

**DESCARTES AND POPPER ON THE  
FOUNDATIONS OF KNOWLEDGE**

**MOHD KHAIRUL ANAM BIN CHE MENTRI**

**DISSERTATION SUBMITTED IN FULFILLMENT OF  
THE REQUIREMENT FOR THE DEGREE OF  
MASTER OF SCIENCE**

**DEPARTMENT OF SCIENCE AND TECHNOLOGY STUDIES  
FACULTY OF SCIENCE  
UNIVERSITY OF MALAYA  
KUALA LUMPUR**

**2011**

## **ABSTRACT**

This study attempts to examine the philosophical experiments of Descartes and of Popper in dealing with the problem of the foundations of knowledge. It analyses and presents their instruments and tools, concepts and methods of thinking that they have developed in their struggle to provide answers to such problems. Apart from presenting those experiments separately, this study also narrates in comparative manner the differences and similarities that can be found in their epistemological principles and methods. Conceptually, I divide the study into three major themes. The first theme deals with the historical dimension. In order to throw light on the philosophical ideas of Descartes and Popper, I reconstruct the context in which those ideas emerge by relating them to certain significant episodes in their lives. The presentation of this historical study can be found in Chapter 2 on Descartes, and in Chapter 4 on Popper. Without critical comment, but more as a philosophical exposition, the second theme explains and examines the philosophical thought of Descartes and Popper in dealing with the problem of knowledge and its foundations—of which can be found in Chapter 3 on Descartes', and in Chapter 5 on Popper's. In the course of this exposition, I endeavour to provide a systematic reconstruction of their epistemological systems and their specific views on the foundations of knowledge, and in certain places suggest some new interpretations. The last theme deals, in a comparative manner, with some fundamental differences and striking similarities in their epistemological principles and methods. The main conclusion which I reach is that there exist similar approaches, but with different instruments or conceptions or methods and ultimately they bring forth strikingly different results.

## IKHTISAR

Kajian ini menelaah ujikaji-ujikaji falsafah Descartes dan Popper dalam pergelutan mereka untuk menangani masalah berkaitan dengan dasar-dasar pengetahuan. Ia meninjau serta mengemukakan perkakasan dan alatan, faham-faham serta kaedah-kaedah pemikiran yang telah dikembangkan oleh mereka dalam pergelutan untuk menawarkan jawapan bagi masalah tersebut. Di samping membentangkan ujikaji-ujikaji itu secara berasingan, kajian ini juga menerangkan secara perbandingan beberapa perbezaan dan persamaan yang dapat ditemui dalam prinsip-prinsip dan kaedah-kaedah teori pengetahuan mereka. Kajian ini disusun secara kemas-tertib dan dibahagikan kepada tiga tema utama. Tema pertama berkaitan dengan dimensi sejarah. Di sini saya menerangkan idea-idea falsafah Descartes dan Popper dengan memaparkan rangka serta latar di mana idea-idea itu muncul dengan menghubungkan mereka dengan babak-babak penting yang telah berlaku dalam hidup mereka. Kajian sejarah ini saya bentangkan dalam Bab 2 berkenaan Descartes, dan dalam Bab 4 mengenai Popper. Tema kedua, yang bukan merupakan suatu ulasan kritis, akan tetapi lebih bersifat penghuraian falsafah, menerang serta menelaah pemikiran falsafah Descartes dan Popper berhubung masalah pengetahuan dan dasar-dasarnya—yang mana dapat ditemui dalam Bab 3 mengenai Descartes, dan dalam Bab 5 mengenai Popper. Dalam seluruh huraian ini saya berusaha untuk memaparkan, dengan caragaya penyusunan yang terencana lagi kemas, sistem teori pengetahuan serta pandangan-pandangan mereka yang khusus berkenaan dasar-dasar pengetahuan, dan di tempat-tempatnya yang sesuai saya anjurkan pula beberapa tafsiran baharu. Tema terakhir membincangkan, secara perbandingan, beberapa perbezaan asasi serta persamaan yang menarik perhatian dalam prinsip-prinsip serta kaedah-kaedah teori pengetahuan mereka. Kesimpulan utama yang saya capai daripada kajian ini adalah bahawa meskipun wujud pendekatan-pendekatan

yang serupa, dengan perkakasan atau fahaman atau kaedah-kaedah yang berbeza, namun ujikaji-ujikaji ini telah mencapai hasil yang mempunyai perbezaan yang menarik.

## ACKNOWLEDGEMENT

My intellectual debts for this research are many and I may, inadvertently, fail to acknowledge some of them. To begin with, I wish to express my gratitude to Professor Dr. Mohd Hazim Shah of the Department of Science and Technology Studies. He followed closely the progress of this study, and gave generously of his time to discuss many of the problems as they arose in the course of my research and to suggest improvements upon the text. I would like to extend my sincere thanks to my friends and colleagues at the Department of Science and Technology Studies for their supports during completing this research. I am also grateful to the members of the Komuniti Seni Jalan Telawi (KsJT), and especially Mr. Khalid Jaafar, Director of the Institut Kajian Dasar, for encouraging my interest in philosophy, and my close friend Mr. Saiful Anwar, for spurring me on by continuously asking about my research progress. My deepest gratitude is to Alina, my wife-cum-philosophical-muse. I am dedicating this dissertation to her and to my parents Che Mentri Tahir and Azizah Ahmad, for all their love and support.

## ABBREVIATIONS

The main works of Descartes are cited in the text as follows. (See References for publication details.)

- AT Charles Adam and Paul Tannery, editors, *Oeuvres de Descartes*. Volumes 1-12, revised edition.
- CSM *The Philosophical Writings of Descartes*, Volumes I and II. Translated by John Cottingham, Robert Stoothoff, and Dugald Murdoch.
- CSMK *The Philosophical Writings of Descartes*, Volume III. *The Correspondence*. Translated by John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny.
- DM *Discourse on the Method*. A Bilingual Edition. Translated by George Heffernan.
- HR *The Philosophical Works of Descartes*. Volumes I and II. Translated by Elizabeth Haldane and G. R. T. Ross.
- MFP *Meditation on First Philosophy*. A Bilingual Edition. Translated by George Heffernan.
- PP *Principles of Philosophy*. Translated with Explanatory Notes by Valentine Rodger Miller and Reese P. Miller.

While the main works of Popper are cited in the text as follows. (See References for publication details.)

- ALPS *All Life is Problem Solving*
- CR *Conjectures and Refutations: The Growth of Scientific Knowledge*
- LSD *The Logic of Scientific Discovery*
- MF *The Myth of the Framework: In Defence of Science and Rationality*
- OK *Objective Knowledge: An Evolutionary Approach*
- OS *Open Society and its Enemies Vols. I and II*

P1	<i>Realism and the Aim of Science: Volume 1 of Postscript to the Logic of Scientific Discovery.</i>
RMC	<i>Reply to My Critics.</i>
“RsR”	“The Rationality of Scientific Revolutions”
ISBW	<i>In Search of a Better World: Lectures and Essays from Thirty Years</i>
UQ	<i>Unended Quest</i>

# CONTENTS

ABSTRACT	ii
IKHTISAR	iii
ACKNOWLEDGEMENT	v
ABBREVIATION	vi

## **CHAPTER 1            PROLEGOMENA**

1.0	Introduction	1
1.1	Background of the Study	1
1.2	Rationale of the Study	2
1.3	Research Questions	3
1.4	Objectives of the Study	4
1.5	Literature Review	5
1.6	Scope of the Study	10
1.7	Methodology of the Study	11
	1.7.1 Historical Method	12
	1.7.2 Comparative Method	16
1.8	Systematic of the Study	19
1.9	Significance of the Study	24

## **CHAPTER 2            RENÉ DESCARTES’                                  PHILOSOPHICAL CONTEXT**

2.0	Introduction	26
2.1	The Seventeenth Century Philosophical Background	27
2.2	A Jesuit Education	31
2.3	The First Stage of Philosophical Life	36
2.4	The Second Stage of Philosophical Life	41
2.5	The Third Stage of Philosophical Life	46
2.6	The Fourth Stage of Philosophical Life	49
2.7	The Fifth Stage of Philosophical Life	50
2.8	The Sixth Stage of Philosophical Life	52
2.9	The Seventh Stage of Philosophical Life	53
2.10	The Final Stage of Philosophical Life	56
2.11	Death in Sweden	59
2.12	Concluding Remarks	61

## **CHAPTER 3            DESCARTES ON KNOWLEDGE                                  AND ITS FOUNDATIONS**

3.0	Introduction	64
3.1	Descartes on the Foundations of Knowledge	65
3.2	The Criteria of Certainty	70
3.3	Methodical Approach: Rules of Method and Method of Doubt	75
	3.3.1 Rules of method and moral maxims	75
	3.3.2 Method of Doubt	83
	A. Sense Doubt	90



	B. Dreaming Doubt	91
	C. Evil Genius Doubt	93
3.4	The Result: Cogito	96
3.5	Concluding Remarks	100
<b>CHAPTER 4</b>	<b>THE GENESIS OF KARL POPPER'S PHILOSOPHICAL IDEAS</b>	
4.0	Introduction	101
4.1	First Movement: The Vienna Years	104
4.2	Second Movement: From <i>Die Beiden Grundprobleme der Erkenntnistheorie</i> to <i>Logik der Forschung</i>	130
4.3	Third Movement: Philosopher in Exile	137
4.4	Fourth Movement: From LSE (1946-69) to Retirement (1969-94)	140
4.5	Coda	142
4.6	Concluding Remarks	142
<b>CHAPTER 5</b>	<b>POPPER ON SCIENTIFIC KNOWLEDGE AND ITS FOUNDATIONS</b>	
5.0	Introduction	144
5.1	Popper on the Foundations of Knowledge	145
	5.1.1 Fallibilism	154
	5.1.2 Critical Rationalism	162
5.2	Popper on Truth	168
5.3	The Ethical Underpinnings of Popper's Theory of Scientific Knowledge	179
5.4	Concluding Remarks	182
<b>CHAPTER 6</b>	<b>A COMPARISON BETWEEN DESCARTES AND POPPER ON THE FOUNDATIONS OF KNOWLEDGE</b>	
6.0	Introduction	184
6.1	Knowledge-situation and Philosophical Battlefield	185
6.2	Conception of Knowledge	189
6.3	Foundationalism versus Fallibilism	190
6.4	Descartes' Justificationism and Popper's Falsificationism	193
6.5	Descartes the Rationalist and Popper the Critical Rationalist	195
6.6	Descartes' Manifest Truth ( <i>Vericitas Dei</i> ) and Popper's Regulative Ideal of Truth	198
6.7	Scientific Method	200
6.8	Epistemology and Ethics	206
6.9	Concluding Remarks	208
<b>CHAPTER 7</b>	<b>CONCLUSION</b>	210
<b>REFERENCES</b>		216