficulty for the task of constructing an authority responsible for governance of the Internet is its late introduction over the Internet, which means that it is challenging to bond the greater number of stakeholders through finding commonalities (proposition 4.6). By way of explanation, it is easiest to evolve a consensual position on the form and mandate of authority for a society during its earlier phases where it is easier to identify the stakeholders and unite them in cohesive bonds. Subsequent evolution of the society that results in the proliferation of complex stakeholders with mutually exclusive or contrary agendas and preferences weakens the strength of linkages between the community and makes it harder for forms of governance to emerge. The key insight can be summarised in the following supposition.

Supposition 7.33

The stakeholders on the Internet share few commonalities due to contrary agendas and preferences.

The re-visualised conception of the Internet (supposition 6.30), domain of governance over it (supposition 7.23), weakened bonds between the stakeholders (supposition 7.33), and the absence of a Social Contract (supposition 7.20) provide vital hints for the form of authority best suited to be tasked for governance over and of the Internet. By way of illustration, authoritarian forms for deriving an authority, establishing its legitimacy and the extent of its powers can be ruled out on the Internet due to the manner in which such forms run counter against the composition of the Internet and its stakeholders. Similarly, mandate for governance cannot be justified through appeals to historical practices or underlying foundational principles and shared ideals.

There are other challenges for an authority tasked with governance of the Internet. For instance, what meta-ethical or perspectival political positions may be utilised after suitable adaptation to guide the decision making process for the authority? Stakeholders with contrary agendas co-inhabit the shared space on the Internet in such a coalesced manner that it is not possible to develop a meta-ethical foundation to unite them on a shared position towards governance of the Internet. For instance, whilst the national governments of the United States and Canada enjoy cordial relationship on the physical space, the different meta-ethical underpinnings of their worldviews does not lead to a common position on whether a top level domain should be setup for pornographic websites on the Internet. Whilst, the stakeholders may decide to adopt a joint position as part of an exercise to further cement their alignments, such unity needs to be re-evaluated for future scenarios. In the same way, support for an increased mandate of authority over the Internet such as the ICANN by a group of stakeholders cannot provide either a meta-ethical obligation towards a shared common ideal nor invoke the ideals of the original Social Contract. In other words, an authority reliant primarily on the support of stakeholders for justifying its legitimacy faces the continual risk of being deemed illegitimate by the rest of the stakeholders thus contributing towards a breakup of the community. The consequences of the recognition are that the existence of an authority over the Internet cannot be justified through appeal to a prevailing meta-ethical code as such codes do not exist, and cannot be created due to fundamental differences between stakeholders. The core finding can be summarised in the following supposition:

Supposition 7.34

An authority tasked with governance of the Internet cannot appeal to a meta-ethical code to justify its existence.

Similarly, an expounding of supposition 7.35 leads to the insight that directives of such an authority cannot be defended through appeals to an underlying meta-ethical code either.

Supposition 7.35

An authority tasked with governance of the Internet cannot appeal to a meta-ethical code to justify its directives.

The insight is that as each directive needs to be legitimated on an individual basis, despotic ways of issuing decrees without consultation from the stakeholders cannot attain a legitimate status nor offer further legitimation to the issuing authority. Similarly, an exploration of the manner in which the Internet is designed reveals the inability of forcibly directing the conduct of the stakeholders without breaking the community. In other words, the ability of stakeholders to either hide within the Internet through the setup of walled communities or sever their connection with the wider internetwork (supposition 7.28) severely curtails the coercive powers of an authority.

The identification of foundational limitations placed on the mandate and scope of an authority tasked with governance of the Internet advances the discussion to examine the manner in which the authority may govern, derive legitimacy, issue legitimate directives, and achieve the enforcement of its decisions.

An authority that manages to engage in a continual dialogue with the stakeholders in its domain of governance in order to cement its legitimacy and justify its powers faces fewer risks against its existence (supposition 7.13). Similarly, a justified and legitimatized authority manages to act as an agent of cohesion in regards to the cohesive bonds of the community through safeguarding conditions of co-operation, acting as an arbitrator in times of discord, and enforcing decisions made for the good of the society. Consequently, it is a mistake to ignore the importance of developing an authority capable of justifying its existence as a primary source of power, moral or temporal, in the community through meeting the basic demand for legitimation. To this end, whilst an initial

agreement on conditions of co-operation leading to a Social Contract is not present on the Internet (supposition 7.20), it is still possible for an authority to derive legitimacy. The contention can be summarised as:

Supposition 7.36

Despite the lack of underlying foundational support, an authority can derive legitimacy.

As explored in the previous section, the basic legitimacy demand for an authority is not tied exclusively with its effectiveness in meeting the original envisaged mandate for governance vis-à-vis the Social Contract. As the dialogue between the stakeholders and the authority is a continual affair of mediatory acts to redefine and re-legitimate the arrangements of governance, justification for directives of an authority and through it towards its existence can be developed. For instance, whilst a father may claim to derive justification for his authority over his child through the original agreement on their roles under the norms of society, the legitimacy of his position is conditional on continuing to honour the intent of the arrangement. Similarly, a mentor assumes the position of authority over the child through justifying his position as a giver of laws and norms intended to strengthen the bonds of their relationship. That the justification and legitimacy of an authority can be developed in incremental manner is a key insight that offers an authority tasked with governance of the Internet through its institutions, the possibility to acquire legitimacy. Consequently, such an authority can construct its legitimacy as the central authority over the Internet in a piecemeal manner through ensuring it continues to contribute towards increasing cohesive bonds of the wider community and help maintain conditions of co-operation. The insight can be summarised in the following supposition (as adjunct to proposition 3.28):

Supposition 7.37

An authority tasked with governance of the Internet can derive legitimacy through acts of legitimation.

A way in which an authority tasked with governance for the Internet can shore up legitimacy is through displaying equal concern for all stakeholders (Sadurski, 2008). Through the insight that equality and legitimacy are interlinked due to the latter's dependence of the former, an authority that accords equal status to unequal

actors can eventually manage to gain the respect of the stakeholders, and in such a manner legitimatize its presence as an entity that promotes conditions of co-operation without discrimination. Furthermore, the authority can also build its legitimacy through the promotion of the shared ideal of laissez faire as a result of its continual mediations with the stakeholders to justify its own existence and ensure their equality. The requirement for an authority to justify its existence and power through the promotion of equality as a core virtue of the authority alongside laissez faire for an inclusive set of stakeholders provide vital hints for the form and constitution it may acquire. The contention can be summarised in the following supposition:

Supposition 7.38

Through the adoption of equality and laissez faire, an authority tasked with governance of the Internet can build legitimacy for its existence and directives.

There are certain forms of governance that allow for the adoption of supposition 7.38, such as deliberative democracy explored in section 3.2 that endeavour to provide an equal voice to unequal actors and thereby enable the construction of a framework wherein free dialogue may take place between the stakeholders. As the Internet is an entity that spans all kinds of stakeholders (supposition 6.34) and spans the domains of multiple jurisdictions in the physical space, an authority that endeavours to allow conditions of co-operation through enabling dialogue between the stakeholders achieves in also asserting its justification as a respectable arbitrator.

A question that arises at this point is: “Should there be a central authority for governance of the Internet, or should the current state where multiple authorities are in charge of governing various aspects of the Internet be maintained?” There are risks associated with the concentration of power in a single body (proposition 3.25) where its agenda may be manipulated or exploited to favour a stakeholder over another. Another risk is the issue of ascribing legitimacy to the acts of an authority that cannot truly represent all the stakeholders within its scope of governance. Directives of such an authority would therefore lack legitimacy due to the inability to entertain all possible viewpoints before making a decision. Lastly, the risk is that with an increased number of

stakeholders, the bureaucratic processes of such an authority may slow down the functioning of the authority.

The concerns can be addressed through establishing the outlook of such an authority to act primarily as a central forum where those issues may be debated whose irresolution through non-discussion negatively influence the cohesive bonds of the society. Moreover, the authority's positioning as a consultative forum allows the development of institutions that can promote stronger bonds between stakeholders (proposition 3.26) through efforts at building consensus, mediating relations between powerful stakeholders, and providing means of redress. Moreover, the orientation as a consultative forum allays the fears of powerful stakeholders that they may lose their asymmetrically larger power over weaker stakeholders through joining a binding federation. The issue was explored in sub-section 3.4.1 where a global authority such as the EU does not necessarily gain extra powers. In fact, the reverse is often true utilising the Neorealist perspectival political position, wherein a global authority acts as the agora for all stakeholders to gather rather than a powerful legislature in the manner of a potent Grecian senate. In addition, through enabling transparency and accountability to the workings of the authority, concerns regarding a biased agenda are capable of being addressed. The insights can be summarised in the following suppositions:

Supposition 7.39

Orienting the authority tasked with governance of the Internet as a non-binding consultative forum enables the building of alignments between stakeholders.

And,

Supposition 7.40

Building transparency and accountability in the functioning of the authority tasked with governance of the Internet allays fears of a biased agenda.

One of the major responsibilities of an authority is to issue directives and guide the process of forming normative codes of conduct for its domain of governance. To this end, an authority invokes its mandate over the stakeholders through the guise of its institutions to achieve the fulfilment of its decisions (suppositions 7.6, 7.7). However, it is vital to note the perception that decisions made through the mould of institutions setup under the auspices of the classical-modernist political

regimes gain legitimacy as a result of the following of process is inadequate. In other words, the assumption that decisions made by an authority that has justified its existence through efforts at legitimising its mandate for deriving codes of conduct is incorrect. At this stage, based on the literature reviewed in section 3.3, it is vital to distinguish between legality of an action taken by an authority, its legitimacy and the process of its legitimation. The process of legitimation is a continual process that an authority needs to undergo through the establishment of norms, regardless of the legitimacy of its existence. Consequently, the authority tasked with governance over the Internet needs to engage in a continual effort with its stakeholders to justify the decisions its take, especially when the argument for its existence rests on the manner and content of its decision through the promotion of the virtues noted earlier. As a corollary, it is also vital to enable the stakeholders to engage in a dialogue to ascertain the legitimacy of the actions taken by the authority.

A key realisation is that there are no concrete lines whose arbitrary crossing makes an authority illegitimate (proposition 3.15). Furthermore, in a complex domain of governance generally and the Internet in particular, the difficulty in identifying stakeholders results in a situation where division of labour or specialization is inevitable. In other words, the few stakeholders that are elected or selected to be representatives for the many in an inclusive body face the risk of their own legitimacy when they fail to treat other points of view and stakeholders in a just manner and thus fail in legitimating their actions. An understanding of the linkage between legitimacy and legitimation as a continual iterative process allows for a wider view of the legitimacy of actions of such a forum to emerge.

As part of deriving legitimate codes of conduct through its directives, the authority tasked with governance of the Internet can utilise guiding virtues and characteristics in order to present its directives as moral obligations (proposition 3.27) in the absence of a meta-ethical foundation. A key insight from suppositions 7.39 and 7.40 is that the orientation of the authority results in a weakened form of governance that lacks overt means of control over stakeholders. For instance, due to the virtue of its mandate to derive consensus between stakeholders that are largely sovereign, the means of coercion are severely curtailed for the authority. However, it also vital to note that an authority with limited powers does not

indicate its failure, if its composition is influenced by the configuration of its subjects. Similarly, control over means of violence in order to derive obedience is an inaccurate way of examining the efficacy of an authority (proposition 3.20). The insight over the coercive capacity of the authority can be summarised in the following supposition:

Supposition 7.41

The authority tasked with governance of the Internet cannot gain the means of coercion over its sovereign subjects.

It is necessary to acknowledge the limitations of a weak authority and the actions it can take when forced to justify its existence on a continual manner. As explored in Chapter 3, justification for an authority founded in the original Social Contract allows it to disengage from a process of continual affirmation from the stakeholders and still claim legitimacy. For instance, in a religious community, the authority justifies its existence not exclusively through the consent of the governed, but primarily through meeting its obligations to the divine code, that does not require external support. Similarly, the military junta regimes in Pakistan can claim justification and gain legitimacy from the masses through a display of strengthening the core ideals behind the formation of Pakistan, even if they come to power through overthrowing democratically elected governments. Such an authority also has the ability to assume greater concentrated power without undergoing a lengthy dialogue with the stakeholders. In other words, the community (the collection of all stakeholders) cedes a greater extent of its general will to be implemented by the authority that is freer in determining the particulars of the arrangement. Whilst, there is still the risk that particular actions taken by an authority against the general will of the collective can sow discord in the community, the authority is able to preserve its institutions and self through a separation of the legitimacy of some of its directives as against the legitimacy of its form as a whole. In contrast, the authority for the Internet faces greater challenges, as it can offer no metaphysical or meta-ethical foundation as justifications for its existence or directives (suppositions 7.34, 7.35), and has to continually justify its existence on the basis of the normative directives it takes. Similarly, attempts by such an authority to gain greater power encounter greater

resistance as against another that justifies its existence through appeal to the conditions of an original Social Contract.

The greatly weakened authority on the Internet, which is a result of the manner in which it is conceived primarily as a representation of sovereign stakeholders under the neorealist perspectival political position, and how it lacks foundational support to justify its existence faces issues in deriving normative codes of conduct. The contention can be presented in the following supposition as an adjunct to supposition 7.41:

Supposition 7.42

The authority tasked with governance of the Internet faces continual existential threats due to its dependence on deriving codes of conduct that it cannot impose.

In contrast to a society founded in accordance with the regulations of a religion, where the meta-ethical foundations that bond the mandate of the authority with the general will of the community and thus provide a manner of deriving normative positions and virtues to act as guidelines for decisions, such support is denied to the authority over the Internet. However, whilst the absence of a prior morality of the authority weakens the case for making new ones, it does grant the authority ability to setup guiding virtues without prior constrictions. However, at this stage it is vital to restate the importance the composition in the way a moral code or guiding virtues for the society are derived. The manner in which the Internet is constituted (supposition 6.30), also makes it harder to utilise certain practices to arrive at a consensus. For instance, whilst Rawls's (1999) thought experiment utilising a veil of ignorance works on the physical space in deriving the importance of justice as the primary virtue for an authority to promote within its domain of governance, the mechanism cannot be employed on the Internet due to the manner in which there are no starting or original positions for the stakeholders who are engaged in a constant state of becoming. In a similar way, whilst the weak authority for governance of the Internet may promote the adoption of certain virtues as desirable for strengthening its basic legitimation demand and boost the cohesiveness of the society, it remains unable to impose their adoption.

Despite the difficulty in utilising coercion in imposing the writ of the authority, it is possible to position them as moral obligations to be adopted freely by the stakeholders (proposition 3.27). However, there are limitations to such an approach. By way of illustration, for an authority to derive an overarching meta-ethical code that forms the basis for a comprehensive normative code of moral conduct for the stakeholders, it requires the necessary legitimacy to justify such an approach. As discussed earlier, the only form of authority that can feasibly legitimise its existence as an authority on the Internet does so through promoting virtues that display the lack of its overt governance controls in moulding the behaviour of the stakeholders that utilise competing views of reality and ethics. Consequently, such an authority lacks both the mandate and the power to develop a robust meta-ethical framework to bridge the incommensurable ethical positions explored in figure 3.1. This is a key insight as it sets severe limits on the way in which the authority may promote a normative course of action without appeal to an overarching meta-ethical foundation. In other words, while it is possible for the authority to gain political legitimacy through promoting ideals such as laissez faire and inclusion while exercising the principle of transparency, and achieve legitimacy for its directives, it cannot achieve the same for moral codes. Obligations to the authority thus do not acquire a moral underpinning, but depend on political justification. As a corollary, the authority is also denied the capacity to arbitrate between stakeholders or advance policy in accordance with moral codes. The key insight can be summarised as:

Supposition 7.43

Although the authority tasked with governance of the Internet cannot issue moral directives, idealized virtues of the community can be utilised to position political directives as moral obligations.

It is vital to note that the apparent disembodiment of consciousness over the Internet does not entail freedom from moral agency. In other words, the disorientation does not a priori free an entity from its obligations. The view has ramifications for the agents and stakeholders on the Internet where the morality of an act can still be acknowledged through recalibrating what is moral in the disembodied manner of existence over the Internet. Consequently, the theft of virtual resources in the game Star Wars: The Old Republic carries moral

connotations despite it occurring on the Internet where the events lack physical tangibility. The insight can be extended to those non-human actors that manifest as stakeholders on the Internet (section 6.2). As discussed in the preceding chapter, the Internet functions as a reality of a new kind that allows the proliferation of stakeholders that are not necessarily human (supposition 6.34). A view of the authority's role in the formation of a moral code that positions it as a political obligation for the stakeholders enables the extension of the 'moral' obligations to the non-human stakeholders as well. Just as embodiment or being human are not the determining factors for determining a stakeholder, similarly, the extension of what is expected of a stakeholder in the form of political obligations can be applied as well. The contention can be summarised as following supposition:

Supposition 7.44

Moral directives of the authority can be extended to human and non-human stakeholders on the Internet.

Section 3.3 argued that once a law or normative expectation is considered to become an obligation, it becomes imperative for an authority to ensure it is enforced through either the consent of the governed or coercion in its absence. In other words, concerns of enforcement follow the authority's meeting the basic legitimacy demand. Whilst obtaining consent from the stakeholders is a lesser problematic way for an authority to enforce its directives through a diminished need for justification, the same is not true when coercion is required. Consequently, this raises questions in the literature of when an authority is justified in coercing the adoption of its decisions and the ramifications of coercion. Furthermore, there are concerns regarding efficacy through the usage of coercion by an authority due to the difficulty in measuring significant utility gains (Reidy & Riker, 2008). Likewise, quite often on occasion when coercion is employed in an authoritative fashion, established virtues such as liberty, respect may be negatively impacted and thus negatively affect the cohesive bonds of the community. Another fundamental issue with the wielding of coercion by an authority is the manner in which it applied, for instance, whether it results through a direct use of force or through the setup of conditional threats. By way of explanation, while Aristotle (2011) suggests that an individual can be coerced

even when he does not do anything and is directly impacted, such as carried by wind, Nozick (1969) refines the view and suggests that coercion occurs through the invocation of conditional threats such as when person A coerces person B into doing something though altering B's mental conditioning despite the absence of a physical and tangible force. Both ways of applying coercion have manifested in authorities in charge of communities. By way of illustration, the administrators in charge of Star Wars: The Old Republic can setup rules and conditional threats in a manner to coerce the way in which the players in the community interact with each other. The implication for the authority tasked with governance over the Internet can be summarised in the following supposition:

Supposition 7.45

The powers of the authority in issuing directives can weaken through attempts as issuing unenforceable directives.

By means of further explanation, it is also vital to note that the ability to apply force or coerce does not grant a morally defensible foundation for the authority. Whilst an authority may claim to have exclusive control over the instruments of coercion, such power cannot be easily justified especially when it runs counter to the prevailing established norms of the community and challenges the ideals of the community. Furthermore, the coercive character of coercive acts is distinct from the defensibility of the position. For instance, the former is empirically ascertainable, even when the latter remains hard to calculate (Macleod, 2008). In other words, the extent of coercion available to an authority is tied to the manner in which it is constituted and its domain of governance. The implication for the authority tasked with governance of the Internet is the recognition that despite its curtailed powers of coercion (supposition 7.41), the authority remains at risk of failing to account for directives that run counter to the general will of the community.

The above overview has provided a framework that details the ways in which an authority tasked with governance of the Internet may gain justification through continual acts of legitimation (suppositions 7.36, 7.37). The core finding of the section can be summarised as:

Supposition 7.46

It is possible to develop a central authority tasked with governance of the Internet.

Furthermore, the extent of the coercive capabilities of the authority have been explored (supposition 7.41). A view of the Internet as a universal body similar in general form to universal bodies such as the European Union utilising a neorealist understanding rules out not only certain forms of governance such as monarchy imposed arbitrarily through the might of a single stakeholder, but also curtails the ability of a single authority to assert its will on largely independent stakeholders (supposition 7.39). The realisation that such an authority is dependent on continually justifying its existence and limited powers as an enabler of discourse and debate on the basis of the legitimacy of directives it proposes (supposition 7.34), acts as a key check against the concentration of greater coercion capability against the will of stakeholders. An understanding of the scope of governance, wherein stakeholders are not under the power of the authority, but manifest as continually evolving independent stakeholders reveals the key insight that attempts by an authority propped up by a group of stakeholders that discriminates against others faces not just the risk of illegitimacy, but also its dismantlement through its negative contribution towards the wider community. Furthermore, coercion by an illegitimate authority through unjustified directives exacerbates the risk of the community's dismantlement through disrupting the manner in which stakeholders engage with each other.

As explored earlier, in contemporary societies with complex stakeholders that do not exhibit strong cohesive bonds, it is difficult to arrive at a consensus that can be reasonably agreed upon by all stakeholders, thus providing a key motivation for an authority to exercise its power of coercion. However, an examination of reasons for coercion reveals that the feasible form of governance for the Internet can neither coerce for reasons in favour of the stakeholders due to its inability to exert control over the stakeholders, nor enforce a decision regardless of overt support due to its inability to do so except through the means of consent (Riker, 2008). Despite the neutered powers of coercion for the authority, it is still possible for it to position a coercive act through consensus to gain a moral status when exercised through an appeal to a shared and public

reasons (suppositions 7.43. 7.44). In other words, the only coercive form available to the authority tasked with governance of the Internet is through the promotion of shared ideals that it facilitates through its institutions and processes instead of the might of its constitution (supposition 7.38).

7.4 DISCUSSION AND APPLICATION OF FINDINGS

The key propositions developed in the preceding chapters have been utilised in the chapter to enable the construction of the Framework of Effective Governance in order to identify key factors that may be utilised to provide answers to research questions 2 and 3. Based on the discussion in the preceding section, an answer to the research question "Is it possible to develop an authority tasked with governance of the Internet?" outlined earlier in the thesis can be provided. It is possible to develop an authority tasked with governance of the Internet (supposition 7.46). However, whilst it is possible to setup an authority tasked with governance of the Internet, the form of the authority that emerges is influenced by the manner in which the stakeholders engage with each other. Similarly, the answer to research question "How could such an authority tasked with governance of the Internet enforce its decisions?" has been explored in the preceding section (suppositions 7.37, 7.38, 7.39, 7.40, 7.41, 7.43, 7.44).

The previous section argued that the powers for such a central authority over the Internet are greatly weakened through its inability to impose its writ over the largely sovereign and independent stakeholder who have the capability to leave the wider community at will (supposition 7.28). A neorealist understanding of the natural state of the stakeholders renders the formation of a binding Social Contract impossible and un-enforceable. Consequently, whilst such an authority can attempt to legitimate its existence and the directives it issues (supposition 7.37), it is dependent on the consensus of the stakeholders for both its continued preservation and legality of its directives (supposition 7.42). Furthermore, the un-usability of a shared meta-ethical or perspectival political position between the stakeholders on the Internet prevents the setup of a legitimate authority for governance of the Internet that can provide a foundational justification for its existence. Furthermore, it is vital to acknowledge that legitimation of such an authority through actions of its institutions and legal acts is a continual process.

However, there are still significant benefits that such an arrangement provides for governance attempts over the community. A denial of utopian ideals is not a denial of pragmatic approaches towards strengthening a community through promoting a dialogue between stakeholders and helping a dominant view to emerge for adoption through consensus rather than coercion.

At this stage, it is useful to explore the questions raised in the preceding chapters to examine how the findings of this chapter provide explanations for them. Firstly, a review of the key ideas presented in the chapters is performed. Section 4.3 explored how fundamental issues of governance of the Internet led to calls that the Internet should be redesigned, or built up from scratch, to include provisions to enable comprehensive governance. For instance, the claim was made that Internet cannot be suitably adapted to new ideas due to the manner in which its technical implementation in the form of the OSI layer stack and TCP/IP has largely remained stagnant and unconducive for social matters and their arbitration (Spyropoulos, Fdida, & Kirkpatrick, 2007). The observations were often in tandem to the observations on the technical limitations of the infrastructure of the physical Internet, for instance, that the manner in which core network routers route traffic may lead to an increase towards the possibility of forming singular points of failure despite their distributed nature (Handley, Kohler, Ghosh, Hodson, & Radoslavov, 2005). Consequently, the argument that governance mechanisms could be introduced as part of the overhaul of the physical Internet appeared to carry merit.

The theoretical calls were found to be accompanied by tangible attempts at redesigning the basic technical underpinnings of the physical Internet through programmes such as the US GENI programme with aims to facilitate research in the Internet redesign (Turner, 2006). Similarly, societies such as the Planet-lab were setup to unite the academic world in testing prototypes for an alternative physical Internet architecture through setting up personal nodes (Chun et al., 2003; Peterson & Roscoe, 2006). However, such attempts reveal the fatal assumption that it is possible to extend physical-space codes of conduct onto the Internet. The motivation to recycle and re-adapt a working model into a different sphere of engagement is not new; for instance, Conway (1968) acknowledges the phenomenon and warns, *"Organisations which design systems are constrained to*

produce designs which are copies of the communication structures of these organisations". As explored in the above sections and the previous chapter, the manner in which the Internet exists is fundamentally different to the physical space model (suppositions 6.30, 6.31). Therefore, the fundamental flaw in the attempts noted above and the previous chapters does not lie in the motivation to obtain a degree of control over the manner in which the stakeholders engage over the Internet, but the manner of obtaining the objective. Instead of the attempts to explore the way governance can happen on the Internet, the attempts were focussed on redesigning the physical Internet without the realisation that such a change would impact on the manner in which the Cyberspace functions, and lead towards an Internet that would be different in kind.

The contribution of the chapter then is that through the clarification of 'where' and 'how' attempts at governance are to be situated on the Internet, it helps avoid initial missteps and prevents the rise of subsequent ambiguity in the discourse on governance of the Internet. Through offering a core theory on how the Internet functions as a complex reality of a new kind (section 6.2), a supplementary second order core theory on the governance of the Internet can be latched (section 7.3). However, there are severe ramifications for the formation of auxiliary theories to explore first order and applied problems on the Internet. That the proposed governance of the Internet lacks a cosmological model or any transcendental principles to guide the formation of normative codes except for its promotion of virtues such as inclusion, laissez faire, and equality (supposition 7.38) in order to facilitate a deliberative discourse between the powerful stakeholders, neuters its powers of coercion to force a decision on a contentious issue. By way of illustration, whilst discussions on an issue may attract accompanying issues of cultural or perspectival diversity and incommensurability, forcing the adoption of a decision based on the shared values or through invoking the precepts of an original Social Contract remains out of bounds for the authority tasked with governance of the Internet.

A significant claim that the proposed understanding of the governance for Internet makes is for the supremacy and elevation of stakeholder territories in the domain of governance (supposition 7.28). The manner in which the stakeholders exist ultimately moulds the modes of engagement and therefore forces a

reconceptualization of territoriality on the Internet. By way of explanation, the notion of territoriality for an engagement between stakeholders over the Internet does not correspond to considerations of the physical space, but is determined primarily on the Internet. As an illustration, when there is a discord between two virtual players on the online game Star Wars: The Old Republic, the impacted territory is one formed by the game and subject to the rulings of the authority in charge of the game, which may or may not agree to the guiding principles advocated by the central authority for the Internet or the considerations of codes of conducts on the physical space of the two players.

The key finding is that stakeholders on the Internet may be subjected to codes of conduct derived outside of the Internet, however, such imposition requires consent of the stakeholders and the absence risks the breakup of the community. In the same way, a system of stakeholders on the Internet may consent to following the rules and obligations of a nation state on the physical space, however, such agreements are the exception and not the norm. The expectation of the nation state to extend the mandate of one agreement as a precedent to force over other communities faces the same risks as outlined earlier. Micro communities on the Internet are free to form compacts with other stakeholders, in line with their or an external stakeholders' meta-ethical obligations, however, the macro community on the Internet remains fundamentally chaotic in a neorealist way that cannot be subjected to the desires of a collection of stakeholders, regardless of their arrangements with other micro communities.

To this effect, the reordering also allows for dealing with a future state where current attempts at imposing a physical-state code of conduct as a result of the physical location of a stakeholder may not be possible. The nature in which the Internet is constituted does not consider poles of reality such as space or time (supposition 6.31). On the other hand, the advances in technology carry the potential to enable organisations or individuals to suspend Internet servers and computing nodes in the Earth's atmosphere or at other heavenly bodies, which may be accessed by stakeholders physically located outside of any Earthly domain of jurisdiction. To this end, an evolved way of enacting codes of conduct on micro communities on the Internet based on consent provides the most feasible manner

in which such compacts may be drawn up between the stakeholders on an individual basis. Furthermore, the findings can also be useful for similar technology in the future that has not been thought of yet.

The proposed model for governance of the Internet (section 7.3) also takes into consideration the recognition that the definition of stakeholders is not limited to being human (supposition 6.34), or merely extendable to an organised institution such as a physical-space organisation. The neorealist manner of examining the stakeholders also extends that status to non-human actors and their future evolved states. The recognition does not affect the mandate of the governing body for the Internet, but paves the way for an inclusive deliberative framework where in terms of equality, the considerations and concerns of all possible stakeholders can hold sway. Not only can the shared ideals for governance of the Internet be extended towards non-human actors (supposition 7.44), but the reciprocal expectations and obligations to meet directives issued through the deliberative forum can also be extended to them. The argument can be extended to state that as the composition, form and institutions of the Internet are not exclusive to a set of stakeholders, a possible state may arise where certain functions of that authority can be automated, programmed or led by non-human stakeholders.

The chapter has presented a form of governance of the Internet that continually engages in efforts to legitimise itself, its mandate, and directives, however, remains unable to coerce a decision except position it as a moral obligation borne not out of a meta-ethical foundation but in fulfilment to the overarching shared ideals of the community (suppositions 7.41, 7.43). Consequently, the mandate for such a governance is rigorously limited in its scope: maintain the conditions of co-operation between the stakeholders to prevent a degeneration in the cohesive bonds of the community through means of an inclusive framework of representation. To this effect, Schaefer and College (2007) examine the relationship between constraints and freedoms in a system and suggest that "*the number of Freedoms that a System has is the Inverse of that Finite Set of Constraints which by Rules of Logic are Infinite in Number" (Schaefer & College, 2007).* In other words, arbitrary and ultimately unenforceable constraints on the infinite possibilities in which the stakeholders

may engage with each other would not just be futile but also contribute negatively to the wider community. The chapter also argues for centralization of the various aspects that are currently governed by disparate bodies with differing ideals, mandates, and states of legitimation. Consequently, as part of its mandate, the envisaged authority for governance of the Internet will be tasked for management of the conditions of the Internet, such as the IP addressing schema, top level domains, and arbitration on issues that arise between the stakeholders. While, there are risks associated with the concentration of powers in a singular authority, its composition leading to the neutering of coercive powers, provides the most feasible manner of arriving at deliberative decisions.

The global adoption of the Internet has raised the stakes for governance over it in tandem with its increasing importance due to the immense advantages it provides to its stakeholders. However, as explored in the previous sections and chapters, there is a risk that an ill understanding of the artefact Internet and incompatible models of governance for it, risk fragmenting and eventually breaking up the Internet. As discussed in the preceding sections, the emergence of the Internet has resulted in the intensification of stakeholders. It may be argued that the diminished powers envisaged for the authority on the Internet may not be enough for ensuring the stability of the current status quo. That the authority is merely the agora of all networks and stakeholders, with little to display in terms of its coercive powers leads to the contention that contentious issues may not be solvable on the Internet as suggested by Komaitis (2009) for collective global bodies with little powers of persuasion. However, it has been argued that through providing a consultative forum that is non-binding, irresolution on certain issues detracts from the breakup of the community (section 7.3).

The issues on the Internet can be broadly defined into four different types: conflict between virtual stakeholders, discord between physical and virtual Internet stakeholders, issues of physical stakeholders manifesting in the Internet, or a combination of the former possibilities. An example of the first issue is the case of the virtual character on the Star Wars: The Old Republic that loses its possessions to another virtual character through treachery. A further illustration of such issues is that of a submitter whose comments on the website www.reddit.com are derided by others. So long as the ramifications of the conflict

do not have tangible impact on the physical space, their resolution or lack thereof, does not appear to cause much consternation to independent observers. In other words, the decisions made by authorities or stakeholders within such constrained communities do not attract coercive challenges from others outside the community. However, in contrast to issues of the first type, those of the later types attract controversy for a number of reasons. For instance, an example of the second case is when the Pakistani government attempted to censor information on www.youtube.com regarding matters that originated in the physical space. Whilst, the asymmetrically greater power of the Pakistani government allowed it to block the website through coercing the ISPs within the Pakistani jurisdiction, the governance attempt was largely unsuccessful when the information was freely available through other means. The highly visible governance attempts that involved and impacted a large number of stakeholders attracted a correspondingly large display of support and opposition from the affected. Furthermore, greater attention was also focussed as a result of the failure of such an attempt.

The reverse is often true as well. For instance, when those who engage in the proliferation of child pornography over the Internet are caught and tried under the jurisdiction of a physical space nation state, the successes are hailed as support for a more comprehensive governing authority over the Internet. In other words, highly visible stakeholders and the results of their efforts swell the discourse on governance for the Internet and give impetus to the governance models explored in the previous chapters. To this end, Kevin Rogers (2007) observes the irony in which the government of United States claimed it intended to prevent the fragmentation of the Internet if other nation states were granted a firmer say in the running of the Internet influenced by their local policies, whilst influencing the decision making process at ICANN in line with the US regulations. To this effect, he offers the example of the US government vetoing attempts at ICANN to setup a new .xxx top level domain upon opposition within the US legislature.

Creative industries such as music and filmmaking in particular have been severely impacted by growth of the Internet due to the rise of issues such as piracy and intellectual property theft that span multiple domains of governance on the physical space (Preston & Rogers, 2012). Similarly, a recent high profile example of controlling the flow of information over the Internet that impacts stakeholders

within the Internet and the physical space is the spying leaks of the whistle-blower Edward Snowden (Ball, Borger, & Greenwald, 2013). In his leaks, Snowden alleges that the United States spy organisation National Security Agency setup direct feeds to gather information stored at major Internet companies such as Google, Facebook and Microsoft (Greenwald, 2013), and that the British spy agency GCHQ is capable of tapping the actual data flowing through the backbone routers of the physical Internet (MacAskill, Borger, Hopkins, Davies, & Ball, 2013). Further leaks revealed that vulnerabilities were deliberately introduced into the encryption protocols for securing information on the Internet to enable later exploitation by the spy agencies (Nakashima, 2013). The repercussions of the alleged revelations have been widespread as they attempt to challenge further assumptions about stakeholder conduct on the Internet in light of the greatly asymmetric powers of a few stakeholders such as the NSA and GCHQ. As previous examples, the revelations have attracted both support and opposition: it has been suggested that such spying can prevent undesirables such as terrorists from planning terrorist activities, while the opponents have declared such attempts as violation of trust and negation of the operating philosophy of the Internet. Regardless of the motivation or existence of such actions, the question remains on how such matters may be addressed or examined through the proposed approach towards governance of the Internet built on the re-visualised Internet discussed in the preceding chapter.

Utilising the findings on how legitimate and binding directives are arrived at in the previous section, an examination of the way in which the spying has been alleged to occur reveals the absence of a legitimate or justified authority on the Internet. Secondly, the directive was not arrived at through a deliberative or transparent process involving an adequate number of stakeholders to enable driving the process. Lastly, the action was coerced and imposed on other stakeholders forcibly against the wishes of many of them. In short, such an action is the polar opposite of the proposed approach towards resolution of issues raised by a stakeholder. In light of the guidelines discussed in the previous section, the unilateral action through an unjustified authority being the governments of the United States of America and Great Britain therefore is both illegitimate and unjustified. Moreover, as warned in the previous section the action led to a

significant weakening of the cohesive bonds of the wider community with more stakeholders such as national governments, organisations, and individuals questioning the benefits of storing their information on servers belonging to companies based in the US and Great Britain (Milian, 2013). Whilst, it is possible to strengthen the underlying encryption protocols on the physical Internet after the revelations, through disrupting the trust that binds together the various networks to the wider Internet, a fundamental challenge was issued to the stakeholders that forced a reconsideration on whether it was in their interests to remain in connection when the privacy of their expectation was no longer maintainable.

Efforts to stop piracy and theft of intellectual rights though the Internet are usually spearheaded by actors such as national governments at the behest of a group of stakeholders, and attract a similar manner of opposition from others. As a notable example, the United States government introduced the bills of Stop Online Piracy Act (SOPA) and Protect Intellectual Property Act (PIPA) in the national legislature as an attempt to curb piracy of digital assets. The bills were largely intended to curtail piracy carried out on websites such as www.piratebay.se physically located outside the US jurisdiction (Pepitone, 2012). The bills sought to award authority to the political and administrative institutions in the United States of America to classify websites that proliferated software and intellectual rights piracy and order American based websites to stop dealing with them, through means such as blocking their appearance on US based search engines and removing their unique domains names. Moreover, the bills went further than previous legislation such as the 1998 Digital Millennium Copyright Act that did not apportion blame on host websites such as www.youtube.com or www.wikipedia.com as long the offending material was taken down in a reasonable period, and suggested that such host websites could be deemed to be facilitating piracy (Pepitone, 2012). The subsequent outcry was the biggest protest carried out on the Internet where more than a 100,000 websites blacked out their front pages in protest and were joined by millions of individual users registering their protests through social media outlets such as Twitter and Facebook (Wortham, 2012).

Regardless of the motivations of the US government behind the bills and those who opposed it, it is useful to examine the manner in which the exercise was

carried out. The bills attempted to coerce decisions made within a non-justified and illegitimate authority for the Internet forcibly on the stakeholders in the Internet. While the legislation process was transparent, it happened in the wrong forum being the legislature bodies mandated for governance of the subjects located in the physical territory of the United States. Whilst the argument was made that the bills acquired the necessary mandate through the motivation to protect the rights of physical companies based in the United States, the impact on stakeholders outside the United States was not a determining factor. Therefore, in accordance with how authority should be formed on the Internet, the two bills were illegitimate and unjustified, due to the virtue of being illegitimate in the manner they were passed and having an unjustified authority as the source.

The preceding section introduced the manner in which the Internet can be governed through an authority that can establish its legitimacy though its directives and build coercion of its directives through consent. Whilst matters of governance are easier to implement when the number of stakeholders is limited, the visibility is low, and the stakeholders and their competing interests are entirely virtual, such as the case of two players on Star Wars: The Old Republic, there is greater difficulty when powerful stakeholders attempt to systematically mould the manner in which data is transported between the disparate computing nodes and have the ability to coerce a segment of stakeholders in how they engage with the rest of the network. To this end, websites like the BBC that restricts its streaming service iPlayer to viewers in the United Kingdom, and online streaming website Netflix that restricts its services to subscribers based in the United States, offer useful examples of how stakeholders form the rules of their own networks. Whilst, it is not possible for Netflix or participating movie studios to restrict the ability of stakeholders located within the jurisdiction of United States or elsewhere to pirate their shows through website such as www.piratebay.se the compact they form with their subscribers in accordance with the mutual desire to meet the legislation of the United States provides an authority on the micro network that is legitimate and justifiable.

It is vital to note that the proposed authority tasked with governance of the Internet is envisaged being unable to restrict websites like the www.piratebay.se from functioning or existing. Whilst this would be unacceptable to stakeholders

like the Hollywood studios and music labels, the inability is based firmly on the unenforceability of such decisions, which is in turn determined by the manner in which the Internet is constituted. By way of illustration, whilst the SOPA and PIPA bills may have been successful in preventing the most visible ways of pirating the latest blockbuster movies, such activities would have continued within the private networks disconnected from the wider network, or through gated communities hosted on the dark net behind walls of reinforced encryption. Similarly, whilst initial attempts by the United States and the British governments were successful in intercepting and decrypting data, the subsequent backlash would most likely result in the hardening of the underpinnings of the physical-Internet to deter such attempts in the future. Thus, the governance of the Internet is not possible through moulding codes of conduct of the stakeholders through coercion, but through driving voluntary consent of the stakeholders.

Furthermore, the pivotal manner in which the Internet has challenged the human conceptions of reality and forced a reconceptualization of the manner in which social codes of conduct may be evolved over it may very well be regarded as a significant era by later human generations. Acceptance of the phenomenon that advances in technology can challenge established human conventions, such as in the pre-Internet and post-Internet eras, provide a framework for further usage in scenarios such as the discovery of extra dimensions of reality, or life of a new kind.

7.5 CONCLUSION

The chapter has answered the two research questions being whether it is possible to develop an authority for governance of the Internet, and the manner of such governance. To this end, the chapter utilised the principles for governance developed in the preceding chapters and applied them on the definition of the Internet proposed in chapter 6. The literature reviewed in chapter 4 was utilised to frame the discussion.

The chapter has argued that the first hurdle that governance attempts on the Internet face is the foundational ambiguity on the nature of the Internet. To this end, the Framework of Effective Governance was utilised to reveal the various failings of governance attempts in the literature.

Lastly, the chapter provided an argument proposing that the Internet can be governed. However, the caveats and limitations were outlined that severely mould the manner of such governance.

Below is a summary of suppositions identified in the chapter.

Supposition 7.1 An overlap of domains of governance introduces problems for affected stakeholders.

Supposition 7.2 An overlap of domains of governance introduces problems between competing authorities.

Supposition 7.3 An authority tasked with governance identifies and claims a scope of governance.

Supposition 7.4 Accurate visualisation of stakeholders is necessary for effective governance.

Supposition 7.5 It is necessary for an authority to justify the manner in which it was setup and provide reasons for its continued existence in order to govern effectively.

Supposition 7.6 An authority manifests and asserts itself through its institutions.

Supposition 7.7 Effective usage of institutions assists effective governance.

Supposition 7.8 The Framework of Effective Governance can assist the process of constructing effective practices of governance.

Supposition 7.9 The argument that the Internet can be governed in a similar manner to other entities or systems present in the physical space on the basis of similarity loses its foundational status in the discourse on Internet Governance as a result of the revisualisation of the Internet.

Supposition 7.10 Governance of the Internet through restricting interconnectedness from a network to another is not an

effective way of stopping the propagation of data.

Supposition 7.11 An understanding of the Internet as a mere toolset allows for the proliferation of largely independent governing authorities concerned with aspects of its functionality, but deters the development of a singular authority in charge of its overall governance.

Supposition 7.12 The ill-defined Internet allows such governance models to assume de facto status within the discourse on Internet Governance and thus inhibit the search for an authority within a new space of existence that could proceed towards the formation of a Social Contract.

Supposition 7.13 An authority that cannot justify its existence on a continual basis faces the constant threat of dismantlement.

Supposition 7.14 The authorities in charge of aspects of the Internet are blamed for their inaction when the inability is in effect a symptom of an authority engaging within a sphere of human activity without continually justifying its powers and mandate.

Supposition 7.15 The Internet lacks an overarching authority tasked with governance.

Supposition 7.16 Current authorities on the Internet lack legitimacy either derived through an initial Social Contract or continued acts of legitimation in consultation with stakeholders.

Supposition 7.17 Rules are exposed to abandonment through non-enforcement or non-compliance.

Supposition 7.18 Second order ideals cannot always be maintained when translated into first order acts.

Supposition 7.19 Practices of micro governance do not necessarily derive from macro governance practices.

Supposition 7.20 There is no Social Contract on the Internet.

Supposition 7.21 A metaphysical revisualisation of the Internet has ethical and political consequences.

Supposition 7.22 It is advantageous to construct a Social Contract on the Internet.

Supposition 7.23 The scope for governance of the Internet is the duality of the physical Internet and the Cyberspace.

Supposition 7.24 The stakeholders on the Internet can be either human or non-human actors.

Supposition 7.25 The difficulty in accurately identifying all possible stakeholders does not stop the construction of a Social Contract.

Supposition 7.26 Entities on the Internet exist as stakeholders due to the composition of the Internet.

Supposition 7.27 Stakeholders on the Internet join binding agreements on voluntary basis.

Supposition 7.28 The bounds of a Social Contract for entities on the Internet are restricted by the ability of stakeholders to leave the wider community.

Supposition 7.29 An inclusive Social Contract can be formed over the Internet, but cannot be imposed.

Supposition 7.30 Absence of governance on the Internet prevents neither the problems of governance nor arbitrary attempts at governance by stakeholders.

Supposition 7.31 An authority tasked with governance of the Internet needs to acknowledge the scope of governance and the manner in which the Social Contract is formed.

Supposition 7.32 The bonds between stakeholders on the Internet can be explained through invoking the neorealist perspectival

political position.

Supposition 7.33 The stakeholders on the Internet share few commonalities due to contrary agendas and preferences.

Supposition 7.34 An authority tasked with governance of the Internet cannot appeal to a meta-ethical code to justify its existence.

Supposition 7.35 An authority tasked with governance of the Internet cannot appeal to a meta-ethical code to justify its directives.

Supposition 7.36 Despite the lack of underlying foundational support, an authority can derive legitimacy.

Supposition 7.37 An authority tasked with governance of the Internet can derive legitimacy through acts of legitimation.

Supposition 7.38 Through the adoption of equality and laissez faire, an authority tasked with governance of the Internet can build legitimacy for its existence and directives.

Supposition 7.39 Orienting the authority tasked with governance of the Internet as a non-binding consultative forum enables the building of alignments between stakeholders.

Supposition 7.40 Building transparency and accountability in the functioning of the authority tasked with governance of the Internet allays fears of a biased agenda.

Supposition 7.41 The authority tasked with governance of the Internet cannot gain the means of coercion over its sovereign subjects.

Supposition 7.42 The authority tasked with governance of the Internet faces continual existential threats due to its dependence on deriving codes of conduct that it cannot impose.

Supposition 7.43 Although the authority tasked with governance of the Internet cannot issue moral directives, idealized virtues

of the community can be utilised to position political directives as moral obligations.

Supposition 7.44 Moral directives of the authority can be extended to human and non-human stakeholders on the Internet.

Supposition 7.45 The powers of the authority in issuing directives can weaken through attempts as issuing unenforceable directives.

Supposition 7.46 It is possible to develop a central authority tasked with governance of the Internet.

Chapter 8 – Critical Reflection on Method

8.0 INTRODUCTION

The study was motivated by doubt. Serious instances where Internet access was prevented, or where parties who served their interests or those of other dissenting bodies stopped access to services unilaterally, pointed to a problem of Governance of the Internet where rights and issues could not be adjudicated (see sections 4.3, 7.2). Further investigation showed that only some rights and interests could be adjudicated under current Internet Governance provisions. Matters of morality, ethics and cultural preferences were also out of scope for mediation (section 7.2). As a consequence, doubt was raised concerning the adequacy of current Internet Governance provisions to cope with the range of non-technical matters such as access, content and free speech.

Doubt also motivated the adoption of a wider literature than is usually used to research Information System (IS) problems. The problem of Internet Governance was bigger than a single field of study and impinged on a wide range of others such as politics, ethics, law, and humanities. With the help of many perspectives, the artefact Internet could be viewed as more than a technological artefact and positioned as an emergence and a generalised effect within reality. The Internet has also made many realities and involved human experience and participation. Thus, the weight of doubt helped to forge a different path and a different approach to an IS problem in order to examine the problem areas and propose ways of improving Governance structures.

To research the problem a philosophical approach was developed. Chapters 2, 3, and 4 were designed to define the critical entities in the analysis; those being Reality, Governance, and the Internet. The critical concerns identified in these chapters related to the incommensurability of theories. The implication of incommensurable theories is conflict, unresolved views, and a need for mediation and adjudication processes. Consequently the Research Methodology Guides (RGs) developed in Chapter 5 were applied to the sets of propositions developed in Chapters 2, 3 and 4. In Chapter 6, the first question “What is the Internet?” was

answered; and, in Chapter 7 the two questions; “Is it possible to develop an authority tasked with governance of the Internet?” and “How could such an authority tasked with governance of the Internet enforce its decisions?” were answered. However, to date there has been no critical reflection on the adequacy of the developed method, its purchase on reality and the contribution to research theory. It is the purpose of this chapter to evaluate the choices made, the theory developed and the contribution to research methodology.

This chapter is structured to review the methodological approach taken and the management of theory critically. Section 8.1 critically reviews the methodology used by revisiting the RGs and assessing how well they worked in practice, identify which exceptions occurred and highlight the residual matters that remain. Section 8.2 takes up the review of the propositions from Chapters 2, 3, and 4. These propositions problematise the many tightly held beliefs about the Internet and make the artefact accessible for research. Section 8.3 considers the suppositions made in Chapters 6 and 7 after the application of RGs on the propositions. Consequently, this chapter concludes with an evaluation of the research as part of a bigger research program. The positive and negative heuristic of the propositions are assessed to suggest which are core and which are peripheral to any ongoing research program.

8.1 METHODOLOGY

RG 5.1 recommended the adoption of a framework that links the underlying ideological foundations of stakeholders with the emergence of conflict. The RG also provided the core foundation for the study through its insistence on exploring the role of abstracted ideals on normative issues. The contribution of RGs 5.2 and 5.6 was to highlight the difficulty in exploring complex IS artefacts (such as the Internet) in isolation to research programmes within other disciplines. Building on RG 5.1, RGs 5.3 and 5.4 recommended against excluding stakeholders that arise as a result of human engagement with technological artefacts from the scope of a research programme. RGs 5.5 and 5.9 suggested that philosophical method can be adapted for IS research programmes to construct a second order abstract review of IS issues. RG 5.8 made the vital suggestion that such an abstracted programme

can retain coherence and rigour, which can be measured through reviewing the efficacy of its outputs in minimizing incommensurable positions (RG 5.10).

One of the most substantial outcomes of the methodology was its revelation of foundational ambiguities concerning the IS artefact Internet (section 7.2). The adoption of the abstract philosophical method enabled a wide-ranging examination of the various understandings of Internet and helped identify the key reasons for the perpetuation of incommensurable positions. Had the study been positioned within the wider IS discourse on the Internet and its governance issues, the insight would have been difficult to glean. Consequently, the methodology enabled the construction of a core shared position on the Internet through acknowledging the many ways in which reality is shaped as an emergence post human engagement with technology (section 6.3).

The methodology also aided the construction of a framework (section 7.1) to review the underlying foundational reasons behind the manifestation and obscuring of governance issues (section 7.2). The RGs allowed the application of propositions developed in Chapters 2, 3, and 4 to sift through the competing metaphysical, ethical, and political ideologies of stakeholders and identify the key difficulties for governance attempts of the Internet. Consequently, the methodology helped identify the way forward towards governance of the Internet through proposing answers to the research questions of the study (section 7.3).

The methodological approach did not identify a set of methods to test the complete set of consequences of the findings. Whilst, the abstracted nature of the study allowed for an examination of the coherence of the arguments through utilising the principles of modus tollens and modus ponens to develop propositions and suppositions, the wide ranging normative implications of the findings were not testable. In other words, the methodology enabled an identification of how the processes ought to be improved in order to aid the project of governance of the Internet, instead of making descriptive recommendations for what those processes should be. Thus, the limitation imposed by the methodology is its reliance on subsequent research programmes to develop auxiliary theories of inquiry in order to explore the wider ramifications of this study that aims to reduce foundational incommensurable positions.

8.2 PROPOSITIONAL ANALYSIS

Propositions developed in chapters 2, 3, and 4 served two key purposes:

1- Identification of key findings based on the literature reviewed, and

2- Logical depiction of the way in which the key findings were evolved.

At this stage, the propositions can be re-examined to highlight the key themes that were focussed on throughout the study. The intent is to reveal which propositions were core to the study and helped problematise the key targets, and thereafter, highlight any auxiliary and orphaned propositions that were identified during the study, however, not explored in detail. Whilst auxiliary propositions strengthened the core propositions, orphaned propositions created opportunity for further tangential examination that were not deemed central to the stated research questions of the study.

The links between the core, auxiliary, and orphan propositions in chapters 2, 3, and 4 are visually highlighted in the following figures.

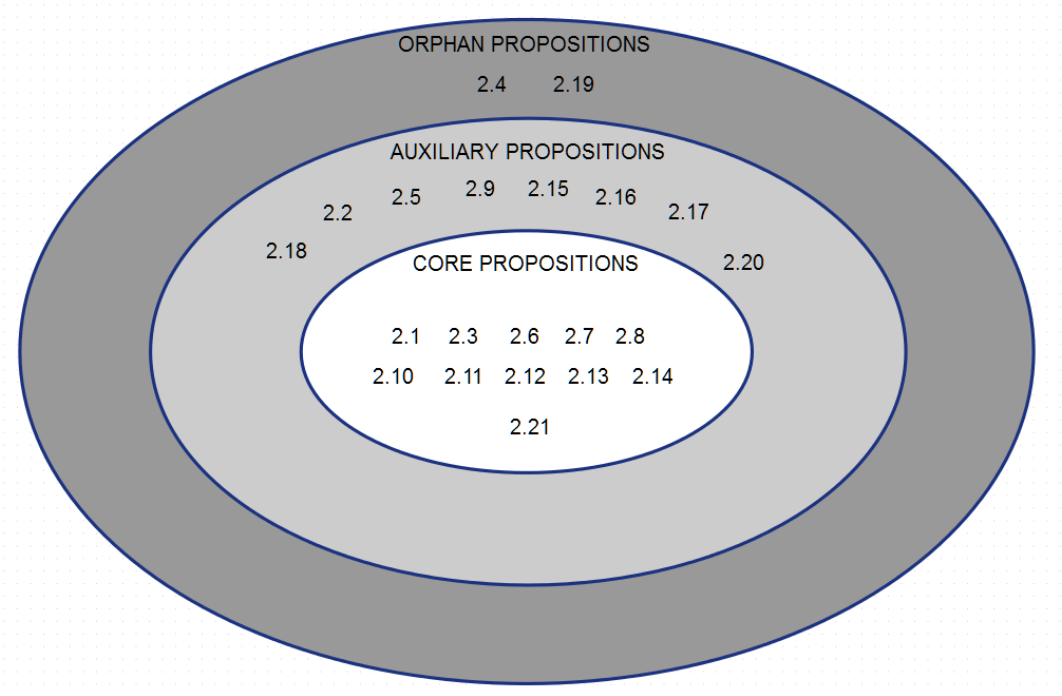

Figure 8.1 Propositional analysis of Chapter 2

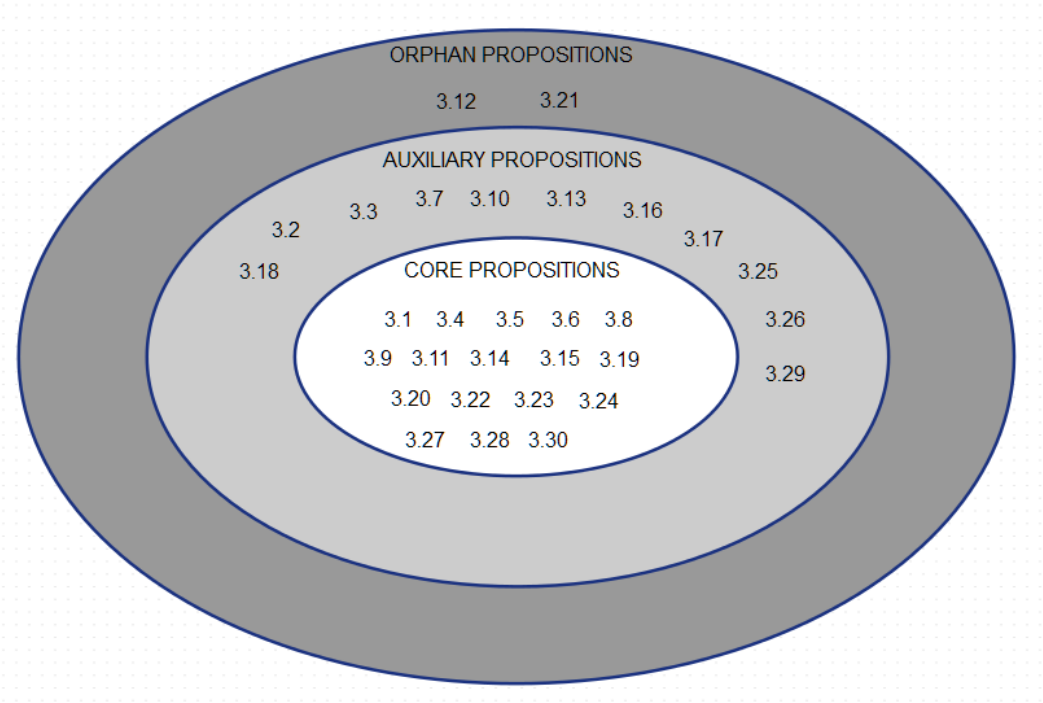

Figure 8.2 Propositional analysis of Chapter 3

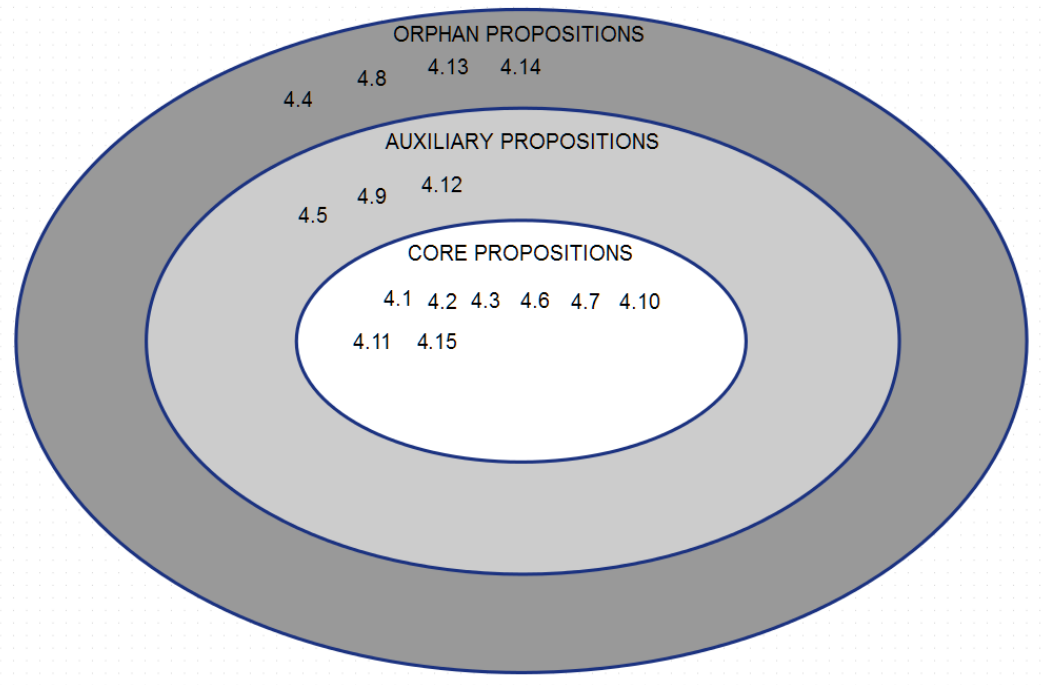

Figure 8.3 Propositional analysis of Chapter 4

The core propositions helped identify the following:

1. Limitations of research programmes as a result of the limitations of perception
2. Acknowledgement of an underlying cause when there are tangible effects

3. The difficulty in completely eradicating incommensurability between competing understandings of reality
4. Identification of reasons that lead towards the obscuring of metaphysical and ontological debates
5. Establishing the abstract roots of the applied practice of governance
6. Acknowledgement of the links between the fields of metaphysics, ethics, and politics
7. Identification of the reasons behind the development of a Social Contract
8. Identification of the linkage between legitimacy and an authority
9. Identification of the links between authority, its powers, and the stakeholders
10. Identification of the manner in which scope of governance is influenced by the extent of its political domain and stakeholders
11. Acknowledgement of the role that technology plays towards exacerbating existing governance problems
12. Identification of reasons for varying understandings of the Internet and its governance
13. Acknowledgement of the increased governance attempts in tandem to its increased adoption by the masses

8.3 SUPPOSITIONAL ANALYSIS

The RGs were applied on the core propositions identified in figures 8.1, 8.2, and 8.3 to derive suppositions in chapters 6 and 7. As explored in the previous section, the core propositions helped in the identification of the primary themes and problem areas that the stated research questions of the thesis aimed to answer.

The suppositions presented in chapters 6 and 7 can be visualised in the following figures.

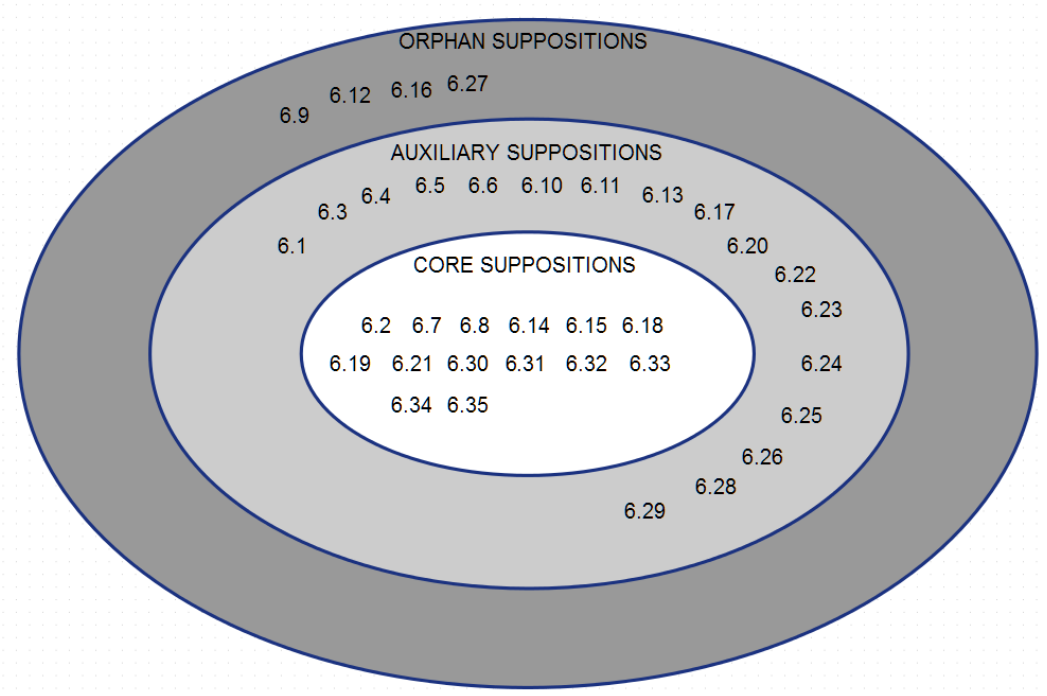

Figure 8.4 Suppositional analysis of Chapter 6

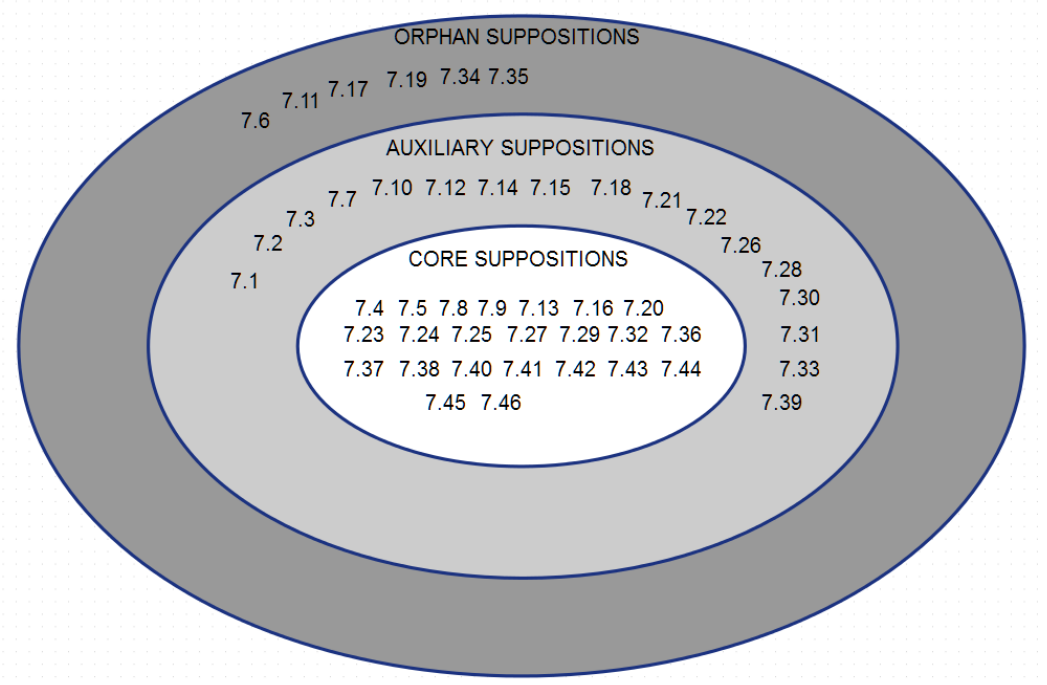

Figure 8.5 Suppositional analysis of Chapter 7

The key suppositions that are asserted in chapters 6 and 7 are:

1. The Internet remains an ill-defined entity in the literature
2. The Cyberspace is distinct from the physical Internet
3. The Internet has challenged the conventional spatiotemporal models of understanding reality

4. Incommensurability is introduced when the physical Internet and Cyberspace are considered different entities
5. The core shared position on the Internet is its acknowledgment as a technological artefact
6. The Internet is comprised of both the physical Internet and the Cyberspace
7. The Internet is a reality of a new kind that allows the proliferation of new kinds of stakeholders and formation of new kinds of communities
8. Effective governance relies on clear understanding of its extent, composition of stakeholders and appropriation of means of coercion
9. An authority needs to continually engage in acts of legitimation in order to justify its existence and directives
10. Whilst, it is not possible to force the adoption of a Social Contact nor involve all possible stakeholders, it is possible to adopt guiding virtues in lieu of a rigid Social Contract
11. It is possible for the Internet to be governed by an authority that acknowledges its inherent weaknesses, and provides a forum for mediation between stakeholders

The core suppositions help provide answers to the three research questions. A definition of the Internet is proposed and thereafter utilised within a proposed Framework of Effective Governance to examine ways in which the Internet may be governed. The suppositions acknowledge limitations for the governance of the Internet project through clarifying the manner in which the Internet is constituted.

The suppositions act as foundational blocks for theories of inquiry on the Internet and its governance. The chosen methodology allows the propositions to be developed into assertions to construct a second order abstraction for the complex artefact Internet.

8.4 MANAGING A RESEARCH HEURISTIC

A core contribution of the study is to promote a positive research heuristic within the wider IS discipline through proposing two complementary theories: a theory on what the Internet is, and a theory on how the Internet may be governed. The positive heuristic is established through enabling subsequent research to focus on

the auxiliary and orphaned propositions and suppositions in the study to address issues on the Internet.

Furthermore, the methodology has implications for similar research programmes within the IS discipline that explore complex artefacts. The most significant implication is that constructs and artefacts within the discipline need to undergo constant refinement in tandem to developments in other fields of knowledge or they risk arriving at inaccurate and incommensurable research outputs. In addition, the adoption of a second order research programme can aid the development of a robust core of theory that can be utilised for further auxiliary research.

8.5 CONCLUSION

The chapter has reflected on the methodology adopted in the study and identified its implications for similar research programmes within the field of Information Systems. The propositions and suppositions highlighted in the study were divided into three categories being core, auxiliary, and orphaned. Furthermore, the key findings were restated and critically reviewed to gauge their effectiveness in meeting the stated goals of the study.

The thesis now proceeds towards Chapter 9, which provides a summative conclusion to the study and highlights the key contributions made to the wider pool of literature. Chapter 9 also identifies areas for further research based on the orphaned propositions highlighted in sections 8.2 and 8.3.

Chapter 9 – Conclusion

9.0 INTRODUCTION

The Internet has been greatly adopted by the masses in recent times. As with other technological artefacts, issues of human importance did not form overriding concerns for the early designers of the Internet. However, with its increased adoption, issues of governance have manifested that have been difficult to address using inaccurate perspectival positions to explore the Internet and its problem areas. To this end, the thesis has provided an argument that presents a visualisation of the Internet that is offered as core theory to guide an exploration of problem areas. The core theory has been utilised to investigate the manner in which the Internet may be governed.

The thesis has utilised the second order philosophical approach to guide the overall argument. The intent has been to abstract the artefact Internet and its problem areas in order to enable an investigation relatively free of biases and concerns present within first order research programmes.

9.1 CONTRIBUTION TO THE RESEARCH BODY OF KNOWLEDGE

The thesis makes contributions to four major areas in the literature:

i. the reasons that lead towards the continuing ambiguity of the Internet as an artefact are highlighted,
ii. a holistic theory for the Internet is developed,
iii. a comprehensive investigation is carried out on why governance attempts continue to fail on the Internet,
iv. and lastly an approach for governance is proposed.

The thesis does not restrict its scope to literature in merely one field or discipline, but instead utilises core ideas from the fields of Information Systems, metaphysics, ethics, and political theory. As such, the thesis contributes towards the shared pool of knowledge instead of targeting a singular field.

A summary of the contributions follows in the sub-sections below.

9.1.1 Ambiguity of the artefact Internet

Chapter 6 builds on the history of the Internet detailed in Chapter 4 as a technological artefact and identifies both the early architecture and accompanying motivations of the key stakeholders. Utilising a review of the literature, it acknowledges the advantages that a limited understanding of the Internet as a primarily technological tool provides for the operation of its functional aspects. For instance, the understanding enables the development and application of scientific hypotheses and engineered designs. However, the limited understanding of the Internet, which omits the manner in which the inclusion of the human actor changes the way in which the Internet functions, is identified as the key factor that leads towards increasing ambiguity of the overall artefact. It is argued that a forced conceptualisation of the Internet as a toolset that is operated upon by humans does not just preclude alternative views wherein humans interact with and within an artefact, but also leads towards a state where the incorrect assumptions attain axiomatic status for all subsequent discourse. Thus, by the virtue of inaccurate foundational understanding, subsequent debates on matters regarding aspects of the Internet muddy the existing discourse by arriving at positions that are increasingly incommensurate. The identified danger is that such incommensurate positions have the potential to acquire validity as points of departure rather than force a rethinking of the underlying assumptions.

9.1.2 Re-visualizing the Internet

Building on the previous contribution, an answer to the first research question is provided through offering a core shared position for the Internet as a result of its re-evaluation in the latter half of Chapter 6. The importance of the core shared position was explored in Chapter 2, wherein it was argued that a central framework can be constructed to bridge chasms that appear between incommensurate positions not as a result of underlying foundational ambiguity, but as a result of auxiliary theory building that increasingly challenges other research programmes utilising the same foundations. To this end, it is argued that an understanding of the Internet as merely its technological implementation or as a space wherein the humans interact forces a false dichotomy. Furthermore, the implicit assumptions that the Internet is a mere extension of the physical space

models constructed on poles such as space and time, and that humans interact with and within the Internet in a similar manner to how they deal with other artefacts on the physical space is challenged. It is argued that the Internet is a fundamentally different kind of complex reality that may appear similar from physical-space centric perspectives, but is not constrained by the same restrictions. The space on the Internet is not restricted by concepts such as territoriality or locality that are distinguished on the physical space, and similarly, actions on the Internet are not constrained by the restrictions of time on the physical space. Additionally, the proposed definition of the Internet visualises it as a space of existence, which allows the disembodied presence of not just human stakeholders, but allows the potentiality of being to non-human stakeholders as well. To this end, the revised realist position put forward in Chapter 5 is utilised to describe the manner in which the Internet spans multiple strata of reality. Furthermore, it is acknowledged that it is not possible to develop falsifiable or empirically verifiable tests for the re-visualised Internet utilising the revised realist position, but it is argued that the philosophical argument put forward to define the Internet offers a useful scaffolding that provides the potential to act as a core shared position and allow the development of auxiliary theories.

9.1.3 A review of governance issues on the Internet

Chapter 7 builds on the findings made in Chapter 6, and identifies the chief reasons why governance attempts on the Internet have been largely unsuccessful. To this end, the building blocks for governance introduced in Chapter 3 are utilised to construct the Framework of Effective Governance. The framework proposes that in order to achieve governance over a domain, it is vital to define the scope of governance. Following that, it is argued that stakeholders need to be identified for the development of arrangements of governance. Thereafter, it is argued that it is vital for an authority to derive legitimacy for its existence and thereby construct ways of coercing its will and directives without facing the risk of dismantlement. The framework is then utilised to evaluate governance attempts over the Internet and key findings are produced. Utilising the re-visualised definition of the Internet, it is argued that the ill-defined and ambiguous Internet utilised in the literature makes it difficult to both identify the scope of governance

and the stakeholders. Furthermore, as the Internet is not just the physical technological implementation nor a space of human interactions independent of the technological constraints, it is argued that the varying bodies tasked with governance of different aspects of the Internet that do not take into account the ontology of the Internet in turn fail to derive justification for their mandate. Lastly, it is argued that enforcement attempts continue to fail over the Internet when unfeasible expectations are placed on their efficacy based upon the faulty assumption that physical-space centric governance institutions and their directives can be suitably adapted for usage over the Internet. In other words, the imposition of directives issued by governing authorities on the physical space fail to acknowledge that unlike their geo-physical locality, space and territory on the Internet is a result of the consensual interlinking of networks, independent of arbitrary boundaries.

9.1.4 Proposed approach for governance of the Internet

The final contribution of the thesis answers the second and third research questions identified in Chapter 5. In response to the questions on whether the Internet can be governed and in what manner, Chapter 7 utilises the Framework of Effective Governance and offers an answer in the affirmative. To this end, the re-visualised definition of the Internet is utilised to argue first that it is not possible to identify all stakeholders completely that proliferate on the Internet, nor develop a foundational Social Contract to guide the manner in which governing authorities may derive legitimacy and justification. As the Internet is constituted of stakeholders that engage with others on a consensual manner and retain the ability to either wall off connectivity with peers or develop parallel Internets, the thesis argues that the realisation of the scope of governance is similar to the neorealist perspectival position wherein stakeholders engage with others in pursuit of conditions of cooperation to further their own interests. Similarly, the inability also hinders the formation of an original Social Contract, which severely limits the way in which an authority for governance of the Internet may engage with other stakeholders. It is argued that it is not possible to provide meta-ethical foundation for an authority over the Internet, and instead the virtues of justice, equality and laissez faire are promoted as the guiding principles. Furthermore, it is

argued that the neorealist understanding of the manner in which stakeholders exist denies the possibility of constructing authoritarian forms of applied governance. Lastly, it is argued that it is not possible for an authority tasked with governance of the Internet to coerce its will on the stakeholders, and may only offer its directives that acquire the state of obligation when so accepted by the stakeholders. Chapter 6 concludes by examining instances wherein powerful stakeholders on the physical space attempt to gain greater power on the Internet at the expense of other stakeholders. The impact of such actions is examined through the application of principles introduced in the Framework of Effective Governance.

9.2 AREAS FOR FURTHER RESEARCH

The thesis has argued for a re-visualization of the Internet in suppositions 6.30 – 6.35, which allows for the existence of human and non-human stakeholders that interact in increasingly complex ways. Furthermore, the suppositions show that the Internet exists within a sphere of reality that does not obey the spatiotemporal limitations of the physical space. Further research can utilise the re-visualized Internet as a core shared position and investigate the manner in which normative relations between the stakeholders are maintained on the Internet. The understanding of the Internet as a unique space of existence also enables its usage as a precedent towards guiding investigations of other complex spheres of reality. Moreover, disparate research fields can reconcile their findings with research outputs without the risk of arriving at incommensurable positions.

The thesis has also argued that the Internet can be governed (supposition 7.46) through outlining a framework which details the limitations imposed on the arrangements of governance (suppositions 7.29, 7.31 – 7.45). Stakeholders such as academics can investigate ways in which an authority on the Internet may gain legitimacy for its mandate of governance. Similarly, the findings can be utilised to guide multi-perspectival and multi-stakeholder investigations for resolution of governance issues on the Internet. The findings of the thesis can also be utilised as a scaffolding by disparate research programmes to explore sociocultural issues on the Internet, such as censorship of information, child pornography, and theft of intellectual property.

Furthermore, sections 9.2 and 9.3 highlight areas for further research that were considered tangential to the stated objectives of this research, and therefore acknowledged but not explored in detail. By way of illustration, propositions 2.4 and 2.19 identify the possibility of utilising methodologies such as Actor Network Theory for exploring human-centric issues in detail on the re-visualised Internet. Furthermore, as the study has remained at the second order abstracted layer, propositions 3.12 and 3.21 allow further research to explore the detailed arrangements of governance for an authority tasked with governance of the Internet (also see proposition 4.8, and suppositions 7.6, 7.11).

Whilst, the study has primarily focussed on governance of the Internet, it is possible to utilise the key findings of the research to explore the manner in which other entities not based primarily within the Internet may be governed through e-governance attempts (proposition 4.4). Further research can also be focussed on the impact of increasing commercialisation of assets within the Internet (propositions 4.13, 4.14).

The study has explored the conceptualisation of Cyberspace as a constituent aspect of the artefact Internet. Whilst, a large amount of contemporary research focusses on the physical Internet, areas such as stakeholder interactions and nature of Cyber assets on the Cyberspace remain little explored (as outlined in suppositions 6.9, 6.12, 6.16. 6.27). Further research could utilise the findings of this research to re-examine the manner in which the Cyberspace functions. In particular, the manner in which micro communities on the Internet evolve their social structures can benefit from the findings of this thesis (supposition 7.19).

9.3 CONCLUSION

Chapter 9 has re-visited the major contributions that the thesis makes to the wider literature on the discourse surrounding the constitution of the Internet and how it may be governed. To this effect, the core arguments made throughout the thesis are summarised and restated. Furthermore, answers to the three research questions of the thesis are summarised. The chapter concludes by outlining further areas of research that can be guided by the findings of the thesis.

References

Algazel. (2006). *Algazel's Metaphysics*. USA: Kessinger Publishing, LLC.

Andersson, J. (2009). For the Good of the Net: The Pirate Bay as a Strategic Sovereign. *Culture Machine: Pirate Philosophy, 10*, 64-108.

Anscombe, G. (1958). Modern Moral Philosophy. *Philosophy, 33*(124), 12.

Anttiroiko, A. (2004). *eTransformation in governance: New directions in government and politics.* Hershey, PA: Idea Group Publishing.

Aquinas, T. (2012). *The Summa Theologica*. London, UK: Catholic Way Publishing.

Archer, M. (1995). *Realist Social Theory: The Morphogenetic Approach*. Cambridge: Cambridge University Press.

Aristotle. (1939). *Politics: A Treatise on Government* (W. Ellis, Trans.). New York, USA: E. P. Dutton & Co.

Aristotle. (1957). *The Physics* (P. H. Wicksteed & F. M. Cornford, Trans. revised ed.). Cambridge, MA, USA: Loeb Classical Library.

Aristotle. (1999). *Nicomachean Ethics* (T. Irwin, Trans. Second ed.). Indianapolis, USA: Hackett Publishing Company.

Aristotle. (2006). *Metaphysics* (W. D. Ross, Trans.). Stilwell, KS: Digireads.com Publishing.

Aristotle. (2011). *Aristotle's Nicomachean Ethics* (R. Bartlett & S. D. Collins, Trans.). Chicago, USA: The University of Chicago Press.

AS8015. (2005). AS8015-2005 - Australian Standard for Corporate Governance of Information and Communication Technology (ICT). Retrieved 22nd June 2013, 2013, from http://www.ramin.com.au/itgovernance/as8015.html

Aslan, R. (2005). *No god but God*: Random House Inc.

Averroes. (1974). *Averroes on Plato's "Republic"* (R. Lerner, Trans.). London: Cornell University Press.

Avicenna. (2013). *Avicenna's Medicine: Canon with Practical Applications for Integrative Health Care* (M. Abu-Asab, H. Amri & M. S. Micozzi, Trans. 1 ed.). USA: Healing Arts Press.

Ayer, A. J. (1936). *Language, Truth and Logic*. Harmondsworth: Penguin.

Bacon, F. (1627). New Atlantis: A worke unfinished. *Sylva sylvarum: or a naturall historie, in ten centuries*. London: William Lee.

Ball, J., Borger, J., & Greenwald, G. (2013). Revealed: how US and UK spy agencies defeat internet privacy and security. *Guardian Weekly*. Retrieved from http://www.theguardian.com/world/2013/sep/05/nsa-gchq-encryption-codes-security

Ballsun-Stanton, B., & Bunker, D. (2009). *Philosophy of Data (PoD) and its Importance to the Discipline of Information Systems.* Paper presented at the Americas Conference on Information Systems, San Francisco, CA.

Baloch, F., & Cusack, B. (2009). *Re-visualizing Cyberspace: Using quasi objects for spatial definitions.* Paper presented at the Australasian Conference on Information Systems (ACIS), Melbourne, Australia.

Barbrook, R. (2001). Deregulation or Reregulation. In P. Ludlow (Ed.), Crypto Anarchy, Cyberstates, and Pirate Utopias (pp. 27-30). Cambridge, MA, USA: MIT Press.

Barlow, J. (1996). A Declaration of the Independence of Cyberspace. Retrieved 2nd Jun, 2012, from http://www.islandone.org/Politics/DeclarationOfIndependance.html

Barlow, J. (2001). A Declaration of the Independence of Cyberspace. In P. Ludlow (Ed.), *Crypto Anarchy, Cyberstates, and Pirate Utopias* (pp. 27-30). Cambridge, MA, USA: MIT Press.

Basden, A. (2004). *On Appealing to Philosophy in Information Systems.* Paper presented at the AMCIS, NY, USA.

Basden, A. (2009a). *The Notion of Lifeworld Applied to Information Systems Research.* Paper presented at the ECIS, Italy.

Basden, A. (2009b). *On Using Philosophy to Define and Dignify the IS Discipline.* Paper presented at the UK Academy for Information Systems Conference, UK.

Baudrillard, J. (1983). *Simulations*. New York, USA: Semiotext(e).

Bechtel, W. (1985). Attributing reponsibility to computer systems. *Metaphilosophy*, (16), 296-306.

Bennahum, D. S. (2001). United Nodes of Internet: Are We Forming a Digital Nation? In P. Ludlow (Ed.), *Crypto Anarchy, Cyberstates, and Pirate Utopias* (pp. 39-46). Cambridge, MA, USA: MIT Press.

Berkeley, G. (2009). *Philosophical Writings*. Cambridge, UK: Cambridge University Press.

Berners-Lee, T. (1996). Universal resource identifiers- axions of web architecture. Retrieved from http://www.w3.org/DesignIssues/Axioms.html

Berthon, P., Pitt, L., Ewing, M., & Carr, C. L. (2002). Potential Research Space in MIS: A Framework for Envisioning and Evaluating Research Replication, Extension, and Generation. *Information Systems Research, 13*(4), 416-427.

Bhaskar, R. (1978). *A Realist Theory of Science*. Sussex: Harvester Press.

Bhaskar, R. (1991). Philosophy and the Idea of Freedom. Oxford: Blackwell.

Bhaskar, R. (2009, 20 December). Critical Realism Theory. Theories Used in IS Research Wiki Retrieved 29 April, 2011

Biro, D. (2007). The (Un)bearable Lightness of Violence: Warlords as an Alternative Form of Governance in the "Westphalian Periphery". In T. Debiel & D. Lambach (Eds.), *State Failure Revisited II: Actors of Violence and Alternative Forms of Governance*. Duisberg-Essen: Institute for Development and Peace.

Blackburn, S. (1993). *Essays in Quasi-Realism*. New York, USA: Oxford University Press.

Blackburn, S. (2005). Truth: A Guide for the Perplexed. USA: Allen Lane.

Blumenthal, M., & Clark, D. (2001). Rethinking the design of the Internet: the end-to-end arguments vs. the brave new world. *ACM Transactions on Internet Technology (TOIT), 1*(1), 70-109.

Boyd, R. (1983). On the Current Status of the Issue of Scientific Realism. *Erkenntnis, 19*, 45.

Branscomb, A. (1994). *Who owns information?* . New York, NY: HarperCollins Publishers Inc.

Brisebois, R., Boyd, G., & Shadid, Z. (2007). What is IT Governance and Why is it Important for the IS Auditor. *IntoIT*, 30-35.

Brown, E. (2009). Plato's Ethics and Politics in The Republic. *The Stanford Encyclopedia of Philosophy*.

Bryant, R. (2001). What kind of space is cyberspace? *Minerva - an Internet Journal of Philosophy, 5*.

Bukatman, S. (1993). *Terminal identity: The virtual subject in postmodern science fiction*. Durham, NC: Duke University Press.

Bunker, D., Cole, M., Courtney, J., Haynes, J., & Richardson, S. (2005). *Philosophical Foundations of Information Systems: A Review of the First 10 Years*. Paper presented at the AMCIS, NE, US.

Burton, G. (2012). ITU agrees deep-packet inspection of internet traffic. Retrieved 3rd May, 2013, from http://www.computing.co.uk/ctg/news/2230257/itu-agrees-deeppacket-inspection-of-internet-traffic

Bynum, T. (2008). Computer and Information Ethics. Retrieved 16 May, 2010, from http://plato.stanford.edu/cgi-bin/encyclopedia/archinfo.cgi

CadburyReport. (1992). Report of the Committee on The Financial Aspects of Coporate Governance. Retrieved 2nd December, 2012, from http://www.ecgi.org/codes/documents/cadbury.pdf

Cai, G., Hirtle, S., & Williams, J. (1999). *Mapping the geography of cyberspace using telecommunications infrastructure information*. Paper presented at the The First International Workshop on TeleGeoprocessing.

Cairano-Gilfedder, C., & Clegg, R. (2005). A decade of Internet research - advances in models and practices. *BT Technology Journal, 23*(4), 115-128.

Calloway, D. L. (2008). The impact of ethical & legal IT decision making on society. Retrieved 11th June, 2013, from http://www.academia.edu/666690/The_impact_of_ethical_and_legal_IT_decision_making_on_society

Carlsson, S. (2005). A Critical Realist Perspective on IS Evaluation Research. Presented at the ECIS 2005, Regensburg, Germany.

Carlsson, S. (2006). Design Science Research in Information Systems: A Critical Realist Perspective. Presented at the ACIS 2006, Adelaide, Australia.

Casti, J. (1997). *Would-be worlds*. Toronto: John Wiley & Sons.

Chadwick, A., & May, C. (2003). Interaction between states and citizens in the age of the internet: "e-government" in the United States, Britain, and the European Union. *Governance-an International Journal of Policy and Administration, 16*(2), 271-300.

Chomsky, N. (1975). *Reflections on Language*. USA: Pantheon.

Chomsky, N. (2003). *Democracy & Education*. London: Routledge.

Chun, B., Culler, D., Roscoe, T., Bavier, A., Peterson, L., Wawrzoniak, M., et al. (2003). PlanetLab: an overlay testbed for broad-coverage services. *ACM SIGCOMM Computer Communication Review, 33*(3), 3-12.

Clark, E. (2003). Managing the transformation to e-government: An Australian perspective. Thunderbird International Business Review, 45(4), 377.

Clark, D., Wroclawski, J., Sollins, K., & Braden, R. (2005). Tussle in cyberspace: defining tomorrow's internet. *iEEE/ACM Transactions on Networking (TON), 13*(3), 462-475.

Clifford, B. (2010). Packing heat: pro-gun shops and the governance of small arms. In D. D. Avant, M. Finnemore & S. K. Sell (Eds.), *Who Governs the Globe?* New York: Cambridge University Press.

Cohen, J. (1997). The Arc of the Moral Universe. *Philosophy and Public Affairs, 26*(91).

Cohen, J. (2002). *Procedure and Substance in Deliberative Democracy*. Oxford: Oxford University Press.
Cokelet, B. (2012). Two-Level Eudaimonism and Second-Personal Reasons. *Ethics, 122*(4), 773-780.
Collier, A. (1994). Critical realism: an introduction to the philosophy of Roy Bhaskar. London: Verso.
Conway, M. (1968). How Do Committees Invent? Retrieved 1st March, 2013, from http://www.melconway.com/research/committees.html
Cooke, L. (2007). Controlling the net: European approaches to content and access regulation. *Journal of Information Science, 33*(3), 360-376.
Costake, N. (2004). e-Governance: Some Performance and Quality Assurance Aspects. In R. Traunmüller (Ed.), *Electronic Government* (Vol. 3183, pp. 266-269). Berlin / Heidelberg: Springer.
Darwall, S. (2006). How should ethics relate to philosophy? In T. Horgan & M. Timmons (Eds.), *Metaethics after Moore*. Oxford: Oxford University Press.
Delaney, C. F. (1995). Instrumentalism *The Cambridge Dictionary of Philosophy*. Cambridge: Cambridge University Press.
Delaney, S. (1988). Is cyberpunk a good thing or a bad thing? *Mississippi Review, 47*(48), 28-35.
Delanty, G. (2005). *Social Science* (2nd ed.). Maidenhead: Open University Press.
Deleuze, G. (2004). *Desert Islands: and Other Texts*. New York: The MIT Press.
Deleuze, G., & Guattari, F. (1991). *What is Philosophy?* New York: Verso.
Dennett, D. (1997). When HAL kills, who's to blame? In D. G. Stork (Ed.), *Hal's legacy: 2001's computer as dream and reality*. Cambridge, MA: MIT Press.
Descartes, R. (1985). *The Philosophical Writings of Descartes* (J. Cottingham, R. Stoothoff & D. Murdoch, Trans. Vol. 1). Cambridge, UK: Cambridge University Press.
Deutsch, D. (1997). *The fabric of reality: The science of parallel universes and its implications*. London: Penguin.
Dibbell, J. (1995). A Rape in Cyberspace. In P. Ludlow (Ed.), *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace*. Cambridge: MIT Press.
Dibbell, J. (1996). Taboo, Consensus, and the Challenge of Democracy in an Electronic Forum. In R. Kling (Ed.), *Computerization and Controversy: Value Conflicts and Social Choices* (second ed., pp. 552-568). USA: Academic Press.
Dobson, P. (2001). The Philosophy of Critical Realism - An Opportunity for Information Systems Research. *Information Systems Frontiers, 3*(2), 199-210.
Dooyeweerd, H. (1955). *A New Critique of Theoretical Thought* (Vol. I). Ontario: Paideia Press.
Dreyfus, H. (2001). Disembodied Telepresence and the Remoteness of the Real *The Internet: Thinking in Action*. Cornwall Routledge.
Duhem, P. (1962). *The Aim and Structure of Physical Theory*. New York: Atheneum.
Durham, NC: Duke University Press.

Dutta, A., & Roy, R. (2005). The mechanics of Internet growth: a developing-country perspective. *International Journal of Electronic Commerce, 9*(2), 143-165.

Dutton, W. H., & Peltu, M. (2007). The emerging Internet governance mosaic: connecting the pieces. *Information Polity: The International Journal of Government & Democracy in the Information Age, 12*(1-2), 63-81. Retrieved 11th Apr, 2012, from http://iospress.metapress.com/app/home/contribution.asp?referrer=parent&backto=issue,7,9;journal,1,13;linkingpublicationresults,1:300389,1

Ebersole, J. L. (2003). The 21st century strategic plan: USPTO’s adjustment to the future. *World Patent Information, 25*(4), 289-302.

Einstein, A. (1962). *Relativity: The Special and the General Theory* (R. Lawson, Trans.). London: Routledge.

Einstein, A. (1997). The Foundation of the General Theory of Relativity. In A. Kox (Ed.), *The Collected Papers of Albert Einstein* (Vol. 6). Princeton: Princeton University Press.

Elkin, S. (2006). *Reconstructing the commercial republic: constitutional design after Madison*. Chicago: The University of Chicago Press.

Elster, J. (1997). The Market and the Forum: Three Varieties of Political Theory. In R. E. Goodin & P. Pettit (Eds.), *Contemporary Political Philosophy: An Anthology*. Oxford: Blackwell.

Farabi, A. N. (1998). *On the Perfect State* (R. Walzer, Trans. revised ed.). USA: Kazi Publications.

Feenberg, A. (1999). *Questioning Technology*. London: Routledge.

Filman, R. (2005). Aspect-oriented software development: Addison-Wesley.

Fine, A. (1982). Antinomies of Entanglement: The Puzzling Case of The Tangled Statistics. *Journal of Philosophy, 79*, 733-749.

Fine, A. (1986a). The Natural Ontological Attitude *The Shaky Game*. Chicago: University of Chicago Press.

Fine, A. (1986b). *The Shaky Game: Einstein, Realism and the Quantum Theory*. Chicago: University of Chicago Press.

Firth, R. (1952). Ethical absolutism and the ideal observer. *Philosophy and Phenomenological Research, 12*, 414-421.

Floridi, L. (1999). *Philosophy and computing: An introduction*. Oxford: Oxford University Press.

Floridi, L. (2005). Is semantic information meaningful data? *Philosophy and Phenomenological Research, LXX*(2), 351-372.

Floridi, L., & Sanders, J. W. (2004). On the morality of artificial agents. *Minds and Machines, 14*, 349-379.

Foster, W., Ruthkowski, A., & Goodman, S. (1997). Who governs the Internet? *Communications of the ACM, 40*(8), 15-20.

Foucault, M. (1982). The Subject and Power. *Critical Inquiry, 8*(4), 777-795.

Foucault, M. (1994). Power: Governmentality. In J. D. Faubion (Ed.), *Essential Works of Foucault 1954-1984* (Vol. 3). USA: Penguin.

Fraassen, B. C. (1991). *Quantum Mechanics: An Empiricist View*. New York, USA: Oxford University Press.

Francoeur, J., & Rothke, B. (2004). It's time for e-governance. *eWeek, 21*(39), 43-43.

Fukuyama, F. (2013). What is Governance? *Governance, 26*(3), 347-368.

Gardner, W. D. (2007). ICANN Again Vetoes .XXX Adult Content Domain. Retrieved 3rd May, 2013, from http://www.informationweek.com/icann-again-vetoes-xxx-adult-content-dom/198701426

Gavras, A., Karila, A., Fdida, S., May, M., & Potts, M. (2007). Future internet research and experimentation: the FIRE initiative. *ACM SIGCOMM Computer Communication Review, 37*(3), 88-92.

Gaus, Gerald F. (1996). Justificatory Liberalism: An Essay on Epistemology and Political Theory, New York: Oxford University Press.

Geiger, S. (2009). Does Habermas Understand the Internet? The Algorithmic Construction of the Blogo/Public Sphere. *Gnovis, 10*(10.1).

Gellner, E. (1988). *Plough, Sword, and Book: The Structure of Human History*. Chicago: The University of Chicago Press.

Gibson, W. (1984). *Neuromancer*. New York, USA: Ace Books.

Gilmore, J. (1996). Archives. *EFFector Online, 9*(3).

Glennon, M. (2005). How International Rules Die. *Georgetown Law Journal, 93*, 939.

Gödel, K. (1992). *On Formally Undecidable Propositions of Principia Mathematica and Related Systems* (B. Meltzer, Trans.). New York, USA: Basic Books.

Goth, G. (2004). When Is a "Little in the Middle" OK? The Internet's End-to-End Principle Faces More Debate. *IEEE Distributed Systems Online, 5*(3).

Greenwald, G. (2013). XKeyscore: NSA tool collects 'nearly everything a user does on the internet'. *Guardian Weekly*. Retrieved 1st Nov, 2013, from http://www.theguardian.com/world/2013/jul/31/nsa-top-secret-program-online-data

Grenon, P., & Smith, B. (2011). Foundations of an ontology of philosophy. *Synthese, 182*(2), 185-204.

Grover, V., & Ramanlal, P. (1999). Six Myths of Information and Markets: Information Technology Networks, Electronic Commerce, and the Battle for Consumer Surplus. *MIS Quarterly, 23*(4), 465-495.

Grunwald, A. (2005). Nanotechnology: a new field of ethical inquiry? *Science and Engineering Ethics, 11*, 187-201.

Habermas, J. (1975). *Legitimation Crisis* (T. McCarthy, Trans.). Cambridge, MA: Beacon Press.

Habermas, J. (1989). *The structural transformation of the public sphere*: Polity, Cambridge.

Habermas, J. (1995). Reconciliation through the Public Use of Reason: Remarks on John Rawls's Political Liberalism. *Journal of Philosophy, XCII*(3), 117-133.

Habermas, J. (1998). *Between Facts and Norms*. Cambridge, MA: MIT Press.

Hajer, M. (2009). *Authoritative Governance: Policy Making in the Age of Mediatization*. Oxford: Oxford University Press.

Handley, M., Kohler, E., Ghosh, A., Hodson, O., & Radoslavov, P. (2005). *Designing extensible IP router software.* Paper presented at the Symposium on Networked Systems Design & Implementation, CA, USA.

Harbin, A. (2012). Bodily Disorientation and Moral Change. *Hypatia, 27*(2), 261-280.

Hare, R. H. (1981). *Moral Thinking*. Oxford: Clendon Press.

Harman, G. (2009). *Prince of Networks: Brunu Latour and Metaphysics*. Melbourne: Re-press.

Hart, T. (1997). True or False: Problems of the "Peregrination". *Portuguese Studies, 13*, 35-42.

Hayek, F. A. (1978). *New Studies in Philosophy, Politics, Economics and the History of Ideas*. London: Routledge.

Heidegger, M. (1962). Dasein, Worldhood, and Reality. *Being and Time* (pp. 205). New York: Harper & Row.

Heidegger, M. (2008). *Being and Time*. New York: Harper & Row.

Herman, E., & Chomsky, N. (1994). *Manufacturing Consent: The Political Economy of the Mass MEdia*. London: Vintage.

Hirst, P. (2000). Democracy and Governance. In J. Pierre (Ed.), *Debating Governance. Authority, Steering, and Democracy*. Oxford: Oxford University Press.

Hlavac, M. (2008). A Developmental Approach to the Legitimacy of Global Governance Institutions. In D. Reidy & W. Riker (Eds.), *Coercion and the State* (pp. 203-224). USA: Springer.

Hobbes, T. (1985). *Leviathan*. London: Penguin Books.

Hofstadter, D. (1979). *Godel, Escher, Bach: An eternal golden braid*. NY, USA: Basic Books.

Hofweber, T. (2013, Spring 2013). Logic and Ontology. Retrieved 1st June, 2013, from http://plato.stanford.edu/archives/spr2013/entries/logic-ontology

Homburg, V. (2005). E-Government: The Future of Red Tape. In M. Khosrow-Pour (Ed.), *Advanced Topics in Information Resources Management* (pp. 55-76). Hershey, PA, USA: Idea Group Publishing.

Hseih, J., Rai, A., & Keil, M. (2008). Understanding Digital Inequality: Comparing Continued Use Behavioral Models of the Socio-Economically Advantaged and Disadvantaged. *MIS Quarterly, 32*(1).

Hubbard, R., & Vetter, D. (1996). An Empirical Comparison of Published Replication Research in Accounting, Economics, Finance, Management, and Marketing. *Journal of Business Research, 35*(2), 153-164.

Hume, D. (1896). *A Treatise of Human Nature*. Oxford: Clarendon Press.

Hume, D. (2006). *Moral Philosophy*. Indianapolis, IN: Hackett Publishing Comany.

Hursthouse, R. (2013). *Normative Virtue Ethics: Ethical Theory An Anthology* (Second edition ed.). New York: John Willey and Sons.

Introna, L. (2002). The (im)possibility of ethics in the Information Age. *Information and Organization, 12*(2), 71-84.

Iqbal, M. (2000). *The Reconstruction of Religious Thought in Islam*. New Delhi, India: Kitab Bhavan.

Irwin, J. (2002). Averroes' Reason: A Medieval Tale of Christianity and Islam. *The Philosopher, 2*.

Jefferson, T. (2010). *The Declaration of Independence of the United States of America*. USA: Nabu Press.

Jessop, B. (1997). *The Governance of Complexity and the Complexity of Governance*. Cheltenham: Edward Elgar.

Johnson, D. (1994). *Computer Ethics* (2nd ed.). New Jersey: Englewood Cliffs.

Johnson, D. R., & Post, D. G. (2001). Law and Borders: The Rise of Law in Cyberspace. In P. Ludlow (Ed.), *Crypto Anarchy, Cyberstates, and Pirate Utopias* (pp. 145-196). Cambridge, MA, USA: MIT Press.

Joyce, R. (2009). Moral Anti-Realism. Retrieved 9th May, 2013, from http://plato.stanford.edu/archives/sum2009/entries/moral-anti-realism/

Kahn, R., & Cerf, V. (1999, 10 February 2003). What Is The Internet (And What Makes It Work). Retrieved 1 August, 2009, from http://www.cnri.reston.va.us/what_is_internet.html

Kamal, M. (2006). *Mulla Sadra's Transcendent Philosophy*. *UK*: Ashgate Publishing.

Kang, T. (2001). How Does the Internet Work? Retrieved 8th Mar, 2012, from http://cyber.law.harvard.edu/privacy/Teddy%20Kang%20-%20How%20Internet%20works%20version%201.htm

Kant, I. (1998). *Critique of pure reason* (P. Guyer & A. Wood, Trans.). Cambridge: Cambridge University Press.

Kant, I. (2007). *Perpetual Peace* (H. B. Nisbet, Trans.). London, UK: Penguin.

Kant, I. (2011). The Victory of the Good over the Evil Principle, and the Founding of a Kingdom of God on Earth (T. M. Greene, Trans.) *Religion within the Limits of Reason Alone*. New York: Digireads.com Publishing.

Kapust, D. J. (2011). The Problem of Flattery and Hobbes's Institutional Defense of Monarchy. *The Journal of Politics, 73*(3), 680-691.

Karakostas, V. (2012). Realism and Objectivism in Quantum Mechanics. *Journal for General Philosophy of Science, 43*(1), 45-65.

Khaldun, I. (2004). *The Muqaddimah: An Introduction to History* (F. Rosenthal, Trans.). Chichester, UK: Princeton University Press.

Khalidi, M. A. (2003). Al-Farabi on the Democratic City. *British Journal for the History of Philosophy, 11*(3), 379-394.

Khan, M. (2005). Statement by Ambassador Masood Khan. Retrieved 9th Mar, 2012, from http://www.itu.int/wsis/tunis/statements/docs/g-pakistan/1.pdf

Klein, H., & Myers, M. (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly, 23*(1), 67-94.

Knahl, M., & Cox, G. (2008). Internet Governance: towards a non-representational democracy. *International Journal of Web Based Communities, 4*(3), 319-333.

Koepsell, D. (2003). *The Ontology of Cyberspace: Pholosophy, Law, and the Future of Intellectual Property*. Chicago: Open Court.

Kokkinaki, A., Mylonas, S., Thrassou, A., Economon, L., Kountouris, I., & Panayiotou, P. (2008). *Local E-Government in Cyprus: A Comparison of Perceptions Between Citizens and Decision Makers*. Paper presented at the International Conference on Information Systems (ICIS).

Komaitis, K. (2008). Aristocracy and Internet Governance. *McGeorge Global Business & Development Law Journal, 21*(1).

Komaitis, K. (2009). Internet Governance: Why Plato is Still Relevant. *International Journal of Communication Law & Policy, 13*.

Kowack, G. (1997). Internet Governance and the Emergence of Global Civil Society. IEEE Communications Magazine, 35(5), 52-57.

Krasner, S. (1982). Structural causes and regime consequences: Regimes and intervening variables. *International Organization, 36*(2), 185-205.

Krasner, S. (2013). Back to Basics: State Power in a Contemporary World. In M. Finnemore & J. Goldstein (Eds.), *New Terrains: Sovereignty and Alternative Conceptions of Power*. New York: Oxford University Press.

Kuhn, T. (1970). *The Structure of Scientific Revolutions* (2nd ed.). Chicago: University of Chicago Press.

Kuhn, T. (1977). *The Essential Tension*. Chicago: Universty of Chicago Press.

Kumar, N., & Mowshowitz, A. (2008). Increasing internet access and freedoms with IGF participation. *Technology and Society Magazine, IEEE, 27*(2), 33-36.

Lagerlund, H. (2010). Introduction: The Mind/Body Problem and Late Medieval Conceptions of the Soul (pp. 3). Dordrecht, The Netherlands: Springer.

Lakatos, I. (1971). History of Science and its Rational Reconstructions *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association* (pp. 91-136). Chicago: University of Chicago Press.

Lakatos, I. (1980). *Mathematics, science, and epistemology* (Vol. 1). Cambridge: Cambridge University Press.

Lakatos, I., Feyerabend, P., & Motterlini, M. (1999). *For and against method*. Chicago: University of Chicago Press.

Latour, B. (1988). Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer. *Social Problems, 35*(3), 298-310.

Latour, B. (1991). *We have never been modern*. Cambridge, MA: Harvard University Press.

Latour, B. (1992). Where are the missing masses? In W. Bijker & J. Law (Eds.). Cambridge, MA: MIT Press.

Latour, B. (1998). On Actor Network Theory: A few clarifications. Retrieved 1st May, 2011, from http://www.nettime.org/Lists-Archives/nettime-l-9801/msg00019.html

Laudon, K. (1995). Ethical concepts and information technology. *Communication of the ACM, 38*(12), 33-39.

Lazari-Radek, K. D., & Singer, P. (2012). The Objectivity of Ethics and the Unity of Practical Reason. *Ethics, 123*(1).

Lee, A., & Hubona, G. (2009). A Scientific Basis for Rigor and Relevance in Information Systems Research. *MIS Quarterly, 33*(2), 237-262.

Lee, H., Liu, Y., Chen, S., Tang, S., Huang, C., Huang, P., et al. (2002). *A comparative study of protocol analysis for spatiality of a text-based cyberspace.* Paper presented at the Connecting the Real and the Virtual - design e-ducation [20th eCAADe Conference], Warsaw, Poland.

Leiner, B., Cerf, V., Clark, D., Kahn, R., Kleinrock, L., Lynch, D., et al. (2003, 10 Dec 2003). A Brief History of the Internet. Retrieved 1 Aug, 2009, from http://www.isoc.org/internet/history/brief.shtml

Leiter, B. (2008). Nietzsche's Moral and Political Philosophy. *The Stanford Encyclopedia of Philosophy*.

Levinas, E. (1996). *Basic Philosophical Writings* (A. T. Paperzak, S. Critchley & R. Bernasconi, Trans.). Indianapolis, USA: Indiana University Press.

Levi-Strauss, C. (1974). *Structural Anthropology* (1 ed.). USA: Basic Books.

Lin, C., Wu, H., & Hseih, C. (2009). *A World of Paradox: Is that the public statement or private talk in virtual community?* Paper presented at the Pacific Asia Conference on Information Systems, Hyderabad, India.

Lister, L. (2008). Kiwi broadband lags 50%. *B&T Magazine, 58*(2665), 6.

Locke, J. (1988). *Two Treatises of Government*. Cambridge: Cambridge University Press.

Long, R. (1998). Towards a Libertarian Theory of Class. *Social Philosophy and Policy, 15*(2), 303-349.

Lovlie, L. (2008). Is there Any Body in Cyberspace? Or the Idea of a Cyberbildung *Internet - Bildung - Gemeinschaft*: VS Verlag für Sozialwissenschaften.

Ludlow, P. (2001). Introduction. In P. Ludlow (Ed.), *Crypto Anarchy, Cyberstates, and Pirate Utopias*. Cambridge, MA, USA: MIT Press.

Ludlow, P. (2010). *Our Future in Virtual Worlds (Things not only can be virtual, but they already are)*. USA: 40k.

MacAskill, E., Borger, J., Hopkins, N., Davies, N., & Ball, J. (2013). GCHQ taps fibre-optic cables for secret access to world's communications. *Guardian Weekly*. Retrieved 4th Nov, 2013, from http://www.theguardian.com/uk/2013/jun/21/gchq-cables-secret-world-communications-nsa

Macdonald, T. (2008). *Global Stakeholder Democracy: Power and Representation Beyond Liberal States*. New York: Oxford University Press.

Machiavelli, N. (2005). *The Prince* (W. J. Connell, Trans. 1 ed.). USA: Bedford/St. Martin's.

MacIntyre, A. (1984). *After Virtue* (second ed.). Notre Dame: Notre Dame University Press.

Mackie, J. L. (1977). *Ethics: Inventing Right and Wrong*. Harmondsworth: Penguin.

Macleod, A. (2008). Coercion, Justice and Democracy. In D. Reidy & W. Riker (Eds.), *Coercion and the State* (pp. 63-76). USA: Springer.

Mahonen, P., Trossen, D., Papadimitriou, D., Polyzos, G., & Kennedy, D. (2006). The future networked society: A white paper from the EIFFEL think-tank. *1*. Retrieved 11th Nov, 2012, from http://future-internet.eu/docs/EIFFEL-FINAL.pdf

Marsh, D., & Furlong, P. (2002). A Skin, not a Sweater: Ontology and Epistemology in Political Science. In D. Marsh & G. Stoker (Eds.), *Theory and Methods in Political Science* (2nd ed.). New York: Palgrave Macmillan.

Marsh, D., & Smith, M. (2001). There is More Than One Way to do Political Science: On Diifferent Ways to Study Policy Networks. *Political Studies, 49*, 528-541.

Marx, K., & Engels, F. (1848). Manifesto of the Communist party (Vol. 1). Moscow: Progress Publishers.

Marx, K. & Engels, F. (1998). The Communist manifesto: a modern edition. London: Verso.

May, T. (2001). The Crypto Anarchist Manifesto. In P. Ludlow (Ed.), Crypto Anarchy, Cyberstates, and Pirate Utopias. Cambridge, MA, USA: MIT Press.

McCloskey, H. (1963). A Note on Utilitarian Punishment. *Mind, 72*, 599.

McMichael, A. (1985). Van Fraassen's Instrumentalism. *The British Journal for the Philosophy of Science, 36*(3), 258.

McPherson, D. (2008). Internet Routing Insecurity: Pakistan Nukes YouTube? Retrieved 23rd Nov, 2010, from http://asert.arbornetworks.com/2008/02/internet-routing-insecuritypakistan-nukes-youtube./

Merleau-Ponty, M. (1968). *The Visible and the Invisible* (A. Lingis, Trans.). Evanston, IL: Northwestern University Press.

Merleau-Ponty, M. (2003). *Nature: Course Notes from the Collège de France* (R. Vallier, Trans. 1st ed.). Illinois, USA: Northwestern University Press.

Michael, M. (1984). The autonomous Power of the State: Its Origins, Mechanisms, and Results. *European Journal of Sociology, 25*(2), 185-213.

Miles, M., & Huberman, M. (1994). *Qualitative Data Analysis*. Thousand Oaks, CA: Sage.

Milian, M. (2013). Thanks to the NSA, the Sky May Be Falling on U.S. Cloud Providers. Retrieved 1st Nov, 2013, from http://www.bloomberg.com/news/2013-08-08/thanks-to-the-nsa-the-sky-may-be-falling-on-u-s-cloud-providers.html

Mill, J. S. (1879). *Utilitarianism* (Seventh ed.). London: Longmans, Green, & Co.

Miller, A. (2012). Realism. Retrieved 2nd January, 2013, from http://plato.stanford.edu/cgi-bin/encyclopedia/archinfo.cgi?entry=realism

Mingers, J. (2001). Combining IS Research Methods: Towards a Pluralist Methodology. *Information Systems Research, 12*(3), 240-259.

Mingers, J. (2004). Real-izing information systems: critical realism as an underpinning philosophy for information systems. *Information and Organization, 14*(2), 87-103.

Mitcham, C. (1994). *Thinking through technology: the path between engineering and philosophy*. Chicago: University of Chicago Press.

Mitchell, W. (1995). *City of bits: space, place and the infobahn*. Cambridge, MA: MIT Press.

Moor, J. (1998). Reason, Relativity, and Responsibility in Computer Ethics. *Computers and Society, 28*(1), 14-21.

Moor, J. (1999). Just consequentalism and computing. *Ethics and Information Technology, 1*(1), 61-65.

Moor, J., & Bynum, T. (2002). *CyberPhilosophy: The Intersection of Philosophy and Computing*. Cornwall: Blackwell Publishing.

Morton, P. (2006). Using Critical Realism to Explain Strategic Information Systems Planning. Journal of Information Technology Theory and Application, 8(1).

Mouffe, C. (2005). *On the political*. London: Routledge.

Mueller, M. (2004). *Ruling the Root: Internet Governance and the Taming of Cyberspace*. Athens, Georgia: MIT Press.

Musgrave, A. (1978). NOA's Ark - Fine for Realism. *The Philosophical Quarterly, 39*(157), 383-398.

Musgrave, A. (1991). Realism about what? *Philosophy of Science, 59*(4), 691-697.

Musgrave, A. (1992). *Realism, Truth and Objectivity*. Paper presented at the Realism and Anti-realism in Philosophy of Science.

Myers, M., & Klein, H. (2011). A Set of Principles for Conducting Critical Research in Information Systems. *MISQ, 35*(1), 17-39.

Naim, S. (1966). The Place and Function of Doubt in the Philosophies of Descartes and Al-Ghazali. *Philosophy East and West, 16*(3-4), 133-141.

Najjar, F. M. (2004). Ibn Rushd (Averroes) and the Egyptian Enlightenment Movement. *British Journal of Middle Eastern Studies, 31*(2), 195-213.

Nakashima, E. (2013). NSA has made strides in thwarting encryption used to protect Internet communication. *The Washington Post*. Retrieved 1st Aug, 2013, from http://www.washingtonpost.com/world/national-security/nsa-has-made-strides-in-thwarting-encryption-used-to-protect-internet-communication/2013/09/05/0ec08efc-1669-11e3-a2ec-b47e45e6f8ef_story.html

Neilsen, M., & Chuang, I. (2010). *Quantum computation and quantum information* (10th Anniversary ed.). Cambridge: Cambridge University Press.

Neumann, M. (1978). Fictionalism and Realism. *Canadian Journal of Philosophy, 8*(3), 541.

Neumann, P. (2009). Risks to the public. *ACM SIGSOFT Software Engineering Notes, 34*(4), 17-24.

Nietzsche, F. (2005). *Thus spoke Zarathustra: A book for everyone and nobody* (G. Parkes, Trans.). New York: Oxford University Press.

Nozick, R. (1969). Coercion. In S. Morgenbesser, P. Suppes & M. White (Eds.), *Philosophy, Science, and Method: Essays in Honor of Ernest Nagel*. New York: St. Martin's Press.

Nozick, R. (1974). *Anarchy, State, and Utopia*. New York: Basic Books.

Orlikowski, W., & Baroudi, J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research, 2*(1), 1-28.

Papadopoulos, Y. (2002). *Is "Governance" a form of "Deliberative Democracy"?* Paper presented at the ECPR Joint Sessions of Workshops.

Parkinson, J. (2006). Deliberating in the Real World: Problems of Legitimacy in Deliberative Democracy. Oxford: Oxford University Press.

Pepitone, J. (2012). SOPA explained: What it is and why it matters. Retrieved 1st Jan, 2014, from http://www.bloomberg.com/news/2013-08-08/thanks-to-the-nsa-the-sky-may-be-falling-on-u-s-cloud-providers.html

Peterson, L., & Roscoe, T. (2006). The design principles of PlanetLab. *ACM SIGOPS Operating Systems Review, 40*(1), 11-16.

Philp, M. (2007). *Political Conduct*. Cambridge, MA, USA: Harvard University Press.

Pickering, S., & Weber, L. (2006). De-territorializing criminology. In S. Pickering & L. Weber (Eds.), *Borders, Mobility and Technologies of Control*. Dordrecht, The Netherlands: Springer.

Pierre, J. (2000). Debating Governance: Authority, Steering, and Democracy. Oxford: Oxford University Press.

Plato. (1997). *Plato: Complete Works*. Oxford, UK: Hackett Publishing Co.

Popper, K. (1959). *The Logic of Scientific Discovery*. New York: Basic Books.

Popper, K. (1972). *Objective Knowledge*. Oxford: Clarendon.

Poster, M. (2001). *What's the Matter with the Internet?* (1st ed.). Minneapolis: University of Minnesota Press.

Preston, P., & Rogers, J. (2012). Crisis, digitalisation and the future of the internet. *Info, 14*(6), 73-82.

Putnam, H. (1971). *Philosophy of Logic*. London: Harper and Row.
Quine, W. (1948). *On What There Is From a Logical Point of View*. Harvard: Harvard University Press.
Quine, W. (1969). Ontological Relativity *Ontological Relativity and Other Essays*. New York: Columbia University Press.
Quine, W. V. (1953). Two Dogmas of Empiricism *From a Logical Point of View* (pp. 42-45). Cambridge, Mass.: Harvard University Press.
Quine, W. V. (1980). *From a Logical Point of View: Nine Logico-Philosophical Essays* (2nd revised ed.). USA: Harvard University Press.
Raduescu, C., & Vessey, I. (2009). Methodology in Critical Realist Research: The Mediating Role of Domain Specific Theory. Presented at the AMCIS 2009, San Francisco.
Rawls, J. (1999). Justice as Fairness *A theory of Justice* (pp. 2). New York: Oxford University Press.
Rawls, J. (2001). *Justice as Fairness: A Restatement*. Cambridge, MA, USA: Harvard University Press.
Raz, J. (1986). *The Morality of Freedom*. Oxford: Carendon.
Razavi, M. (1997). *Suharwardi and the School of Illumination*: Routledge.
Reagle, J. (1998). Why the Internet is good. *Harvard*. Retrieved 2nd Apr, 2013from http://cyber.law.harvard.edu/people/reagle/regulation-19990326.html
Reidy, D., & Riker, W. (2008). Introduction. In D. Reidy & W. Riker (Eds.), *Coercion and the State*. USA: Springer.
Rhodes, R. (2006). The New Governance: Governing without Government. *Political Studies, 44*(4), 652-667.
Ribes, D., & Finholt, T. (2009). The Long Now of Technology Infrastructure: Articulating Tensions in Development. *Journal of the Association for Information Systems, 10*(5), 375-398.
Riedl, R. (2007). *On the Replication of Positivist Case Study Research.* Paper presented at the Fifteenth European Conference on Information Systems, St Gallen, Switzerland.
Riker, W. (2008). Will of the People. In D. Reidy & W. Riker (Eds.), *Coercion and the State* (pp. 63-76). USA: Springer.
Risse, T. (2013). Governance under Limited Sovereignty. In M. Finnemore & J. Goldstein (Eds.), *New Terrains: Sovereignty and Alternative Conceptions of Power*. New York: Oxford University Press.
Robertson, D. (2011). *The Natural Ontological Attitude From a Physicist's Perspective: Towards Quantum Realism.* Christchurch: University of Canterbury Press.
Rogers, K. (2007). Cyberspace: Who's (Should Be) the King of the Castle? International Review of Law, 21(3).
Rosen, F. (2003). *Classical Utilitarianism from Hume to Mill*. UK: Routledge.
Rosen, G. (1994). *Objectivity and Modern Idealism: What is the Question?* Dordrecht: Kluwer Academic Publishers.
Rosen, S. (2010). Invitation to Proprioceptive Dialogue. Retrieved 4th Jun, 2013, from http://embodyingcyberspace.com/invitation-to-proprioceptive-dialogue/

Rossel, P., & Finger, M. (2007). *Conceptualizing e-Governance.* Paper presented at the 1st international conference on Theory and practice of electronic governance, Macao, China.

Rousseau, J. (2006). *The Social Contract* (G. Cole, Trans.). Stilwell, KS, USA: Digireads.com Publishing.

Sadra, M. (2013). *Metaphysical Penetrations: A Parallel English-Arabic Text* (S. H. Nasr, Trans.). USA: Brigham Young University.

Sadurski, W. (2008). *Equality and Legitimacy*. Oxford: Oxford University Press.

Sandy, G. (2009). *Mandatory ISP Filtering for a Clean Feed to Australian Internet Subscribers.* Paper presented at the Americas Conference on Information Systems, San Francisco, CA.

Sartre, J. (1993). *Being and Nothingness*. USA: Washington Square Press.

Satola, D. (2007). Legal aspects of internet governance reform. *Information Polity: The International Journal of Government & Democracy in the Information Age, 12*(1-2), 49-62.

Schaefer, R., & College, D. (2007). The grand theory of everything: What man-made systems are, and why they fail. *ACM SIGSOFT Software Engineering Notes, 32*(4), 1-26.

Schall, J. (1998). *At the Limits of Political Philosophy*: CUA Press.

Searle, J. (1995). *The Construction of Social Reality*. New York: Free Press.

Shahin, J., & Finger, M. (2008). *The operationalisation of e-governance.* Paper presented at the 2nd International Conference on Theory and Practice of Electronic Governance, Cairo, Egypt.

Shannon, C. (1993). *Collected Papers*. Los Alamos, CA: IEEE Computer Society Press.

Sidgwick, H. (1907). *The Methods of Ethics* (7th ed.). London: Macmillan.

Silva, J. d. (2007). Future internet research: The EU framework. *ACM SIGCOMM Computer Communication Review, 37*(2), 85-88.

Singer, P. (1979). *Practical Ethics* (Second ed.). Cambridge: Cambridge University Press.

Slater, W. (2002). Internet History and Growth. Retrieved 29 July, 2009, from http://www.isoc.org/internet/history/2002_0918_Internet_History_and_Growth.ppt

Smolin, L. (2006). *The Trouble with Physics*. Boston: Houghton Mifflin.

Soto, H. d. (2000). *The Mystery of Capital*. New York: Basic Books.

Spinoza, B. (1985). *The Collected Works of Spinoza* (E. M. Curley, Trans. Vol. 1). Princeton, NJ: Princeton UP.

Spyropoulos, T., Fdida, S., & Kirkpatrick, S. (2007). Future internet: fundamentals and measurement. *ACM SIGCOMM Computer Communication Review, 37*(2), 101-106.

Steger, U. (2008). Corporate governance- Beyond the scandals and buzzwords. In U. Steger & W. Amann (Eds.), *Corporate Governance: How to Add Value* (pp. 3-62). UK: John Wiley & Sons Ltd.

Strate, L. (1999). The varieties of cyberspace: Problems in definiton and delimitation. *Western Journal of Communication, 63*(3), 382-413.

Talbot, I. (2009). Pakistan: A Modern History (2nd ed.). London: C Hurst & Co Publishers Ltd.

Tavani, H. T. (2001). The state of computer ethics as a philosophical field of inquiry: some contemporary perspectives, future projections, and current resources. *Ethics and Information Technology, 3*(2), 97-108.

Taylor, C. (1959). Ontology. *Philosophy, 34*(129), 125-141.

Teller, P. (1991). Substance, relation and arguments about the nature of space-time. *The Philosophical Review, 100*, 363-397.

TheWorldBank. (1991). Managing Development: The Governance Dimension. Retrieved 3rd June, 2011, from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2006/03/07/000090341_20060307104630/Rendered/PDF/34899.pdf

Titah, R., & Barki, H. (2006). E-Government adoption and acceptance: A literature review. *International Journal of Electronic Government Research, 2*(3), 33-57.

Turner, J. (2006). *A proposed architecture for the GENI backbone platform.* Paper presented at the Symposium on architecture for networking and communications systems, San Jose, CA.

Tzu, S. (1994). *The Art of War* (R. D. Sawyer, Trans.). Boulder, Colorado, USA: Westview Press.

Urmson, J. O. (1991). Aristotle's Ethics (1 ed.). Oxford, UK: Blackwell.

Vaishnavi, V., & Kuechler, W. (2007). *Design Science Research Methods and Patterns: Innovating Information and Communication Technology*. New York: CRC Press.

Vallentyne, P. (2012). Libertarianism. Retrieved 1st Feb, 2013, from http://plato.stanford.edu/archives/spr2012/entries/libertarianism/

Varden, H. (2008). International and Cosmopolitan Political Obligations. In D. Reidy & W. Riker (Eds.), *Coercion and the State* (pp. 239-250). USA: Springer.

Vaujany, F. d. (2008). Capturing reflexivity modes in IS: A critical realist approach. *Information and Organization, 18*(1), 51-72.

Vincent, C., & Camp, J. (2004). Looking to the Internet for models of governance. *Ethics and Information Technology, 6*(3), 161-173.

Wallace, H. (2000). *Memorandum submitted by Professor Helen Wallace*. Sussex: House of Lord Select Committee on the European Union.

Walsham, G. (1993). *Interpreting Information Systems in Organizations*. Chichester: Wiley.

Walsham, G. (1995). Interpretive case studies in IS research: Nature and method. *European Journal of Information Systems, 4*, 74-81.

Weber, M. (1978). *Economy and Society*. Berkeley, CA: University of California Press.

Weber, M. (1994). The Nations State and Economic Policy (Freiburg Address) (P. Lassman & R. Speirs, Trans.). In P. Lassman & R. Speirs (Eds.), *Weber: Political Writings*. Cambridge: Cambridge University Press.

Weiss, D. (1995). Ibn Khaldun on Economic Transformation. *International Journal of Middle East Studies, 27*(1), 29-37.

Westbrook, L., D. Levy, et al. (2011). Adidas gets a mauling over All Blacks jersey. Retrieved 3rd May, 2013, from http://www.stuff.co.nz/sport/rugby/rugby-world-cup/5411809/Adidas-gets-a-mauling-over-All-Blacks-jersey

WGIG. (2005). Report of the Working Group on Internet Governance. Retrieved 2nd June 2013, from http://www.wgig.org/docs/WGIGREPORT.pdf

Whewell, W. (1967a). *History of the Inductive Sciences* (3rd ed.). London: Cass.

Whewell, W. (1967b). *Philosophy of the Inductive Sciences* (2nd ed.). London: Cass.

Williams, B. (2005). *In the Beginning Was The Dead: Realism and Moralism in Political Argument*. Princeton: Princeton University Press.

Williams, M. (2012). US government hits Megaupload with mega piracy indictment. Retrieved 3rd May, 2013, from http://www.theguardian.com/technology/2012/jan/19/us-government-megaupload-piracy-indictment

Winner, L. (1980). Do artifacts have politics? *Daedalus, 109*, 121-136.

Woolnough, R. (2001). Web driver issues free ticket to ride. *Times Higher Education Supplement, 17*.

Worrall, J. (1989). Structural Realism: Best of Both Worlds. *Dialectia, 43*(1-2), 123.

Wortham, J. (2012). Public Outcry Over Antipiracy Bills Began as Grass-Roots Grumbling. Retrieved 3rd Mar, 2012, from http://www.nytimes.com/2012/01/20/technology/public-outcry-over-antipiracy-bills-began-as-grass-roots-grumbling.html?pagewanted=1&ref=technology

Wu, T. (1997). Cyberspace sovereignty? The Internet and the international system? *Harvard Journal of Law & Technology, 10*(3), 647-667.

Young, T. (2009). In Iran, Twitter has been a technological Scarlet Pimpernel. *Spectator, 310*(9434), 62.

Zizek, S. (1997). *The Plague of Fantasies*. London, UK: Verso.

Zizek, S. (2000). Cyberspace between perversion and trauma *The Art of the Ridiculous Sublime: On David Lynch's Lost Highway* (pp. 37). Washington: University of Washington Press.

Zizek, S. (2002). Lacan between cultural studies and cognitivism. In J. Glynos & Y. Stavrakakis (Eds.), *Lacan and Science* (pp. 291-320). London, UK: H Karnac Books Ltd.

Zizek, S. (2004). What can Psychoanalysis Tell Us About Cyberspace. *Psychoanalytic Review, 91*(6).

Zizek, S. (2006). Is this digital democracy, or a new tyranny of cyberspace? Retrieved 1st Febl 2013, from http://www.guardian.co.uk/commentisfree/2006/dec/30/comment.media

Zuniga, G. (2001). *Ontology: its transformation from philosophy to information systems.* Paper presented at the International Conference on Formal Ontology in Information Systems, Ogunquit, Maine, USA.

Zureik, E., & Mowshowitz, A. (2005). Consumer power in the digital society. *Communications of the ACM, 48*(10), 47-51.

Zwahr, T., Finger, M., & Mueller, P. (2005). *More than digitisation - the transformative potential of e-governance: an exploratory case study.* Paper presented at the 38th Hawaii International Conference on System Sciences, Hawaii.