

# Paradigms and Perspectives on Value and Reality



Paradigms and Perspectives  
on Value and Reality

Edited by

Chandana Chakrabarti and Richard Vulich

**CAMBRIDGE**  
**SCHOLARS**  

---

**P U B L I S H I N G**

Paradigms and Perspectives on Value and Reality,  
Edited by Chandana Chakrabarti and Richard Vulich

This book first published 2014

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

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

Copyright © 2014 by Chandana Chakrabarti, Richard Vulich and contributors

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-4438-6010-7, ISBN (13): 978-1-4438-6010-9

# TABLE OF CONTENTS

Preface .....	vii
Chandana Chakrabarti	
Introduction .....	1
Richard Vulich	
<b>Chapter One: Perspectives on Value</b>	
Science, Psuedo-Science, and the Pursuit of Cross-Cultural Ethics .....	9
Anthony B. Santamaria	
Moral Particularism and Accountability: A Defense of Generality in Moral Reasoning .....	25
Sari Kisilevsky	
Individualism, Environmental Holism and the Right to Reproduce .....	33
Sandra Jane Fairbanks	
Human Rights and the Environment.....	45
Joel Wilcox	
<b>Chapter Two: Perspectives on Reality</b>	
The Epistemic Vice of Dogmatism.....	57
Richard Vulich	
Free Will and the Mind-Body Problem .....	65
Alysha Kassam	
An Answer Both True and Beautiful: How Plato's Theory of Recollection Answers the Paradox of Inquiry .....	73
Jason Sheley	
Perspectival Dynamics of Conceptual Thinking .....	87
Tommi Lehtonen	

**Chapter Three: Perspectives on Religion**

Hindu Ethics in a Comparative Perspective .....	107
Kisor Kumar Chakrabarti	
Knowledge and Reality in Modern Kabbala.....	121
Tamar Ross	
Notes.....	131
Contributors.....	143

## PREFACE

Since the time immemorial one central question debated by philosophers in the East and the West is about the nature of Reality and value. Reality and value has been viewed from multiple perspectives and paradigms and the question about the nature of Reality and value still remains in the forefront of philosophical inquiry. Whether the world of the prisoners in Plato's *Republic* or the appearances in Bradley or Shankara, whether it is particularism or objectivism in morality—Reality and value as we understand and present it remains fettered by our personal or collective points of view. Even in the virtual reality of our techno-driven society the epistemic and the ontic status of Reality and value seems to hover in the uncertain domain of unknowability and ineffability. Our book is an attempt to discuss several aspects of this perennial issue in the light of different cultures and traditions.

I thank here all contributors who devoted their valuable time to join our conferences in the USA and overseas and submitted their final manuscripts for publication. My special thanks go to Professor Richard Vulich who worked on the manuscript with extraordinary dedication in the midst of his demanding teaching duties and made it ready for publication. To his credit Professor Vulich has published substantially, chaired different workshops of the Southern California Epistemology meetings and for a number of years has been an active member of the Society for Indian Philosophy & Religion. We are grateful to Professor Vulich for his contribution and leadership in bringing the project to fruitful completion and publication.

We also extend our cordial thanks to the staff of the Cambridge Scholars Press for their continued support in publishing collections of edited and reviewed papers presented in our conferences and workshops since 2006.

Chandana Chakrabarti





# INTRODUCTION

RICHARD VULICH

It was with great wonder and quiet anticipation that I found myself boarding a plane last January to visit India for the first time in my life as a presenter at “Knowledge, Value, and Reality: East Meets West”, an international philosophy conference held in Kolkata and organized by my colleague and friend Dr. Chandana Chakrabarti. I wondered about the normal things that any traveler to a new country thinks about, what the sights and sounds of a different country will be like, and how the rhythms of life change with the change of culture and geography. But nothing that I was contemplating as I felt the plane take off could have really prepared me for the dazzling and energetic aura of India itself. Upon landing and waiting in the airport lobby overnight I emerged into the incandescent glow of Kolkata and was whisked away in a taxi to the site of the conference. My senses were overwhelmed with the sheer volume of activity that I witnessed, and the vivid display of life and motion impressed me in a way I had never experienced before. Here I felt I was totally uprooted from the common conceptions of life and of travel that I had ever been acquainted with before, and faced with new realities and possibilities that I only could have dreamed of in the past. India awakened in me a deeper understanding of the possibilities of human experience and knowledge than I had ever thought possible, and did so in an immediate and intuitive way formed from the matter of my direct experience. To see people living in such humble conditions, but so full of life and energy was a testament to the vitality of the human spirit. To see people so given to a life of religious devotion, but without the totalizing absolutism of western monotheism was a humbling insight into the dynamism and power of religious thought. Suffice it to say that even in those first few moments I was aware of having a life changing experience, such was the power of the new setting in which I found myself.

A major motive that I bring to the creation of the present volume is to offer the reader some sense of the enduring value that lies in examining the world from a variety of different yet not mutually exclusive perspectives. To be born and raised in a certain environment is to be

exposed to certain ideas, attitudes, and conceptions of the good life, but there is so much to be gained by roaming free into the distinctive patterns of thought that are typical of the places people and things that we are not aware of in our childhood. As any good teacher knows one's whole life is an extended education, and as life has taught me some of the most valuable lessons are learned once you step outside of the paradigms that you find yourself acquainted with. My experience traveling and presenting in India has highlighted this basic truth to me and that is why the core theme of this book is to consider what knowledge can be derived from looking at some of the most central questions that affect the human condition from a variety of different cultural perspectives.

Collected within this volume are some of the papers that were presented at the Kolkata conference and another recent conference in Beijing, as well as a few other submissions from scholars whose work fit the present theme. The articles are divided into three chapters, each chapter addressing a central human concern.

Chapter one focuses on questions concerning normativity, value, and what the basis of our ethical obligations are. In our ethical lives we would like to know both how to act in order to act morally, and also how it is that we could have insight into the foundations of morality. The first question concerns the content of our moral duties, the second concerns the underlying basis for those duties. In our text we adopt a pluralistic approach to examining both questions and learn much from the interaction between Western and Eastern methods of ethical inquiry. Our volume includes four essays; Anthony Santamaria "Science, Pseudo Science and the Pursuit of Cross-Cultural Ethics", Sari Kisilevsky, "Moral Particularism and Accountability: A Defense of Generality in Moral Reasoning", Sandra Fairbanks "Individualism, Environmental Holism, and the Right to Reproduce", and Joel Wilcox "Human Rights and the Environment", that explore the fruitful connections between morality, our ability to have knowledge of it, and the contribution to our understanding that both Eastern and Western classical sources can provide.

Anthony Santamaria's paper "Science, Pseudo-Science, and the Pursuit of Cross-Cultural Ethics" discusses the problem that we might wonder whether there can be a science of morality if the subject matter of morality is thought to be 'subjective', or without objective foundation. Santamaria deploys Aristotle to explain why there cannot be a science of something that treats of the 'particular', that science always deals with universals. Using these ideas he argues that if indeed we can have a science of morality, and not just a pseudo-science it must be the case that it is based on something objective in reality and also that we have the capacity to

have insight into this objective part of reality.

Sari Kisilevsky's article "Moral Particularism and Accountability: A Defense of Generality in Moral Reasoning" puts forward the argument that the thesis of moral particularism, that there are no general moral principles that apply universally and to all situations, is an untenable doctrine. Kisilevsky argues that if particularism were true then our moral judgments would not have the normative force that we intuitively take them to have. In particular we should not conceive of our moral judgments as something on a par with aesthetic judgments or judgments of taste, because in that case the judgments would not have the unique objectivity that underlies our criticisms of the moral views of ourselves and others

Sandra Fairbank's article "Individualism, Environmental Holism and the Right to Reproduce" focuses on a problem in modern ethical thinking. During the modern period in the West ethical doctrines of individualism seem to have risen to prominence at the expense of more communitarian, feminist, and environmentalist ethical stances. Autonomy and individual rights seem to have been elevated to a higher level of moral consideration than the obligations we have to the environment and the collective well being of humanity when such values conflict. Fairbanks explores the destructive effect this individualist moral outlook has had on culture, society, and the environment, and asks the reader to reconsider this contemporary paradigm for understanding the nature of our ethical lives.

Joel Wilcox's essay "Human Rights and the Environment" advances the argument that human rights cannot be coherently understood as totally independent of concern for the environment. This is because human beings need the environment to live, and so it can be seen as an extension of human rights that we are morally obligated to care for our environment. This essay is illuminating in the way that it moves beyond the traditional borderlines of moral theorizing about both issues.

Another vital aspect of human life that spans across time, culture, and tradition is curiosity about the world around us, our place in it, and how it is that we might form a coherent picture of both. Chapter two is focused on these topics and includes four essays that explore them in depth and from a variety of cross cultural perspectives: Richard Vulich "The Epistemic Vice of Dogmatism", Alysha Kassam "Free Will and the Mind-Body Problem", Jason Sheley, "An Answer Both True and Beautiful: How Plato's Theory of Recollection Answers the Paradox of Inquiry" and Tommy Lehtonen "Perspectival Dynamics of Conceptual Thinking".

Richard Vulich's essay explores the concept of dogmatism, the disposition to refuse to reconsider one's belief in the light of contrary

evidence. Vulich attempts to explain why dogmatism is a vice regardless of the theory of epistemic justification that one accepts, internalism or externalism. Vulich shows that in the matter of belief dogmatism is both ineffective as a way of getting to the truth about the world, and that it creates obstacles to the transmission of knowledge by testimony insofar as a dogmatic subject's testimony cannot be relied on. As such it is wrong for practical and theoretical reasons, and is rightly condemned in every sphere of human conduct from the religious to the scientific.

Alysha Kassam's article "Free Will, Agent Causation, and the Mind-Body Problem" helps the reader to see the conceptual connections between the three concepts referred to in the title. Kassam skillfully demonstrates that the mind-body problem, that is, how it is possible for a non-physical substance to affect a physical substance, is another way of thinking about a problem that is often thought of in a different context, namely the problem of how it is that we have free will. Kassam shows that to resolve one problem would involve solving the other which may point future research in a productive direction.

Jason Sheley's article "An Answer Both True and Beautiful: How Plato's Theory of Recollection Answers the Paradox of Inquiry" deals with the paradox of inquiry as it is applied to the virtues. The paradox is that one would like to seek out dispositions to virtue, but how is one to seek the virtues unless one knows already what it is that he is seeking? It would seem that either one has the virtue already or if he does not have it he cannot know how to achieve it because to know what it is that is being sought is to be aware of how to display the relevant virtue. Sheley provides a disjunctive solution to the problem that should encourage those who see hope for developing virtues in cases where the content of the virtue is unclear to us: either inquiry into the virtues is to be abandoned or pursued through the attitude of hope and the recognition of beauty.

Tommy Lehtonen's article "Perspectival Dynamics of Conceptual Thinking" delves deeply into the concept of what it is to have a 'perspective' on the world or on morality. When we think about concepts we think about them from a particular perspective: our own. Understanding the dynamic nature of how we form perspectives and how they shape our theorizing in every domain helps us to understand the possibilities and limits of our cross cultural understanding of each

other.

The various religious traditions seen around the world offer a testament to the ancient and universal human concern with integrating our insights into the nature of reality and the moral sphere. The volume will conclude with a chapter containing two essays devoted to the topic of how religion

and culture inform our theories of value and reality. Here we have Tamar Ross “Knowledge and Reality in Modern Kabbala”, and Kisor Chakrabarti, “Classical Hindu Ethics in a Comparative Perspective”.

Kisor Chakrabarti’s essay suggests that it is not necessary to adhere to the standard Western conception of ethics as dominated by the two mutually exclusive paradigms of utilitarianism and deontology. Kisor demonstrates that classical Hindu thought can be of use in helping us to conceive of a marriage of the two rival ethical systems, a universal ethical system that uses the concept of ‘selflessness’ to bridge the divide between the conditional nature of utilitarian moral reasoning and the unconditional nature of deontological moral reasoning. ‘Selflessness’ may also help to address such difficulties as disallowing exceptions to moral imperatives in deontological ethics and not safeguarding minority rights in utilitarian ethics. Moreover, a broad synthesis of ethical theories may be useful in solving some well-known problems in Aristotle’s virtue ethics.

Finally in Tamar Ross’s essay “Knowledge and Reality in Modern Kabbala” the author argues that certain schools of thought were developed in response to the philosophical problem of how it is possible for God to be infinite but also somehow distinct from the world. That is, what is the nature of God’s relationship to the world, is the correct view theism, pantheism, or panentheism? Tamar finds the view of the Hasidim and Misnagdim schools that developed in response to this puzzle to be of great value. She sees them as allowing us to conceive of reality as comprised of three types of levels of existence. This three-tiered structure allows us to see equal truth in the claim that we are separate from God as we perceive our relation to him and also that God is immanent in all things as would be perceived on another level of reality as God perceives it.

As a human being reading this text you are no doubt interested in what it means to be a creature that can contemplate it’s own position in the order of the universe. All that we can do as educators, academics and intellectuals is provide the raw materials, the fuel that is needed to start your own process of contemplation. The true joy of the human experience is in realizing your capacity to entertain these very questions, and to discuss your thoughts with those that you care about. What travel and exposure to different paradigms and perspectives can do is to deliver insights to us that we never thought possible, and to thereby enrich our human lives. As such I would like to invite you to benefit from the wisdom of the authors of this text, and to carry that insight forward with you as you inform and enlighten others.



**CHAPTER ONE:**  
**PERSPECTIVES ON VALUE**





# SCIENCE, PSEUDO-SCIENCE, AND THE PURSUIT OF CROSS-CULTURAL ETHICS

ANTHONY B. SANTAMARIA

At some point during the latter half of the fifth century B.C., in response to the moral relativism, skepticism, and nihilism espoused by some of his contemporaries,<sup>1</sup> the philosopher Socrates submitted a very provocative hypothesis, one that would be either celebrated or denounced by countless moral philosophers succeeding him. Simply put, Socrates proposed that universal normative principles actually exist, and subsequently, that there exist universal definitions for normative terms.

From the modern standpoint, such a hypothesis represents one of the first attempts in Western philosophy to advance the positions of *ethical objectivism*, *ethical absolutism* and *ethical realism*. An ethical objectivist holds that normative facts, properties, and principles exist independently of what people believe is good and bad, or right and wrong. Thus, the objectivist contradicts the position of the moral nihilist, who alleges that normative facts, properties and principles do not exist at all, as well as that of the moral subjectivist and relativist, who claims that while such facts, properties and principles do exist, they are completely dependent upon what people believe about morality.

An ethical absolutist likewise disputes the positions of the moral subjectivist and relativist. The latter hold that insofar as what is morally good and bad depends completely upon what people believe, normative principles are not universal, and they are certainly changeable. In contrast, the ethical absolutist is an ethical objectivist who affirms that what is morally good and bad is not only objective, but universal and immutable: i.e., that it is the same for all people and for all time.

Finally, like the absolutist, an ethical realist is also a proponent of ethical objectivism. The realist regards normative propositions as attempts at describing objective normative principles and facts, or as predicating objective normative properties of particular actions, objects, and people, etc.. Hence, moral realism directly opposes the modern theories of emotivism and prescriptivism, which deny that normative propositions

actually describe or predicate anything, [which means that they are not really propositions at all], but merely express people's feelings of approval and disapproval, or issue commands. Furthermore, an ethical realist argues that the truth-value of normative propositions is knowable or demonstrable; thus, the realist also combats the moral skeptic who claims that the truth-value of such propositions is unknowable.

Socrates was clearly an ethical objectivist, absolutist, and realist. He held that what is actually good and bad in human character and conduct does not depend upon what people think or feel, but is always the same for all people everywhere. He also held that normative propositions are attempts at describing objective normative principles and facts, or predicating objective normative properties, and that the truth-value of these propositions is demonstrable.

The philosopher utilized a certain approach in an effort to provide such demonstrations: he would attempt to isolate the universal definitions of moral terms, and then use these definitions to determine whether the propositions in which the terms were predicated were true or false. Socrates felt that if he knew, for example, what the term "piety" really means, or the universal nature of piety, he could determine in what particular contexts that term was predicated correctly.<sup>2</sup>

Of course, in order to be successful, such an approach requires not only that moral terms can be defined, but that they actually have universal meanings. For if the definition or nature of piety, or of any other moral term, is not universal, [i.e. if it depends solely upon what people believe, or can change in content and vary among different people], then it is impossible to determine independently of people's beliefs whether any action or person, etc., is pious or not.

The question, then, is why did Socrates hold that moral terms actually have universal meanings? The answer to this question is really quite straightforward. It seems that the philosopher was inspired by the fact that human beings use moral terms in everyday social discourse, that such discourse occurs cross-culturally, and that it is generally intelligible.<sup>3</sup> In other words, Socrates appears to have been impressed with how people use normative language or terminology, i.e. with how they appear to formulate normative propositions when communicating with others, how they do so in every culture, and most importantly, how they are usually able to *understand* each other when they do so.

On observing the phenomenon of the intelligible predication of normative terms, Socrates seems to have concluded that such predication implies that the terms have universal meanings. After all, how could people communicate intelligibly with each other by means of such terms if

they did not share the same ideas which those terms represent, and if those ideas did not have a stable or fixed content? Given this line of reasoning, the philosopher set out on a "mission;"<sup>4</sup> he dedicated his life's work to discovering the universal definitions of moral terms in order that he might know what is "truly good for man," and so live an "examined and worthwhile life."<sup>5</sup>

Of course, the question which immediately arises is whether Socrates was correct: Does the intelligible predication of normative terms really imply that those terms have universal definitions? The answer is *no*, and to understand why, and what implications this has in the attempt to demonstrate the legitimacy of a cross-cultural science of morality, [in the classical sense of the term science], it is important that one first recognize that such a question actually has two parts.

One part of the question pertains to whether the intelligible predication of normative terms, if indeed it implies that the terms have universal meanings, also entails that those meanings are objective, [i.e. that they do not depend solely upon people's beliefs]. The second part pertains to what the first part presupposes: whether their intelligible predication does, in fact, imply that normative terms are everywhere defined in the same way. Let us begin by considering the first part of the question.

Does it follow from the fact that people have the same ideas, that the contents of those ideas have an objective basis? And does it follow that they *must* always have the same ideas, if, in fact, they do have the same ideas at some particular point in time? The answer to both of these questions seems to be negative, for one can easily conceive of situations in which two or more people, [and even the whole human race], agree as to the definition of some term at a particular time, but disagree at a later time, or change the definition that they agree upon. In other words, it is easy to conceive of a situation in which the contents of people's ideas, including the contents of their ideas about morality, are merely matters of human convention.

For example, let us say that at some point in human history a worldwide survey is conducted, and it is determined that all human beings, [i.e. all cultures], agree that "justice" means "paying one's debts, and telling the truth."<sup>6</sup> Does this prove that 'justice' has an objective nature? Clearly, the answer is *no*, and for the simple reason that it is certainly possible that the definition provided may reflect nothing more than a subjective standard. At some later point in history, this standard could change; human beings could come to disagree as to the nature of justice, or they might continue to agree, but define justice differently.

For instance, a year after the survey, some people may come to believe

that justice involves the "right of the stronger, whereby the mighty obtain more than their share,"<sup>7</sup> while others hold onto the original definition. Or it may occur that all human beings will continue to agree as to what justice means, but no longer define it as "paying one's debts, and telling the truth," but rather, as "benefiting friends, and harming enemies."<sup>8</sup> Thus, even if it does imply that moral terms have universal definitions, the intelligible predication of such terms does not entail that those definitions are objectively based; it is perfectly conceivable that any ideas about morality which are found to be held in common today, should not be held in common tomorrow, or should change in content.

What is more, the intelligible predication of moral terms does not, in fact, entail that those terms really do have universal meanings, or that there actually exist any moral concepts which are held in common. This is because intelligible predication in any context does not entail universal agreement as to the *meanings* of the terms predicated, it may only indicate agreement as to the *referents* of those terms. In other words, people may be able to communicate intelligibly with each other only because the terms they use refer to the same things, not because their meanings for those terms are the same.

For example, people from different cultures, who may speak different languages, or have different religious beliefs, etc., may agree that the term they each represent for "fire" refers to the same empirical phenomenon, from which it follows that, generally speaking, they are able to communicate intelligibly with each other about fire, [as long as they understand each other's languages]. However, it does not follow from this that they mean the same thing by the terms they use. One group might understand their term for "fire" to mean "a visible and dynamic stage in the process of combustion, exhibiting light and heat," while the other group might mean, [due to some religious belief], "a divine being of pure energy, exuding light and heat, and consuming whatever it touches." And thus, it is possible for intelligible predication to occur in the absence of universal definitions for the terms predicated. Again, people do not have to mean the same things by the terms they use in order for those terms to be predicated intelligibly, they need only refer to the same things.

As a result, it seems that the Socratic approach to showing that there exist universal definitions for moral terms - an approach inspired by the intelligible predication of those terms - does not provide a sufficient response to moral relativism and skepticism, and even to moral nihilism. Since the Socratic position entails neither that the alleged universal content of moral terms is objective, nor that there even exist universal definitions for moral terms, that position is vulnerable to the relativist, the skeptic, and the nihilist. And needless to say, this leaves the Socratic tenet that a

science of normative ethics is possible, [a tenet implied by the “mission” of Socrates], in serious jeopardy.

In the final analysis, the intelligible predication of moral terms does not prove that morality is derived from anything other than subjective preference, whim, or fancy. Human beings are also able to communicate intelligibly about "gargoyles," and "dragons;" and while this may indicate, [though not imply], that there is general and stable agreement as to the natures of such fictitious creatures, it certainly cannot serve as the basis for a legitimate science of them, or show that they have any basis in the extra-mental world.

This, then, is the principal deficiency in the Socratic approach to morality, a deficiency that has spawned enormous debate in the pursuit of a viable science of normative ethics: by itself, the intelligible predication of normative terms, while certainly a provocative phenomenon, inclining one to conceive that there is more to morality than subjective preference, whim, or fancy, does not show that there is actually anything more to what determines the rectitude of deliberate behavior. And the main point is really this: Even if there should be universal agreement about the meanings of moral terms, as their intelligible predication suggests, it neither proves that such definitions are, in fact, correct, nor does it provide any means by which their correctness can be established.

During the sixteenth century A.D., prior to the Copernican Revolution in astronomy, there was also general agreement, [at least in the occidental world], that the sun revolved around the earth. But the truth of the matter did not depend upon what was generally believed, but upon what was really the case. And it was his ability to supply objective grounds establishing that the earth revolved around the sun which allowed Copernicus to prove that what everyone believed was wrong. It seems that the answers to questions of astronomy can be objectively established.

But Socrates' appeal to the intelligible predication of moral terms, the basis for his effort to show that they have universal meanings, does not supply any objective grounds by which one can answer questions of ethics and morality. Since it is based solely upon what people believe, this appeal still leaves open the possibility that what is morally right or wrong is solely a matter of subjective approval or disapproval, just as it appears to be in many matters of aesthetic taste. And so what is arguably one of the Western world's first philosophical advocates of objectivism, absolutism, and realism in ethics utilizes an approach that does not succeed. Insofar as this approach still focuses solely upon what people believe, it employs a subjective criterion for determining the meanings of moral terms, and the contents of morality.<sup>9</sup> That Socrates was seeking what is most common

and fundamental in people's beliefs does not change this fact, for as the example from the Copernican revolution attests, what everyone believes can still be incorrect; it does not imply that there is any objective basis for what is believed.

And so while people do, indeed, use normative terms, and formulate what appear to be normative propositions, and while these uses and formulations are usually intelligible, they do not imply that there is any objectivity and universality in ethics. Consequently, the attempt to do so by subsequent moral philosophers is forced to look elsewhere. But the usual locations which are sought in this attempt, being fraught with many hidden obstacles, appear to afford neither sanctuary nor solace. In fact, they appear to be so fraught with difficulties that almost two and a half millennia after Socrates' original hypothesis, and centuries of debate and argument, the basic issue of whether normative ethics is at all objective, and consequently, whether there can be such a thing as a legitimate science of normative ethics, has evolved into a rather serious polemic. And the result of this polemic is that the pursuit of an objective basis for morality appears more and more like a quest for the "Holy Grail", than any sort of valid endeavor.

This is because two conditions determine the viability of any science or field of study: (1) it must have a legitimate subject matter, and (2) that subject matter must be knowable or intelligible. By "legitimate subject matter" I mean a subject of inquiry which is both objectively real and universal in scope. For instance, there obviously cannot be a science of "square-circles," for these cannot really exist; there is nothing into which to inquire. What is less obvious is that neither can there be a science of individual or particular natural objects<sup>10</sup>, say of a particular tree or stone, precisely *as* individual and particular. Nor can there be a science of what is in itself wholly "subjective," or of what is defined as a state of affairs exclusive to, or wholly determined by, the beliefs and feelings of individual human beings.

Since the object of any scientific inquiry is always what is universal, it follows that neither the individual natural object as such, nor the purely subjective state of affairs can qualify as the object of science. The reasons for this are rarely made plain, and are usually taken for granted by those who pursue scientific investigations; nonetheless, for the purposes of the present discussion, they warrant examination. And in this regard, perhaps the best place to begin is with the views of Aristotle, who was arguably the world's first true philosopher of science, and whose position continues to represent the cornerstone even of the modern concept of science, as well as the modern understanding of what constitutes the scope of scientific inquiry.

\* \* \* \* \*

In Chapter One of Book Alpha of the *Metaphysics*,<sup>11</sup> after having established the general postulate that all human beings desire understanding for its own sake,<sup>12</sup> Aristotle goes on to discuss, and subsequently establish what, in effect, amounts to a hierarchy of knowledge. On the lowest rung of this hierarchy, he places "sensation," a form of cognitive activity we share with all other animals, and which, as is implicit in Chapter One of Book Alpha of the *Metaphysics*, and explicit in Book III, Chapter 8 of *De Anima*,<sup>13</sup> the philosopher acknowledges as the foundation of all knowledge; he states in the latter text: "No one can ever learn or understand anything without sensing anything."<sup>14</sup>

Above sensation come first "memory" and then "experience", both of which we also have in common with animals. Memory corresponds to the recollection of sensation. Experience, on the other hand, involves the reflection on one, or several memories, and the formation thereby of familiarity with a particular individual or circumstance, and its more prominent characteristics. In other words, experience involves making something of your memories. Unlike memory, experience is projective: it pertains to the ability to make something out of a past event.

Animals, it would appear, have experience, for they are able to recognize individuals. However, animals, unlike human beings, appear to be incapable of experiences in terms of universals.<sup>15</sup> It is this capacity which leads us into the realm of art and science.

If knowledge of individuals pertains to experience, then knowledge of universals pertains to art and to science. And since, as Aristotle states in Chapter 2 of Book Alpha of the *Metaphysics*,<sup>16</sup> scientific knowledge, [and so too, artistic knowledge], is knowledge of things in terms of their "causes," someone who has scientific knowledge, and/or artistic knowledge, as opposed to simply experience, knows *why* something works, or is the way it is, and not just *that* it works, or is the way it is.

In the *Physics*,<sup>17</sup> Aristotle carefully determines that there are essentially four different kinds of causes operative in reality: material, formal, efficient, and final. The fact that there are four causes means that a thing can be known, understood, or explained in as many as, [though not necessarily in], four different ways; indeed, that the knowledge of the thing, [and the thing *itself* from the perspective of the knower], is divisible according to the causes of the thing. Furthermore, while there can be only a maximum of four kinds of causes determining any one thing, these causes can be many in mode<sup>18</sup> or order, [though not infinite in mode],<sup>19</sup> as arranged on the basis of their logical priority and posteriority. Thus, to

know a thing scientifically is not only to know what its causes are, but to know the mode of these: their logical priority and posteriority in the determination of the thing, including, ultimately, the first causes.<sup>20</sup>

Generally speaking, the method or way in which the thing is divisible and knowable according to its causes seems, for Aristotle, to fall into one of two groups or categories,<sup>21</sup> [and these same categories still form part of the foundation of scientific inquiry today, with such longevity perhaps implying that they are indeed most fundamental]. Either the thing will be causally or principally analyzed via the determination of its composition, or what its "parts", "elements", and "constituents" are, *or*, the thing will be causally analyzed via the determination of what it is by nature, [i.e. its kind or class, or how it is distinguished from other things], both generically and specifically. The former method is helpful in determining the material principles and causes of a thing: "what it is made of."<sup>22</sup> The latter method is helpful in establishing the formal [and in some respects, efficient and final] causes of a thing: respectively, its "formula" or definition, what generated it, and what function, end, or purpose it serves, [if any]<sup>23</sup>

There is, however, an important distinction made by Aristotle between art, (*techne*), and science [or at least, deductive science, *episteme*]. Both involve an understanding of things in terms of their causes, but art will generally involve a knowledge of the most proximate causes, while science will often pertain to a knowledge of the more remote cause, including, of course, the first cause.

To better explain this distinction, let me offer the following example. Within the medical profession, there exist a variety of disciples, each ranging in scope and complexity. At one extreme, let us say we have the "herbalist:" such a person has perhaps the most rudimentary understanding of medicine; he may know, for example, that "oat bran" is beneficial for the treatment of certain digestive ailments, but not know exactly how or why - i.e. what exactly it is about oat bran, or about the human digestive system that entails their combination to have a certain effect.

Next, in about the middle of two extremes, let us place the "general practitioner": this person would understand the "how" and "why" that the herbalist does not understand; the former has a fairly involved knowledge of the pathology of human ailments, human biology and anatomy, and prescriptive medicine.

Finally, at the other extreme, let us place the "neurologist": such a person seeks out causes far more remote than either the herbalist or the general practitioner; the former will have a much more sophisticated knowledge of human biology and anatomy, especially with regard to the



human nervous system, and the selective pathologies of ailments related to it.

Aristotle, then, was quite sensitive to the concept that there are varying degrees to which one can understand the causes of a thing, and founded his distinction between art and science primarily on this concept, [though not exclusively so]. For Aristotle, [and for thinkers such as Thomas Aquinas after him], science surpasses art in that it attempts to explain fully and to define; it delves "deeper," and seeks to obtain a certain and complete account of its subject.

Now as seen, Aristotle held that the individual or particular natural object is the subject of "experience," not science. Needless to say, this does not mean that the individual does not figure at all within scope of scientific inquiry, just that it does not do so *qua* individual, but only in terms of the universal principles or causes which govern and explain it. The question of course, is why this is the case? Why is the object of science that which is universal? Why can it not be the individual or particular natural object as such? It is one thing for Aristotle to observe that science does not, in fact, deal with individual natural objects as such, but only with the universal principles that account for them, [an observation which is no doubt accurate], but it is another thing for him to explain why.

Much of this explanation is provided in some rather arduous passages from Chapter 2 of Book Epsilon of the *Metaphysics* and Chapter 30 of Book 1 of the *Posterior Analytics*<sup>24</sup> where the philosopher argues that the individual or particular natural object, due to its accidental attributes,<sup>25</sup> is governed by "chance causes," from which it follows that, strictly speaking, scientific knowledge of it is impossible. What does this mean? It means that since science seeks to fully explain things in terms of their causes, its objective is to determine those causes, and so it is naturally limited to the causes of a thing which are, in fact, determinate and intelligible. These are the universal causes, those which are stable and constant.

Aristotle recognizes that the particular or individual natural object *qua* individual is always to some degree in a state of flux or instability, and so the principles or causes which govern it *qua* individual are constantly changing. This makes that object, and those principles impossible to isolate; they are always uncertain and indefinable, for they are perpetually changing, and so indefinite in themselves.

Take, for example, the formal cause of a particular individual natural object *qua* particular individual, which must include every individual characteristic the object bears, encompassing even those which are accidental to it.<sup>26</sup> Such a cause is impossible to isolate, because the

individuating characteristics of a natural object are constantly changing. In other words, the mind cannot fully apprehend, and so fully isolate the nature of an individual natural object *qua* individual, because there is nothing wholly definite to isolate. Again, to isolate the formal cause of the individual *qua* individual, the latter must be defined according to all its individuating characteristics, but if at least some of those characteristics are in flux, ever-changing, or changeable, no definition of the individual is possible. Why? Because one cannot obtain a definition when there is no actual definitiveness in that which one is attempting to define.<sup>27</sup> What is universal or constant, then, as manifest in the particular, is the object of science: "what is always or for the most part."<sup>28</sup>

From the foregoing, it also follows that, strictly speaking, a science of what is purely subjective is also impossible. It has been shown that something which in itself is indeterminate, indefinite, or unstable cannot be an object of science, and this is also the case with something which is purely subjective. As seen previously, something is defined as purely subjective, or what one might call a "subjective fact," if it does not exist independently of people's beliefs and feelings, i.e., if it has no existential status outside the minds of individual people. In other words, a subjective fact refers to what is exclusively the domain of individual people's thoughts and feelings, or to the contents of those thoughts and feelings which do not reflect an actual state of affairs in the extra-mental world, but only purport to do so, or do so only from the standpoint of some individual person, or group of persons.

Hence, what is purely subjective is relative to people's beliefs and feelings, and since what people think and feel, even about the same matters, can differ among different people, and can always change, what is purely subjective in itself does not qualify, like the individual people themselves, as an object of science. In themselves, subjective facts are "relative facts;" and as changeable, they are not constant, but unstable, and so indeterminate and indefinite; they can and do change, and perhaps more importantly, they can vary from subject to subject.

Consider, for example, a simple matter of aesthetic taste: whether a certain food, say "lasagna", does or does not taste better than another food, "Peking Duck." Let us say that some people propose that lasagna does indeed taste better than Peking Duck; others propose that the contrary is true. From a scientific standpoint, the following question may arise: "Does or does not lasagna taste better than Peking Duck?" Such a question may, of course, be complicated by the fact that sometimes those who generally prefer lasagna find it undesirable, and favor Peking Duck instead, while the others occasionally find themselves "in the mood for Italian," and

reverse their original stance.

As a result, the answer to the question of whether lasagna tastes better than Peking Duck is scientifically indeterminate; the superiority or inferiority of the taste of lasagna relative to Peking Duck varies or is indefinite, and thus it cannot be an object of scientific inquiry. That the taste of lasagna is better or worse than Peking Duck is neither wholly certain, nor wholly intelligible: the taste is both better and worse at the same time, and sometimes it can be better to those who claim it is worse, and vice-versa. Once again, there is nothing wholly stable and definite for the mind to grasp. And thus, what is purely subjective, as it is open to relativity, variation, and instability, cannot serve as a legitimate subject matter of science.

The latter argument should not be construed, of course, as meaning that a science of the *phenomenon* of some subjective or relative state of affairs is impossible. Clearly, that people have beliefs and feelings, and that the contents of these beliefs and feelings can reflect subjective or relative facts, are themselves *objective* facts about the world. And the universal principles and causes governing or explaining these facts can serve as legitimate subjects for sciences such as modern psychology, sociology, anthropology, aesthetics, and descriptive ethics.

Indeed, in so far as people's beliefs and feelings and their contents are real or objective attributes of human beings, they can be included in sciences describing human beings and the human condition. But this is not the same as treating any subjective or relative state of affairs which is determined by people's beliefs and feelings as though it somehow reflects an objective fact about the world apart from human beings. While the phenomenon of the subjective or relative can be studied scientifically, the subjective or relative in itself cannot.

In the example cited above, it is certainly possible for one to engage in a scientific inquiry of the objective phenomena consisting of people's attitudes toward the taste of lasagna versus the taste of Peking Duck. But as seen, it is not possible for one to determine scientifically which of these attitudes is really correct, or which food really does taste better. This is because, in such a case, none of the attitudes is *really* correct, [i.e. actually correct apart from what people believe and feel], and neither of the foods *really* does taste better. There is nothing objectively real or factual to investigate in such matters, and whatever is subjectively or relatively factual in them is variable and unstable, and so in itself indeterminate and indefinite, which again points out that it cannot serve as a legitimate subject matter of science.

\* \* \* \*

But having a legitimate subject matter, one which is objectively real, and universal in scope, is not sufficient to show that a science of it is viable. As said, a second criterion must also be met: for a science to be viable, its "legitimate subject matter" must be knowable or accessible to human beings.

For example, during the seventeenth century A.D., an atomic or nuclear science, as present during the twentieth century A.D., was not possible or would not have been a legitimate or viable science. Although atoms really existed during the seventeenth century, [mostly the same atoms which exist today], and although their universal characteristics also existed at that time, human technology had not evolved to the point that the existence of atoms and their universal characteristics could actually be grasped. Of course, they were always "knowable in themselves" in the generic sense of "able to be known," for otherwise we could have never come to know them. But at that time, although knowable in themselves, *we* were unable to know them. Indeed, to offer a more recent example, at present, a science of Martian life is not a legitimate or feasible science, even if there should be, or at some time was, life on Mars, as long as human beings are not in a position to apprehend it.

The latter examples serve to express one sense in which a subject of inquiry may be "unknowable" in such a way as to render a science of it impossible. The examples point to a deficiency or limitation in the ability of the knower to grasp or entertain a subject which, nevertheless, is able to be known in itself. This deficiency or limitation in the knower may or may not be surmountable. It may be the case, as in atomic science or Martian biology, that the scope of human perception can be expanded, if not immediately, then over time, and after considerable effort. The prior deficiency or limitation could then be regarded as accidental or incidental to the knower, i.e., as due largely to external conditions. But what if the deficiency is substantial or essential? What if the very nature of human perception precludes the ability to know or perceive certain subjects? Indeed, what if the nature of the subjects themselves makes them unintelligible to human beings? Apparently, this would mean that a science of such subjects is impossible, but would it necessarily mean this?<sup>29</sup>

To answer this question, a number of distinctions must be made. First, a distinction between direct and indirect intelligibility is warranted. What a human being may be unable to grasp or apprehend directly, due to some natural limitation in human beings, he or she may be able to apprehend indirectly.

For example, the potentiality existing in some leaves, by which they turn from green to red in certain climates during autumn, is not directly intelligible to human beings; we do not directly apprehend the potency itself. Nevertheless, it is indirectly intelligible. We recognize that the leaves must have such a potency, given the fact that they do indeed change color. And of course, part of the reasoning behind such a recognition is the fact that it is contradictory for something to come into being, without it having been possible for it to do so.

To this distinction between what is directly and indirectly intelligible, a further distinction may be added: the difference between apprehending *that* something is, [or is not], and apprehending *what* it is. These two kinds of apprehension are not necessarily coextensive. Knowing or recognizing that something exists, or that it does not exist, does not imply that one knows what it is, its nature or definition; nor does knowing what something is, imply that one knows that it exists.

For example, if one were able to show that a certain state of affairs was the effect of some cause, the existence of the cause would be intelligible, but not necessarily its nature. Indeed, if one were to enter a room in which one had previously observed the white tile floor to be unsoiled, only to find subsequently that it is covered with "muddy footprints," *and* one recognized that the actualization of the potency for "being soiled," which existed in floor, required a cause, [i.e., a prior and external act], since a potency cannot actualize itself, [as this would contradict its condition as potential],<sup>30</sup> one would know *that* something caused the footprints. But this does not mean that one would know the nature of that cause, exactly who or what it is [or was] in itself.

It seems, then, that one can know that something exists, without knowing what it is. And the converse is also possible: one can know what something is, and not know whether it is, i.e., whether it exists. And one may even know that something does not or cannot exist, and still have knowledge of its nature.

For example, as Thomas Aquinas states, one can know "what a man is, or a phoenix, and not know whether these exist in reality,"<sup>31</sup> i.e., whether they exist extra-mentally as discrete entities, [and one may also be reasonably certain that the phoenix does not so exist]. Furthermore, modern physicists and astronomers often hypothesize the possible existence of certain astronomical or physical phenomena, such as the existence of black holes, and of quarks; they can define these, but they do not thereby know that they really do exist. Finally, one can even know the definition of "beings of reason," things that can exist only in the mind, such as "spherical-cubes" or our aforementioned "square-circles." One can

define them: e.g., a square-circle is "a parallelogram with four equal sides and four right-angles, bounded by a curved line every point of which is equally distant from the centre." And yet, one can be absolutely certain that such a being does not really exist, since its real existence is impossible, in light of its contradictory nature.

Indeed, it seems that understanding the nature of any finite or contingent entity never includes knowing that it exists, since the entity, as contingent, does not have to exist, whereby it follows that existence is not an essential attribute of it, one that would be included in its definition. And therefore, knowledge of the nature of any finite or contingent entity does not imply knowledge of its existence.<sup>32</sup>

From the above distinctions, that between direct and indirect intelligibility, and that between "existential knowledge" [knowledge of a subject's existence], and "essential knowledge," [knowledge of a subject's nature], some important conclusions can be drawn pertaining to the general viability of any science.

First, one learns that since the 'knowability' or intelligibility of a subject can be direct or indirect, what cannot be grasped in itself may be intelligible by other means or in other ways. From this it follows that such a subject is not truly unknowable, and that a science of it is still possible. According to Aristotle, this is the case with all true subjects of science. As seen previously, the object of science is that which is universal; but this is never directly perceived by the human being. Scientific inquiry begins, as Aristotle observed, with the particular and changeable, with subjects that are, in themselves, least intelligible or knowable, owing to their complexity and contingency, but most readily or directly accessible to human beings. From this beginning, scientific inquiry proceeds to what is, in itself, most intelligible, owing to its necessity and simplicity, and for that reason, indirectly accessible to human beings.<sup>33</sup>

Secondly, one learns that there are two really distinct ways or modes in which a subject can be intelligible to the mind: it may be intelligible in terms of its nature, or it may be intelligible in terms of its existence. Of course, it is perfectly conceivable that it should be intelligible to the mind in both ways simultaneously, but this does not show that the two modes of intelligibility are not really distinct. As seen, they *can* be present independently of each other, and this implies their real distinction. The question, of course, is which mode of intelligibility is the more fundamental, or the logically prior: the essential, or the existential?

From the standpoint of scientific inquiry, such a question is difficult to answer. As seen, scientific inquiry demands both the real [i.e., objective] existence of its subject matter, as well as its universality, [the latter