Philosophical Imagination

Philosophical Imagination:

Thought Experiments and Arguments in Antiquity

Edited by

Boris Vezjak

Cambridge Scholars Publishing

Philosophical Imagination:
Thought Experiments and Arguments in Antiquity

Edited by Boris Vezjak

This book first published 2021

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-5275-6975-6
ISBN (13): 978-1-5275-6975-1

TABLE OF CONTENTS

Part 2: Philosophical Arguments, Imagination and Thought

PREFACE

> Suppose now that there were two such magic rings, and the just put on one of them and the unjust the other. No man can be imagined to be of such an iron nature that he would stand fast in justice. No man would keep his hands off what was not his own when he could safely take what he liked out of the market, or go into houses and lie with any one at his pleasure, or kill or release from prison whom he would, and in all respects be like a God among men. (Plato, *Republic*, translation by Benjamin Jowett)

Historians are not sure if Galileo ever carried out the legendary experiments at the leaning tower of Pisa. Aristotle's theory of gravity stated that objects fall at a speed proportional to their mass. That is, the heavier the object, the faster it falls under gravity. By dropping two balls of different masses, Galileo wanted to demonstrate that their time of descent was independent of their mass. He might not have actually ever conducted such an experiment, yet it became an essential part of the history of physics. The philosopher of science James Robert Brown has called it "the most beautiful thought experiment ever devised"– we normally consider it as a "thought experiment", proving our thesis without actual empirical experimentation.

Thought experiments have been the subject of intense philosophical debate for decades. The term is well known, it is derived from German "Gedankenexperiment" or "Gedankenversuch", first used by the Danish chemist Hans Christian Ørsted in the 18th century. Within contemporary analytic philosophy, they are accepted as a methodological tool used to improve philosophical knowledge and to reconsider or refute philosophical theories. Their fundamental goal is to provide a simplified hypothetical situation that would show the basic assumptions of a particular theory being defended, or try to present evidence that would be in favour or against theories themselves. Over the years, different thought experiments have gained considerable prestige within various philosophical disciplines. They can thus be found within ethics, epistemology, philosophy of science, and are no strangers to other scientific disciplines like physics or mathematics, which only shows their influence and versatility within academia.

In thought experimenting, we perform a special activity of imagining different scenarios in order to test a theory or hypothesis, usually in strong contrast to empirical experiments, where we test theoretical intuitions of sensory observation of objects and events in the external physical world.

Scientific thought experiments appear to be related to actually performed experiments, although the nature of this relationship is not entirely clear. The physicist Ernst Mach envisioned a thought experiment as a necessary prerequisite for every experiment carried out; he said that the experimenter and the inventor must keep an eye on the intended arrangement before actually realizing it. The first obvious distinction between a philosopher and a scientist is that the former is relying on thought experimentation as an original and consistent test method without proving it in the laboratory. Such exclusive preference to thought experimentation is typical for drawing a distinction between the methodology of philosophy and the methodology of natural sciences; the latter can lead to real scientific advances (we need only reflect on the famous thought experiments devised by Galileo, Newton, and Einstein), whereas philosophers address various kinds of ethical and metaphysical issues using intuition or imagination, associating thought experiments with the experimenter's mind. Some authors even believe that philosophy without thought experiments seems unthinkable, and that without thought experiments, even more so than in sciences, philosophy would be profoundly impoverished.

Today, two thought experiments developed by Edmund Gettier (1963) are considered as a paradigmatic example of traditional epistemology. According to the traditional view, our knowledge is a justified true belief. Well, Gettier claimed that his thought experiments show something else: if there is a philosophical tradition that understands knowledge of a proposition as a justified true belief in that proposition, Gettier proved, convincingly, that in some situations we have a belief that is both true and well supported by evidence, yet utterly fails to count as knowledge. One of the greatest epistemological discoveries on the very nature of knowing, written in a three-page article by an unknown philosopher, started various research programs and continues to influence debates in epistemology to this very day. Other paradigm thought experiments in philosophy include famous examples made by other philosophers, such as Philippa Foot's (1967) and Judith Jarvis Thomson's (1976) trolley experiments, Hillary Putnam's twin earth experiment (1975), John Searle's Chinese room experiment (1980), Saul Kripke's Schmidt/Gödel experiment (1980), and Frank Jackson's neuroscientist experiment (1982), all of which have had enormous influence in different philosophical schools.

But how far back can we go to track thought experiments in history of philosophy and science, and who was the first to conceive and discover them? They seem to be used both in philosophy and science in the distant past of antiquity. Archytas of Tarentum, for example, tried to prove the infinity of the universe with his probably first thought experiment in the

Western tradition. His cosmological view is still regarded as one of the most compelling arguments ever produced in favour of the infinity of space; later, it was taken over and adapted by the Stoics and Epicureans, especially Lucretius, who claimed that if the universe is finite, then it must be surrounded by a final boundary. But no boundary can be final, because there always has to be something on the other side; hence the universe must be infinite.

Thought experimenting by ancient philosophers is often open to debate: in what sense did their reasoning really concern thought experimentation? Sometimes the authors apparently support philosophical theories, in other cases experiments are carried out to reject some philosophical ideas; and yet in other cases the philosophers can only propose suspension of judgement. In Plato's *Republic*, Glaucon uses the myth of Gyges to demonstrate why people who practice justice do so unwillingly. A challenge, posed to Socrates and provided through some sort of thought experiment by imagining the effects of using the ring of invisibility, was intended to answer the question about human nature and our basis for the inclination towards justice or injustice. The example of the third kind of thought experiment was developed by Sextus Empiricus in his work *Against the Physicists*, where he attacked the famous Epicurean doctrine of the existence of atoms while discussing the possibility of motion, proving that, if motion is possible, there would be no partless bodies, and hence atoms do not exist.

The present book seeks to add new insights to the otherwise not too extensive literature on the beginnings of thought experiments in antiquity. The idea to publish this book arose during the international conference organized by the Department of Philosophy of the Faculty of Arts in Maribor ("Philosophical Imagination, Thought Experiments and Arguments in Antiquity", Maribor, 9-10 October 2018). The reader will notice that the book is divided into two chapters, because it is sometimes extremely difficult to distinguish between a general discussion on hypothetical reasoning or imagination and thought experiments in a very strict sense. The present reading of selected authors therefore seeks to deepen the current, otherwise scarce discussions of whether it is possible to articulate a discussion about thought experiments and about its arguments from the historical perspective of philosophy and science. It may sometimes seem that, in a loose sense, any philosophical reflection can already be interpreted as some form of thought experimentation. Although its functions are very diverse and complex, and often closely linked to other cognitive tools, such as visualization, imagination, or idealization, the contributions collected in this book may provide new insights into how the concept of a thought experiment coincides with more modern perspectives.

P.S. Finally, I would like to thank my dear friends and colleagues from the Department of Philosophy in Maribor for all the unconditional support, and a special thanks to my colleague Tadej Todorović for his help and support in preparing this manuscript.

Boris Vezjak, editor

LIST OF CONTRIBUTORS

Andre M. Archie specializes in the History of Ancient Greek Philosophy and Ancient Greek Political Philosophy. His latest research focuses on methodological issues, i.e. styles of argumentation in Plato and Aristotle. He has published in various journals such as the *Journal of Philosophical Research*, *Ancient Philosophy*, *History of Political Thought*, and *Scholia*. Andre is the author of *Politics in Socrates' Alcibiades: A Philosophical Account of Plato's Dialogue Alcibiades Major* (Springer, 2015). He is currently working on a book manuscript that is under contract with The Catholic University of America Press titled: *Socratic Conservatism, Socratic Questions: The Right Turn in Plato's Political Dialogues*.

Predrag Cicovacki is Professor of Philosophy at the College of the Holy Cross (USA), where he has been teaching since 1991. He served as a visiting professor in Germany, France, India, Luxembourg, Russia, and Serbia. He authored ten books, the latest of which are: *The Luminosity of Love* (2018) and *Gandhi's Footprints* (2015). He edited eight books, which include: *Tolstoy and Spirituality* (2018; with Heidi Grek) and *Nonviolence as a Way of Life* (2017; with Kendy Hess).

Matteo Cosci is research fellow at Ca' Foscari University of Venice, Italy. He is author of *Verità e comparazione in Aristotele* (Venice, 2014) and co-editor (with M. Sgarbi) of *The Aftermath of Syllogism* (London - New York, 2018). He is the Assistant Editor of the online journal *Philosophical Readings* and a recipient of the "Marie Skłodowska Curie-IF". His research topics include Aristotle, the history of Aristotelianism, and Galileo Galilei.

Milan M. Ćirković is a research professor at the Astronomical Observatory of Belgrade, (Serbia) and a research associate of the Future of Humanity Institute at the Oxford University (Oxford, UK). His primary research interests are in the fields of astrobiology (habitable zones, habitability of galaxies, SETI studies), philosophy of science (futures studies, philosophy of physics, philosophy of cosmology), and risk analysis (global catastrophes, observation selection effects, epistemology of risk). He co-edited the widely-cited anthology on *Global Catastrophic Risks* (Oxford University Press, 2008, with Nick Bostrom), wrote three monographs (the latest being

The Great Silence: The Science and Philosophy of Fermi's Paradox, Oxford University Press, 2018), as well as four popular science/general non-fiction books, and authored about 200 research and professional papers.

Drago Đurić is Professor of Philosophy at the Department of Philosophy, University of Belgrade (Serbia). He has published four books and papers in a number of philosophical journals. The latest book is titled *Eternity of the World in Antiquity and the Early Middle Ages* (written in Serbian–Belgrade, 2015). His work is focused on the research of ancient philosophy and science, early medieval thought, philosophy of religion, metaphysics, especially the metaphysics of free will. Current research concerns the preparation of a book under the working title: *Ionian Physics: Change and Matter.*

Maja Malec is Assistant Professor of Philosophy at the Faculty of Arts, University of Ljubljana. Her main research interests include metaphysics, epistemology, and philosophy of logic.

David Merry is an independent scholar specialising in connections between ancient dialectic and ancient ethics. He holds a PhD from the Humboldt University in Berlin, and has held research positions at the Humboldt University Berlin and Heidelberg Medical Hospital.

Nenad Miščević is Professor of Philosophy at the Faculty of Arts, University of Maribor. He has been working on thought experiments in various areas (published in journals like *International Studies in the Philosophy of Science, Acta Analytica* and *Croatian Journal of Philosophy*). His special interest is in political thought experiments, about which he has written the article "Political Thought Experiments from Plato to Rawls" in *Thought Experiments in Science, Philosophy, and the Arts* (edited by Frappier and Brown) and a chapter on political thought experiments in *The Routledge Companion to Thought Experiments*. He is currently preparing a book on political thought experiments.

Marek Picha focuses on epistemology and philosophical methodology. Lately he has been researching argumentative moves in debate about epistemological problem of generality, and a persuasive usage of appeal to ignorance in Descartes' *Meditationes*. Marek is the author of *What if* (2011) and *100 Thought Experiments in Philosophy* (2013) [both in Czech].

Danilo Šuster is Professor of Philosophy, teaching logic, epistemology and metaphysics at the Department of Philosophy, Faculty of Arts, University of Maribor. He is Editor in Chief of *Acta Analytica* (Springer) and author of several books on logic and analytic philosophy in general (written in Slovene language). His publications include articles on free will and causation.

Matjaž Vesel specializes in the field of the history of medieval, renaissance and early modern science and philosophy. His latest research focuses on some fundamental conceptual, methodological, epistemological and theological aspects of the Scientific Revolution as conceptualized in the works of Nicholas of Cues, Copernicus, Kepler, Galileo, Descartes, Newton and others. He has published numerous articles and monographs. His latest monograph, titled *Copernicus: Platonist Astronomer-Philosopher: Cosmic Order, the Movement of the Earth, and the Scientific Revolution* (Peter Lang, 2014), has received special attention. He is currently working on a book manuscript concerning Newton's criticism of Descartes' metaphysics and natural philosophy.

Boris Vezjak is Associate Professor of philosophy at the Department of Philosophy, Faculty of Arts, University of Maribor, Slovenia. His professional fields of interest cover various subjects, such as history of philosophy, discourse theory, media analysis and theory of argumentation. His publications include many articles, translations (*Plato's Parmenides*, *Plato's Charmides*, *Plato's Philebus*) and seven monographs, mainly focused on the history of philosophy, media and social analysis.

PART 1:

THOUGHT EXPERIMENTS FROM PLATO TO HUME

CHAPTER ONE

THE ANATOMY OF THREE THOUGHT EXPERIMENTS IN PLATO'S REPUBLIC, APOLOGY, AND IN ALCIBIADES MINOR[1]

ANDRE M. ARCHIE

Introduction

The standard view of thought experiments, and their role in the advancement of science and philosophy, is expressed in Thomas S. Kuhn's essay, "A Function for Thought Experiments" (Kuhn 1977). However, Kuhn's explanation of thought experiments underemphasizes how they simultaneously reform an agent's concept and actions; how physical verisimilitude manifests itself.

I remedy Kuhn's underemphasis by citing three prominent examples of thought experiments from the *Republic*, *Apology* and *Alcibiades Minor*. My main purpose in juxtaposing Kuhn's and Plato's illustrations of the function of thought experiments is to show that Plato seems to anticipate and go beyond Kuhn's concern that thought experiments satisfy the condition of physical verisimilitude. Plato's thought experiments demonstrate that thought experiments are not conducted merely to alter the conceptual apparatus of the interlocutor on the explored topic, but rather to alter the interlocutor's conceptual apparatus for the sake of altering his actions (i.e. practical rationality). Thus, Plato's concern that theory not be separated from practice is a modern concern. Although there are other ancient texts that contain thought experiments, Plato's discussion of thought experiments reminds us of the endurance and relevance of Plato's methodology.[2]

---

[1] This is a revised version of the paper "The Anatomy of Three Thought Experiments in Plato's Republic, Apology, and Alcibiades Minor", published in *Journal of Philosophical Research*, Vol. 35: 305-321, 2010.

[2] Ierodiakonou provides several examples of ancient thought experiments, but her focus is on ancient thought experiments as a tool for refuting rival philosophical

The outline of my argument is as follows. In section I, I discuss Kuhn's formulation of the function of thought experiments. In section II, I preview the anatomical features of each thought experiment in all three dialogues, and how these features fulfil and go beyond Kuhn's requirements. In section III, Glaucon's Ring of Gyges thought experiment is discussed along with Socrates' response to it. Socrates builds the city for pigs as an alternative thought experiment. His eudaimonistic argument for the city of pigs offers incentives for Glaucon to live a happier life. Thus, refuting Glaucon's belief that moral behaviour is contrary to one's self-interest. In section IV, Socrates' self-reflective thought experiment during his trial is shown to be a useful way to get the Athenians to appreciate the nature of his unique ambition. Socrates' refusal to cease practicing philosophy illustrates the gap between Socrates' priorities and the Athenians'. However, Socrates' refusal also illustrates practical ways in which the Athenians can order their disordered priorities. In section V, Socrates helps a young, ambitious Alcibiades become aware of his ignorance by posing a thought experiment. The lesson that Socrates conveys to Alcibiades through the thought experiment is that there is no way to distinguish between precious and pernicious things without knowledge. Such a distinction is made possible by recognizing that practical knowledge serves as the basis of virtue.

I. Thomas Kuhn and Thought Experiments

In "A Function for Thought Experiments", Kuhn surveys what he calls the "mainstream" view of the function of thought experiments, and discusses several arguments to correct what he sees as its main deficiencies. The mainstream view, characterized by Kuhn, holds that understanding produced by thought experiments is not a better understanding of nature, but rather a better understanding of the scientist's conceptual apparatus:

> On this analysis, the function of the thought experiment is to assist in the elimination of prior confusion by forcing the scientist to recognize contradictions that had been inherent in his way of thinking from the start. Unlike the discovery of new knowledge, the elimination of existing confusion does not seem to demand additional empirical data. Nor need the imagined situation be one that actually exists in nature. On the contrary, the thought experiment whose sole aim is to eliminate confusion is subject to only one condition of verisimilitude. The imagined situation must be one to which the scientist can apply his concepts in the way he normally employed them before. (Kuhn 1977, 242)

doctrines. She says very little about the relationship between thought experiments and action. See Ierodiakonou 1991 and Rescher 1991.

Kuhn takes issue with the mainstream view, which ignores thought experiments that operate according to a nonstandard inconsistency. Such inconsistencies, according to Kuhn, result from a peculiar loyalty to the analytic/synthetic distinction (Kuhn 1977, 255-259).

He argues that thought experiments make explicit a concept's inconsistencies. However, these are not inconsistencies typically identified by logicians. Kuhn contrasts the standard concept of inconsistency, e.g. square circle, with a non-standard example, e.g. faster. To illustrate non-standard inconsistency, he cites Piaget's laboratory situation in which children are presented with moving cars for the purpose of making explicit inconsistencies in their goal-reaching criteria (see Piaget 1946, Ch. 6 and 7). Kuhn posits that non-standard inconsistencies are ignored because scientists believe that thought experiments yield only analytic propositions. Consequently, the mainstream view holds that thought experiments are not informative; they provide no knowledge about reality.

Historically and philosophically, the argument Kuhn offers to overcome the analytic/synthetic distinction in the assessment of the function of thought experiments is significant, but beyond the scope of what I find most illuminating in Kuhn's essay.[3] My focus will be directed at Kuhn's reformulation of the mainstream view that the only condition of verisimilitude which thought experiments should be subjected to is the condition that concepts in the thought experiment be applied the same way they were prior to such an experiment.

Kuhn's basic argument is that, in addition to satisfying the condition of logical verisimilitude, i.e. internal consistency, thought experiments must satisfy the condition of physical verisimilitude. Thought experiments must teach the scientist or philosopher about his concepts and the world together. Effective thought experiments reveal the discrepancy between the phenomena and the scientist's or philosopher's understanding of the phenomena. In other words, nature and conceptual apparatus are jointly implicated (Kuhn 1977, 265).[4] In saying that an agent learns about the world through the joint implication of concepts and nature, we presume Kuhn is referring to the

[3] For an informative discussion of Kuhn and thought experiments, see Sorensen 1992, 112-131.

[4] E.g. Kuhn cites Galileo's *Dialogue concerning the two Chief World Systems* to illustrate that, for Galileo's readers, in learning about the concept of speed, they simultaneously learn how bodies move (Kuhn 1977, 253). Galileo's thought experiment illustrates that uniform horizontal motion does not affect the outcome of localized experiments. Outside of the localized context, effects can be quantified. On Galileo's thought experiment, and the role of thought experiments in science and philosophy, see Cohen 2005.

precision and scope gained in the agent's actions in the world brought about by robust concepts.[5]

I am in agreement with Kuhn that most people learn about their concepts and the world together, but the effects of thought experiments on an agent's actions are given very little attention in his reformulation of the mainstream view. The principle entailed by my position, and which justifies my interpretation of Plato's thought experiments, is that virtue is a property of the intellect. What alone can make an interlocutor go wrong is ignorance. Plato's thought experiments are crucial in getting the interlocutor to straighten out his views, thus helping him achieve the good for which he aims.

Given my intellectualist moral account of the effects of Plato's thought experiments on action, linking Kuhn's discussion of thought experiments in the natural sciences to Plato's may appear to be odd. However, the commonality between thought experiments in the natural sciences to those in moral philosophy is that they both allow the experimenter to grasp the law-like structures of nature or of morality. Such structures operate like Plato's Forms, and the right sort of thought experiments facilitate the perception of abstract intuitions. Although in each of Plato's thought experiments the experiment's empirical premises take us beyond sense experience, Plato makes it clear that the intuitions his thought experiments give rise to are inseparable from practical rationality.[6]

II. Anatomical Features of Plato's Thought Experiments

The three Platonic thought experiments I have chosen to focus on contain three features. These anatomical features are efficiency, conceptualization, and refutation. They fulfil and go beyond Kuhn's requirements for thought experiments by emphasizing practical rationality. The following description of the features should help in framing how to construe Plato's thought experiments and to show that their effectiveness is primarily seen in the reformation of behaviour.

a. Efficiency: the supposition that each thought experiment sets out from is in principle unrealizable. Consequently, there is no recourse

[5] The accuracy of this presumption is confirmed by Kuhn's admission that "the effects [of thought experiments] are much closer to those of actual experimentation than has usually been suggested" (Kuhn 1977, 242).

[6] For some interesting ideas on the relationship between thought experiments in the natural sciences and in moral philosophy, see Brown 2004.

to technical apparatuses or laborious procedures. What is needed is pure supposition bolstered by vivid imagery.[7]

b. Conceptualization: each thought experiment assumes that the interlocutor's problem is not at the level of observing the phenomena (e.g. human nature, priorities, and sensible particulars); but rather at the level of conceptualizing the phenomena. In the dialogues, understanding the phenomena appropriately has practical consequences.
c. Refutation: each thought experiment functions to refute a rival supposition. Such a refutation takes the form of an implied conditional argument:

(Antecedent)	A→B	(Consequent)
	A	
(Conclusion)	Therefore, B.	

This sort of argument shows that a rival's supposition could be falsified.[8] Consequently, continued belief in the supposition by the rival may lead to negative consequences.[9]

---

[7] Some commentators have argued that thought experiments are just arguments that make use of colourful or memorable illustrations or situations. For example, this is what John D. Norton argues (in his 2004 essay, "Why thought Experiments do not Transcend Empiricism") Norton's thesis is stated as follows:

> (1a) (Context of justification) all thought experiments can be reconstructed as arguments based on tacit or explicit assumptions. Belief in the outcome-conclusion of the thought experiment is justified only insofar as the reconstructed argument can justify the conclusion.
>
> (1b) (Context of discovery) The actual conduct of a thought experiment consists of the execution of an argument, although this may not be obvious, since the argument may appear only in abbreviated form and with suppressed premises. (Norton 2004, 50)

For Norton, thought experiments are merely argument and inference (i.e. thought experiments are just philosophical arguments that carry us from perception to proposition). From the same collection of essays, the alternative claim that thought experiments are not just colourful philosophical arguments is advanced by Brown, in his 2004 essay "Why Thought Experiments Transcend Empiricism".

[8] "Rivals" should be interpreted broadly to include interlocutors and societal endoxa (conventional opinions).

[9] These anatomical features are not limited to Plato's thought experiments, although they illustrate the mechanics of thought experiments in the dialogues. It is important to note that the scholarly literature on thought experiments refers to some version of the features I have described as efficiency, conceptualization, and refutation. See Burge 2007; Glymour and Wimberly 2007; Gendler 2000; Rescher 2005; Swirski 2007.

III. The Ring of Gyges (360b2-369c)

The thought experiment presented by Glaucon in Plato's *Republic* is the second of two arguments designed to explore the nature of morality. Glaucon's experiment is supposed to lend credence to the claim that just actions are solely motivated by fear of punishment.[10] To support his claim, Glaucon recounts the tale of the Ring of Gyges, which is about a ring with the power to make its wearer invisible:

> Let's suppose that there were two such rings, one worn by a just and the other by an unjust person. Now, no one, it seems, would be so incorruptible that he would stay on the path of justice or stay away from other people's property, when he could take whatever he wanted from the marketplace with impunity, go into people's houses and have sex with anyone he wished, kill or release from prison anyone he wished, and do all the other things that would make him like a god among humans. Rather his actions would be in no way different from those of an unjust person, and both would follow the same path. This, some would say, is a great proof that one is never just willingly but only when compelled to be. (*Republic* 360b2-360c4)[11]

The power of Glaucon's beliefs, as expressed by his thought experiment, derives from its lack of concern with actualized beliefs (beliefs presently at work in our thinking of them) but with dispositional beliefs (beliefs that would dictate actions in the appropriate circumstances). Glaucon's thought experiment is grounded on the assumption that human desires are naturally unlimited and that ethics is rightly non-eudaimonistic.[12] Eudaimonism is a

---

[10] Glaucon defends injustice in order to show Socrates the sort of defence he wants of justice. The vividness of Glaucon's defence elicits Socrates' ironic concern (361d3-5; see 368a4-c) that Glaucon may have been too vigorous a defender of injustice.

[11] Except where indicated, all translations from the *Republic* are from G.M.A Grube's translation (Plato 1997, edited by Cooper).

[12] The limited / unlimited distinction is a crucial feature of the Socratic Method. Such a distinction is based upon the belief that in order to gain a comprehensive understanding of things all possibilities must be considered. Through thought experiments, Plato goes about considering the possibilities by removing all unity or limitations from things. What is left is pure unlimitedness. Individuals like Glaucon slide into relativism and skepticism by supposing that there is just unlimitedness (see Plato's *Theaetetus* for the depiction of this view). In dealing with souls, there is danger in unlimited, ceaseless desires. However, virtue provides a limit principle and is a necessary part of a well-shaped character. A happy life requires putting some good limits on desires or appropriately shaping our characters. A just community requires giving the polity a good configuration or constitution.

paradigm for reflecting on the relationship between virtue and happiness.[13] Its style of reflection is not so much about a criterion for choosing the best action, but about the best way to live. It is person centred rather than act centred. Although eudaimonism need not make metaphysical assumptions, healthy eudaimonism depends upon the belief that the universe generally supports limited human desires as a necessary condition for the possibility of human happiness.

Glaucon's non-eudaimonistic position posits that: (1) humans are always comparing their situations with others, i.e. they inevitably try to outdo one another, and this makes human desires ceaseless and accelerating. Consequently, no quantity of goods like honour, money, and power suffices if humans are always comparing themselves. And (2) there is nothing fixed that humans always want and nothing of any kind can fully satisfy them, so there is no determinateness in what people desire. No kind or quality of things is sufficient. The name for the condition of outdoing others for the sake of gain is called pleonexia. It is opposed to the condition of equality, which may be either numerical or proportional equality under the law. Contrary to what the conventional belief of justice actually holds, Glaucon asserts that we will see pleonexia if we give to both just and unjust the ring of invisibility. The ring will disclose natural desires and show that hardly anyone is voluntarily just. Glaucon's argument could be analysed in the following way:

> Premises:
> (1) The desire for undue gain (i.e., pleonexia) is a desire of most people. Such desires manifest in those unrestrained by a lack of power.
> The subject matter of the first premise can be referred to as the Phenomena (*what* is to be explained).
> (2) Any desire most people manifest when unrestrained by lack of power is a desire that is natural for humans.
> The subject matter of the second premise can be referred to as the Principle of Interpretation (how we *ought* to explain human nature given the Phenomena).
> Conclusion:
> The desire for undue gain is a desire that is natural for humans.

Conceptual Reform: Socrates, Glaucon and Eudaimonism

Socrates refutes both of Glaucon's premises by reformulating his concept of the Phenomena (and by implication Glaucon's Principle of

[13] On the types of eudaimonism see Vlastos 1991, 200-232.

Interpretation).[14] The premise of the refutation is based on what humans are like originally; what humans are like in the city for pigs.[15] Socrates argues that only under faulty circumstances will people desire undue gain, and that the best people must be the standard. His refutation of Glaucon's argument makes explicit the joint implication between the concept of the Phenomena and nature. If Socrates is correct, he will have shown that human desires are limited and that human desires are in principle satisfiable. Consequently, the virtuous life is possible and sustainable for the individual and society as the best type of life.

Socrates' thought experiment begins by establishing that cities start because humans lack self-sufficiency but need many things.

> Therefore our citizens must not only produce enough for themselves at home but also goods of the right quality and quantity to satisfy the requirement of others. –They must. –So we'll need more farmers and other craftsmen in our city. –Yes. And others to take care of imports and exports. –And they're called merchants, aren't they? –Yes. –So we'll need merchants, too. (*Republic* 371a-11)

As a result of each citizen fulfilling their social roles, desires can be satiated. Socrates explains:

> First, then, let's see what sort of life our citizens will lead when they've been provided for in the way we have been describing. They'll produce bread, wine, clothes, and shoes, won't they? They'll build houses, work naked and barefoot in the summer, and wear adequate clothing and shoes in the winter. For food, they'll knead and cook the flour and meal they've made from wheat and barley. /…/ They'll enjoy sex with one another but bear no more children than their resources allow, lest they fall into either poverty or war. (*Republic* 372a3-c)

---

[14] My discussion of each thought experiment takes it for granted that what is being reformed is how the interlocutor sees the topic under consideration in the respective dialogues. Typically, the interlocutors' seeing is assumption-laden, and it is what accounts for the hubris and hard-headedness that animates their characters. Consequently, Socrates is not merely helping interlocutors see better; he is helping them see the best way to live. On the relationship between seeing as a physical state and seeing as an experience, see N.R. Hanson's classic text *Patterns of Discovery* (1958, 4-30).

[15] The building of the cities (city for pigs, the luxurious city, reformed city, and the philosophical city) in the speech is one big thought experiment countering Glaucon's Ring of Gyges thought experiment. However, it is within the city for pigs that Socrates establishes the principle on which other cities either deviate or conform: our most basic desires in life are limited and determinate.

By insisting that self-sufficiency and satisfaction are possible in the city for pigs, Socrates is suggesting that human desires are limited in principle. Consequently, there is no conflict due to competition in this city, because the citizens just naturally do what their natural abilities prescribe. Even within the intimate realm of reproduction there is no conflict between public and private good. Although women are not mentioned, sexual desire is separated from the desires that lead to too many children.

Socrates' thought experiment is a frontal attack on Glaucon's assumption that human desires are unlimited. It is significant, too, that, for Socrates, the city begins because of human neediness rather than fear as Glaucon's thought experiment suggests.[16] Glaucon sees the political order as a conventional arrangement; a collective agreement entered into by weak people to compensate for their individual weaknesses.

Socrates' position regarding human desires is eudaimonistic. Unlike Glaucon, Socrates does not view human desires as a threat, since people are to be supplied with necessities, and they need not be in competition with others for them. Consequently, the virtuous life secures the orientation towards the right thing to do but also the doing of a righteous act through the proper motivation. Socrates' eudaimonism posits that:[17] (1) Humans may compare situations, but they can be content and keep to their own. Love of their own is compatible with the common good. They do not have to outdo others but can mind their own business. (2) Desires seem indeterminate when they are all mixed up, such as "money love" becoming confused with "honour love", so that they drive each other on. (The miser may want more money but primarily seeks to preserve what he has, or the pleonexic person gets honour from accumulating ever more wealth.) However, when desires are separated, they are all satisfiable in principle.[18]

For Socrates, natural human needs lead to community, so the community is natural for humans inasmuch as only in it can natural desires receive satisfaction. The city for pigs that Socrates builds is intended to satisfy the most necessary human needs. Such needs are food, shelter, and clothing. Desires are (only) for what we need. Thus, desires are determinate. Socrates is also separating basic, human desires from higher, more complex desires.

---

[16] Premise (1) and (2) of Glaucon's argument is the summation of his earlier (358e-359b) claim that most people follow the law not as something inherently good but due to their weakness, though they still desire injustice naturally. Conversely, those who are strong enough should then do injustice when they can get away with it.

[17] Socrates' eudaimonistic claims are a direct refutation of the claims Glaucon endorses (see above).

[18] Justice seems to be each doing his own task and the natural need of each for the other leads to the founding of the city. See 372a-c.

Socrates' concept of the Phenomena (desires) posits no original disorder; rather, human needs enjoin the natural order of the human community. Socrates' argument can be analysed in the following way:

> Premises:
> (1) Just, "necessary" desires, i.e. limited, ordered, satiable, beneficial desires, are the desires that the truly best persons have manifest; most other persons can be educated in a good society to have appropriate desires (the Phenomena).
> The first premise claims that desires are found and perfected within the community. The human capacity for logos and action governed by logos can be fully realized only within the community.
> (2) The desires of the truly best persons are natural for human desires (Principle of Interpretation).
> The second premise claims that individuals within a community governed by laws and justice are the best type of humans. Socrates reads human nature off from how individuals are when most fully developed rather than how individuals are initially.
> Conclusion:
> Just, "necessary" desires are natural for humans.

Given what we have said about Glaucon's thought experiment and Socrates' response to it, Plato seems to suggest that how one conceives the nature of human desires (the Phenomena) determines how one will live. This view of human psychology is eudaimonistic and it holds that what alone can cause error—moral and intellectual—is ignorance. On this view, Platonic thought experiments always seem to satisfy the condition of physical, i.e. practical, verisimilitude: one must always strive to live the virtuous life. Whereas the relationship between conceptual reform and its effect on practical activity is underemphasized by Kuhn, Plato's thought experiments are often refutations of an interlocutor's faulty conceptualization of the topic under discussion. Refutations are designed to straighten out views, engender self-knowledge, and help the interlocutor achieve the good for which he ought to aim. Glaucon's argument for the nature of desires is subjected to refutation. His descriptive account of desires naturalizes how humans are when in competition and conflict with one another to satisfy their pleonexia. In so far as justice is concerned, Glaucon cannot move beyond the conventional origins of justice as a way of limiting conflict within the community. Socrates' thought experiment seeks to reform Glaucon's concept of desires. Such reformation seeks not merely to alter Glaucon's conceptual apparatus; rather it offers the incentives to live a happier life. Once the nature of happiness is determined, we should seek what contributes to happiness. Socrates' prescriptive account of desires

seems to assume that unless Glaucon allows for an end or limit to the satisfaction of desires, it will be hard to find true happiness.

Socrates may be optimistic, but his goal is nonetheless to get Glaucon to see that he is rational and rationality is expressed through him aiming at what is good. Thus, refuting Glaucon's belief that moral behaviour is contrary to one's self-interest. The compelling aspect of Socrates' thought experiment is that it is not concerned so much with Glaucon's actual beliefs as it is with equipping Glaucon with the right dispositional beliefs (beliefs that would dictate the right actions in appropriate circumstances). If Socrates can win Glaucon over to considering his eudaimonistic position, he has at least gotten Glaucon a step closer to reforming his behaviour.

IV. Socrates' Self-Reflective Questioning (29c6-e3)

The thought experiment presented by Plato in the *Apology* is designed to show the Athenian jurors the degree to which Socrates is willing to face death in promoting the philosophical life. The contrast between what the jurors offer Socrates as a condition for acquittal and his response seems designed to induce the jurors to alter their behaviour by reconceptualising their understanding of the soul's relationship to the body. The importance of reconceptualising the relationship facilitates Socrates' ultimate goal of having the jurors arrange their priorities in the correct order. The context is Socrates' refusal to stop doing and saying what he supposes is the best thing for him to do. Fear of death will not keep him from philosophizing and cross-examining himself and other people. This leads up to Socrates self-reflectively entertaining the counterfactual choice of being acquitted by the Athenians on the condition that he ceases investigating and practicing philosophy or be put to death:

> Socrates, we do not believe Anytus now; we acquit you, but only on condition that you spend no more time on this investigation and do not practice philosophy, and if you are caught doing so you will die;' if, as I say, you were to acquit me on those terms, I would say to you: "Gentlemen of the jury, I am grateful and I am your friend, but I will obey the god rather than you, and as long as I draw breath and am able, I shall not cease to practice philosophy, to exhort you and in my usual way to point out to any one of you whom I happen to meet: Good Sir, you are an Athenian, a citizen of the greatest city with the greatest reputation for wisdom and power; are you not ashamed of your eagerness to possess as much wealth, reputation

> and honors as possible, while you do not care for nor give thought to wisdom or truth, or the best possible state of your soul?" (*Apology* 29c6-e3)[19]

Socrates' thought experiment presented as a hypothetical choice is purely suppositional. It also illustrates the type of categories and choices Socrates is concerned with in other dialogues.[20] The category under which Socrates' counterfactual choice is offered is The Call of Ambition.[21] Under this category, the hypothetical choice entertained by Socrates is concerned with establishing as fact, for the jurors' consideration, that he is ambitious, but ambitious for the sake of promoting moral reform. When I speak of ambition, I mean those overriding emotions or desires causing an individual to act in a particular way repeatedly to achieve a particular end. I am not speaking of petty desires that are strongly felt and, as a result, cause Socrates to act. Socrates' ambition is *grand* and *noble*.[22] Similar to other dialogues where Socrates confronts interlocutors with hypothetical choices to assess how strongly or to what degree they hold a particular belief, the choice he offers to himself shows the jurors how strongly he believes in his philosophical mission, and in the redemptive nature of philosophy.

Understanding Socrates' Ambition

The distance Socrates is willing to go to reform the jurors understanding of the soul/body relationship is the measure of his ambition and the confidence he has in his philosophical mission. The lack of these greater things, which would demand that he remain quiet and content with the status quo, would be a peculiar kind of death by proxy for Socrates. A belief entails choices, and the choice Socrates self-reflectively offers himself reveals to the jurors his preference for hierarchically ordered worlds according to their perceived value in facilitating his ambition to promote moral reform.

---

[19] Except where indicated, all translations from the *Apology* are Grube's translations in *Five Dialogues* (2002)

[20] It has been argued that there are three distinctive categories under which choices are offered in the dialogues: The Call of Ambition, The Limits of Ambition, and The Transparency of Ambition. E.g. see Maurice 2006.

[21] Thought experiments, like counterfactuals, have been discussed in relation to the variety of Socratic refutations but not as a technique to measure the extent to which an interlocutor is ambitious. See, for example, Carpenter and Polansky's "Variety of Socratic Elenchi" (2002). In the *Apology*, Socrates often assumes the role of the interlocutor. For a denial that the Apology is a dialogue, see Burnyeat's "The Impiety of Socrates" (1997).

[22] After all, the Delphic oracle seems to sanction his ambition. See 20d-e.

Schematically, the counterfactual question Socrates imagines the jurors asking him might look like the following:

> Would you rather have world α (acquittal) in any event; or world β (to die) if ρ ("on condition you spend no more time on this investigation and do not practice philosophy") is true and world γ (implying Socrates is allowed to investigate and practice philosophy) if ρ is false?[23]

If Socrates were certain that ρ was true, he would then choose, as if no conditions were attached, between α and β. Socrates suggests that he would most likely choose β, and he does (see 29e1-42a3). Despite the fact that Socrates will ultimately be put death for choosing as he does, the degree of Socrates' commitment to the life of philosophy helps others initiate the process of *at least* thinking about the question of what constitutes a moral life. Such a process continued even after Socrates' death.[24]

Conceptual Reform: Priorities

The conceptual reform that Socrates' thought experiment seeks to initiate is one that helps the Athenians to be ever vigilant in ordering all that they care about and to have the appropriate priorities in mind. In reform of this type, the jurors' understanding of their priorities and how they live their lives are jointly implicated. What might this ordering of priorities look like? Consideration of a related passage at 29e-30b reveals Socrates' standpoint in challenging the citizens of Athens for neglecting the right order through placing greater value on their personal possessions than on their souls, and thus attaching little importance to the most important things (e.g. wisdom, truth and the soul), while cherishing inferior things (e.g. wealth, reputation and the body). Socrates endorses the following claim:

> Wealth (*chremata*) does not bring about excellence, but excellence makes wealth and everything else good for men, both individually and collectively. (30a9-10)

---

[23] In formulating Socrates' counterfactual question this way, I have benefited from Ramsey's article "Truth and Probability" (1978). Ramsey's article sets out a method to measure degrees of beliefs and other psychological variables through their causal property, which is the extent to which individuals are willing to act on what they believe given hypothetical circumstances.

[24] See Plato's Seventh Letter for a depiction of Socrates' influence on Plato's youthful ambition.

We can interpret this passage in several ways.[25] Either virtue makes wealth and other things good for humans collectively or privately; or virtue does not come from wealth, but from virtue comes wealth and all other goods for man collectively and privately. The ambiguity may be intentional to allow for both interpretations, but each interpretation is anchored in an order that prioritizes three types of goods: goods of the soul; goods of the body; and external goods. Goods of the soul revolve around the mutually entailing ideas of knowledge and virtue; goods of the body include qualities such as health and strength; and external goods include wealth and honours. Socrates believes in the greater value of the soul than of the body and its possessions. What Socrates suggests is that only the goods of the soul allow one to use the other goods well. Even if external goods are most necessary, they are not the highest since the soul is what uses the others. For example, when we consider that it may be true that the virtuous person is rich, presumably it is because such a person knows how to make do or he does the best with what he has due to the moderating influences of the soul.

Given Socrates' sentiments in the passage under consideration, it is clear why Socrates admonishes the Athenians as single-mindedly as his thought experiment attests. The very things that give Athens the reputation for "both wisdom and power" blind it and make it "sluggish" (30e4) with respect to the most important things (30d4). Athens is blinded by its bodily goods and its possessions. Consequently, the right ordering of Athenian priorities becomes the concern of Socrates' investigation and refutation of his fellow citizens.

Following the jury's guilty verdict, Socrates again addresses the issue of Athenian priorities, and what role he played as a private citizen in trying to convince others to concern themselves with the state of their soul as opposed to the body and its possessions. Socrates explains that his counter-assessment must be commensurate with a life that has not been lived quietly or concerned with what occupies the majority of Athenians: wealth, household affairs, and political offices (36b-c). The life that Socrates has tried to live is a life that has been useful, both to himself and to others:

---

[25] On the various interpretations of the passage in light of the role played by the word *chremata*, see de Strycker and Slings 1994, 138-141. Burnyeat construes the passage as contributing to a larger discussion of the approach to moral philosophy exhibited by the Socratic concern for vice, virtue, and character or (being), and the modern concern for methodology and actions or (doing). For Burnyeat, *chremata* is not money simply, it is valuable possessions in the broadest sense of the word. Thus, virtue (being) is coupled with actions (doing) due to its capability of "dominating and organizing the whole pattern of a man's life" (Burnyeat 1980, 210). Burnyeat's reflections reinforce the main lines of thought we have found in the passage. See "Virtue in Action" (Burnyeat 1980).