

LOGY OF THE EMOTIONS
ALFANO, ASSOCIATE PROFESSOR, DEPARTMENT OF PHILOSOPHY,
UNIVERSITY OF TECHNOLOGY

and diverse collection, the neglected topic of curiosity emerges as an essential
y, psychology, and educational theory. From conceptual, empirical, normative,
pectives, the contributors insightfully relate curiosity to representation,
tion, character, virtue and vice, and education. This volume deserves the
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ck F. Schmitt, Oscar R. Ewing Professor of Philosophy, Indiana University

ed in this excellent volume make for a timely contribution to the growing
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in applied epistemology."

azlett, Assistant Professor, Philosophy, Washington University in St. Louis

h a winding path through intellectual history, from early Christian vice to
ue and beyond. *The Moral Psychology of Curiosity* sees contemporary
psychologists examining the nature and value of curiosity, shedding light
ost interesting features and exploring its role in human experience. The
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interest, understanding, and desire; the impact of language in shaping our
vation and measurement of curiosity; and the vital part that curiosity can
education. With perspectives on curiosity from all over the world, this
iplinary collection provides an in-depth and multifaceted examination of
al, psychological, moral, and educative dimensions of curiosity.

is Professor in the Department of Philosophy at Koç University in Istanbul.

N is a Leverhulme Early Career Fellow at the University of Edinburgh.

TCOMB is Professor of Philosophy at Western Washington University.

T is a PhD candidate in Philosophy and Education at Columbia University.

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INAN,
WATSON,
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THE MORAL PSYCHOLOGY OF CURIOSITY

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THE MORAL PSYCHOLOGY OF CURIOSITY

edited by ILHAN INAN,
LANI WATSON, DENNIS WHITCOMB,
AND SAFIYE YIĞIT

**The Moral Psychology
of Curiosity**

Moral Psychology of the Emotions

Series Editor: Mark Alfano, Associate Professor, Department of Philosophy, Delft University of Technology

How do our emotions influence our other mental states (perceptions, beliefs, motivations, intentions) and our behavior? How are they influenced by our other mental states, our environments, and our cultures? What is the moral value of a particular emotion in a particular context? This series explores the causes, consequences, and value of the emotions from an interdisciplinary perspective. Emotions are diverse, with components at various levels (biological, neural, psychological, social), so each book in this series is devoted to a distinct emotion. This focus allows the author and reader to delve into a specific mental state, rather than trying to sum up emotions en masse. Authors approach a particular emotion from their own disciplinary angle (e.g., conceptual analysis, feminist philosophy, critical race theory, phenomenology, social psychology, personality psychology, neuroscience) while connecting with other fields. In so doing, they build a mosaic for each emotion, evaluating both its nature and its moral properties.

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The Moral Psychology of Curiosity

Edited by
Ilhan Inan, Lani Watson, Dennis Whitcomb,
and Safiye Yiğit

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List of Figures and Tables	vii
Acknowledgments	ix
Introduction: The Moral Psychology of Curiosity <i>Lani Watson</i>	1
PART I: NATURE OF CURIOSITY	9
1 Curiosity, Truth, and Knowledge <i>Ilhan Inan</i>	11
2 Curiosity, Its Objects and Varieties <i>Nenad Mišćević</i>	35
3 The Passion of Curiosity: A Humean Perspective <i>Axel Gelfert</i>	57
PART II: MORAL DIMENSIONS OF CURIOSITY	77
4 Premodern Christian Perspectives on Curiosity <i>Kent Dunnington</i>	79
5 Confucianism, Curiosity, and Moral Self-Cultivation <i>Ian James Kidd</i>	97
6 Curiosity as an Intellectual Virtue <i>Safiye Yiğit</i>	117

PART III: PSYCHOLOGICAL DIMENSIONS OF CURIOSITY	141
7 The Duality of Interest and Deprivation: An Account of Curiosity in Psychology <i>Megan Haggard</i>	143
8 Constructing and Validating a Scale of Inquisitive Curiosity <i>Kathryn Iurino, Brian Robinson, Markus Christen, Paul Stey, and Mark Alfano</i>	157
9 Curiosity and Pleasure <i>Michael S. Brady</i>	183
PART IV: EPISTEMOLOGICAL DIMENSIONS OF CURIOSITY	197
10 Curiosity and Epistemic Achievement <i>Abrol Fairweather and Carlos Montemayor</i>	199
11 Some Epistemic Roles for Curiosity <i>Dennis Whitcomb</i>	217
12 Interest, Questions, and Knowledge <i>Kevin Mulligan</i>	239
13 The Epistemic Vice of Curiosity <i>Pascal Engel</i>	265
PART V: EDUCATIONAL DIMENSIONS OF CURIOSITY	291
14 Educating for Curiosity <i>Lani Watson</i>	293
15 Fostering Curiosity with Caring Socratic Examples: Epistemic Care in Mutual Trust and Cognitive Environments <i>Kunimasa Sato</i>	311
Index	323
Notes on Contributors	331

List of Figures and Tables

FIGURES

Figure 2.1	Types of Curiosity	37
Figure 2.2	Map of Intellectual Virtues	45
Figure 8.1	Semantic Dimensions of Intellectual Humility, Including the "Inquisitive Self"	158
Figure 8.2	Item Information Curves for Curiosity Items	171
Figure 8.3	Test Information Function for the Curiosity Scale	171

TABLES

Table 4.1	Typology of Improper Curiosity	89
Table 8.1	IH-Curiosity Item Parameter Estimates	170
Table 8.2	Comparison of English and German Items for Curiosity and <i>Neugier</i> Scales	176

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Introduction

The Moral Psychology of Curiosity

Lani Watson

Curiosity is a complex and powerful aspect of human experience, giving rise to many of our collective intellectual endeavors and serving as the basic motivation for many more of our personal intellectual pursuits—from the often-insatiable curiosity of the young child, directing their learning and development in countless ways, to the equally insatiable thirst for knowledge, truth, and understanding born by many of the brightest minds in intellectual history: Socrates, da Vinci, Curie, Einstein. Curiosity furnishes our world in our earliest years and drives our deepest and most persistent inquiries into the nature of the universe and the complexities of the human condition. Its role in our individual and collective intellectual lives can hardly be overstated. The moral complexities of curiosity are no less notable and intriguing, revealed most markedly by its winding path through intellectual history, from early Christian vice to Enlightenment virtue and beyond. In this volume, authors from a diverse range of philosophical and psychological perspectives examine the nature and value of curiosity, shedding light on some of its most interesting and contentious features. As the first of its kind, this volume provides an in-depth and multifaceted examination of the epistemological, psychological, moral, and educational dimensions of curiosity.

COMMON THREADS

If there is one thing that produces broad consensus among scholars working on curiosity, it is the idea that curiosity is both a familiar and yet a curiously underexamined feature of human experience. It is at once common and mysterious. Discussions of curiosity in contemporary philosophy have, until recently, been particularly sparse. As Kent Dunnington (chapter 4) observes,

"It is striking how little attention contemporary philosophers have given it [curiosity]." Likewise, several authors in this volume cite Ilhan Inan's claim in *The Philosophy of Curiosity* (2012) that "curiosity has been neglected by philosophers" (Inan 2012, 3–4). Kathryn Iurino et al. (chapter 8) offer some data on this score, reporting that "half of the 244 contributions in the Philosopher's Index that pop up when searching for 'curiosity' have been published only in the last ten years" (as of October 2015). In psychology, Iurino et al. record a "more sustained interest in curiosity," although, again, "more than one third of the 636 contributions that are listed in PsychInfo under the major heading 'curiosity' have been published in the last ten years." Yet curiosity is widely taken to be a common and familiar feature of our lives. As Axel Gelfert (chapter 3) observes, philosophers and psychologists largely agree that "humans are naturally curious," and Aristotle's famous opening line of the *Metaphysics*, that "All men by nature desire to know," is oft-cited within both the philosophical and psychological literature on curiosity. The rise of interest in curiosity over the last ten years, represented by the diverse contributions in this volume, reflects both the natural and familiar presence of curiosity in our lives, and its intriguing absence from dominant lines of philosophical and psychological inquiry.

A second facet of curiosity that scholars across the board agree on is its dual nature. On the one hand, curiosity has a positive manifestation, related to knowledge-seeking, interest, and careful exploration; on the other, it has a negative manifestation, related to prying, meddling, and aspiring to know more than is deemed appropriate. This duality is brought to attention in the present volume. Gelfert (chapter 3) and Dunnington (chapter 4) offer two insightful perspectives on the nuanced historical treatments given to curiosity in the Western philosophical tradition, highlighting premodern and modern attempts to "distinguish virtuous and vicious forms of curiosity" (Dunnington). Likewise, Megan Haggard (chapter 7) notes, "In psychology, curiosity has long trod the fine line between virtue and vice." Abrol Fairweather and Carlos Montemayor (chapter 10) expand on this duality, commenting that curiosity "may lead to risky and dangerous forms of revisionism of the old for the sake of merely seeking something new, but it may also be a potent incentive to take risks necessary for the expansion of knowledge." This dual nature is represented across the volume as a whole. Contrast Safiye Yiğit's "Curiosity as an Intellectual Virtue" (chapter 6) with Pascal Engel's "Curiosity as an Epistemic Vice" (chapter 13). Indeed, as Engel succinctly puts it, "Curiosity can feed, but also can kill, the cat." For this reason alone, curiosity provides a rich subject matter for investigation.

Of these two sides to curiosity, the one that has received most attention among contemporary scholars is the positive. In its positive manifestation, curiosity has been widely (although by no means exclusively) characterized

as a virtue, both moral (Baumgarten 2001) and intellectual (Dancy 1995; Zagzebski 1996; Mišćević 2007; Baehr 2011; Watson 2018). More generally, curiosity, in its positive manifestation, is considered a valuable thing, the "possession of which is admirable and excellent," as Kidd (chapter 5) argues in his discussion of Confucian curiosity. Indeed, Michael S. Brady (chapter 9) contends, "It is a commonplace that natural or intellectual curiosity is valuable." Iurino et al. (chapter 8) make a similar claim in observing that "curiosity is now routinely affirmed in educational institutions and creative industries," highlighting some of the everyday contexts in which work on curiosity can be naturally applied. Such applications are explored by Kunimasa Sato (chapter 15), who argues for "a new approach to cultivating children's enduring curiosity," as well as in my own chapter, "Educating for Curiosity" (Watson, chapter 14). In both cases the value of curiosity is, once again, affirmed. Moreover, several authors (including Mišćević 2007 and Brady 2009) have pursued the idea that curiosity is not merely itself valuable, but is a source of epistemic value. Nenad Mišćević (chapter 2) defends this line, regarding curiosity as "*the* motivating epistemic virtue" (emphasis original), and Dennis Whitcomb (chapter 11) maintains that it is "something of a theme that curiosity is in some way the source of the epistemic value of true belief." The value of curiosity is arguably as central to work in this area, as the question of its nature. The present volume brings together contemporary perspectives on the nature, value, and role(s) of curiosity, in both philosophy and psychology, serving as a platform and reference point for recent interest in this topic.

THIS VOLUME

The Moral Psychology of Curiosity is divided into five sections. The first section focuses on the nature of curiosity, and the remaining four capture four broadly distinct dimensions of curiosity: moral, psychological, epistemological, and educational. As well as showcasing the rich subject matter at hand, these sections reflect the divergent emphases and approaches that have been taken with respect to the study of curiosity in recent years. By bringing these approaches together in one volume, we hope to offer an original and substantive contribution to the relevant philosophical and psychological literature, and encourage readers to examine curiosity from perspectives that may otherwise have gone unrecognized.

Chapters in the first section address the nature of curiosity. What is curiosity? How do we come to be curious? What different types of curiosity are there? This section includes contributions from Ilhan Inan, Nenad Mišćević, and Axel Gelfert. Inan's chapter, "Curiosity, Truth, and Knowledge," opens

the volume with a discussion of curiosity rooted in the philosophy of language. Following from his detailed analysis in *The Philosophy of Curiosity* (2012), Inan argues that “It is our aptitude for inostensible representation that allows us to be curious.” Inan provides accounts of both objectual and propositional curiosity, noting that this distinction has only been explicitly formulated in recent years due to what he calls a propositional-bias in epistemology and philosophy at large. However, Inan argues, “In order to understand the nature of curiosity . . . we have to overcome our propositional-bias.” Inan examines two different forms of propositional curiosity: truth-curiosity and fact-curiosity. In establishing these distinct types and forms of curiosity, Inan maps out a rich terrain for the study of curiosity, and offers a valuable basis for understanding its relationship to language, truth, and knowledge. In chapter 2, “Curiosity, Its Objects and Varieties,” Mišćević takes up Inan’s work, asking “what someone who believes in the centrality of curiosity for normative epistemology can learn from [it].” Mišćević argues that there is much to be gained in this regard, by generalizing Inan’s account to other areas of normative epistemology and placing emphasis on the central role of understanding. Furthermore, Mišćević extends the project of distinguishing between types of curiosity, attempting to provide a “sketch of criteria that can help us taxonomize the cases of curiosity.” Besides the objectual-propositional contrast, he argues for at least nine other distinctions, including breadth-depth, active-passive, and intrinsic-extrinsic curiosity, adding still further diversity and depth to the study of curiosity. In chapter 3, “The Passion of Curiosity: A Humean Perspective,” Gelfert provides a detailed account of Humean curiosity, offering an insight into one of the most prominent historical treatments of curiosity. He argues that recent attempts to define and measure curiosity, particularly within empirical psychology, have “come at the expense of historically more encompassing philosophical views of curiosity.” Gelfert’s sensitive and edifying reconstruction of Humean curiosity offers the reader a valuable historical context to inform and enlighten the contemporary study of curiosity.

Chapters in the second section explore the moral dimensions of curiosity. Is it always good to be curious? When is curiosity a virtue, and when is it a vice? How does curiosity build or influence moral character? This section includes contributions from Kent Dunnington, Ian James Kidd, and Safiye Yiğit. In “Premodern Christian Perspectives on Curiosity” (chapter 4), Dunnington notes that the “moral status of curiosity was once a common theme.” With a view to reexamining the significance of moral questions pertaining to curiosity, which he argues have been neglected in contemporary work, Dunnington provides a rich account of historical perspectives on curiosity in the Western tradition, from the patristic through to the medieval Christian period. Reflecting on the darker side of curiosity, as many philosophers and

theologians at this time did, reveals, according to Dunnington, “how beliefs about the way the world is or ought to be influence our understandings of curiosity.” Helpfully, Dunnington presents a comprehensive typology of premodern Christian views concerning curiosity. With this, he achieves his aim of making “the past available for ongoing constructive engagement,” while raising the salience of moral questions concerning curiosity. Kidd achieves much the same effect, with a complementary focus on Eastern treatments of curiosity, in “Confucianism, Curiosity, and Moral Self-Cultivation” (chapter 5). Kidd explores the place of curiosity in classical Confucianism through a close study of questions and practices of questioning in the *Analects*. He articulates distinctively Confucian conceptions of curiosity and inquisitiveness, noting that “a guiding theme of *Analects* is the importance of a love of learning to the attainment of a consummate life.” According to this tradition, Kidd maintains, a person engaging in genuine moral self-cultivation requires a profound curiosity that drives them to acquire the sorts of disposition, knowledge, and experience appropriate to a *jūnzǐ* (a “consummate,” or morally cultivated person). Lastly, in “Curiosity as an Intellectual Virtue” (chapter 6), Yiğit provides a third, distinct perspective on the moral dimensions of curiosity with an account of curiosity situated within contemporary virtue epistemology. Yiğit’s primary aim is to establish the status of curiosity as an intellectual virtue. In doing so, she argues compellingly for the claim that curiosity is what makes philosophical inquiry possible and, moreover, accounts for a significant portion of its value, thereby establishing “the intricate relationship between curiosity and knowledge—namely, the organic unity of the two, which stands as a condition that accounts for the intrinsic values of both states.” Here Yiğit successfully traverses the boundary between the moral and epistemological dimensions of curiosity.

Chapters in the third section explore the psychological dimensions of curiosity. Is curiosity best understood as an emotion? How does curiosity influence behavior? Can we measure curiosity? This section includes contributions from Megan Haggard, Kathryn Iurino (with coauthors Brian Robinson, Markus Christen, Paul Stey, and Mark Alfano), and Michael S. Brady. In “The Duality of Interest and Deprivation: An Account of Curiosity in Psychology” (chapter 7), Haggard examines the psychological underpinnings of curiosity and offers an overview of psychological treatments of curiosity. She argues that curiosity exists on a tenuous psychological continuum, thereby addressing the question of whether curiosity is virtue or vice from a distinctively psychological perspective. Particularly for philosophers less familiar with the more well-established lines of inquiry concerning curiosity in psychology, Haggard’s chapter will serve as a valuable resource. Iurino et al.’s chapter, “Constructing and Validating a Scale of Inquisitive Curiosity” (chapter 8), develops and defends a new psychological measure

of curiosity, based on a Nietzschean construal of curiosity as inquisitive curiosity, “expressed,” the authors note, “by the German terms *Wissbegier* (‘thirst for knowledge’ or ‘need/impetus to know’) and *Neugier* (‘curiosity’ or ‘inquisitiveness’).” Iurino et al. argue that their measure does a better job of capturing the phenomenon that philosophers of curiosity have typically focused on than do most of the extant psychological measures of curiosity. In this regard, the chapter will be of interest to both philosophers and psychologists working on curiosity. Lastly, Brady’s chapter, “Curiosity and Pleasure” (chapter 9), takes a close look at the nature and value of curiosity through an analogy with pleasure, which, he notes, is “(rightly) regarded as intrinsically valuable.” Both curiosity and pleasure, however, “consist in a desire for something that is not, in itself, intrinsically valuable,” generating a potential problem for the widely held view that curiosity is valuable. Brady draws on the analogy between curiosity and pleasure to resolve this problem and preserve the value of curiosity, which, he contends, is “best understood as an emotional response with a particular pattern of appraisal or evaluation.” Thus Brady offers a distinctive account of the nature and value of curiosity that encompasses both psychological and philosophical perspectives.

Chapters in the fourth section explore the epistemological dimensions of curiosity. What role does curiosity play with respect to knowledge, understanding, and true belief? Is curiosity a source of epistemic value? What transforms curiosity from epistemic virtue to epistemic vice? This section includes contributions from Abrol Fairweather and Carlos Montemayor, Dennis Whitcomb, Kevin Mulligan, and Pascal Engel. Fairweather and Montemayor’s chapter, “Curiosity and Epistemic Achievement” (chapter 10), opens this section with an examination of the central role that curiosity plays in epistemology. They outline several epistemic concepts, such as epistemic achievement, virtuous halting, and virtuous insensitivity, which they argue are necessary for virtuously sating curiosity. Ultimately, Fairweather and Montemayor make the case for a curiosity-based epistemology in which “epistemic abilities and achievements can be understood in terms of inquiry that virtuously opens, sustains, and sates curiosity.” They thereby identify curiosity as central to contemporary debates in normative epistemology concerning the nature and value of knowledge. In “Some Epistemic Roles for Curiosity” (chapter 11), Whitcomb extends the examination of curiosity in epistemology, in the first instance by taking up the question of whether curiosity should be understood as the source of epistemic value. Whitcomb argues that it is “difficult to develop the idea” and thus turns to three positive proposals concerning more plausible epistemic roles for curiosity involving epistemic significance, the temporal extent of one’s knowledge, and epistemic coherence. Like Fairweather and Montemayor, Whitcomb highlights the significance of curiosity for epistemology, and advances the study of

curiosity in epistemology in several important respects. Mulligan’s chapter, “Interest, Questions, and Knowledge” (chapter 12), explores the relationship between curiosity and interest, as well as other relevant psychological states such as attention, preference, and the desire to know. Mulligan offers an account of interest as an emotion and examines the relationship between interest and questions, investigating, for example, “the relations between questions, desires, and the will.” The chapter offers a wide-ranging exploration of several concepts arguably central to an understanding of curiosity. Lastly, Pascal Engel tackles the question of whether and when curiosity is an epistemic vice, in “Curiosity as an Epistemic Vice” (chapter 13). Engel approaches this question from the perspective of epistemic norms and argues that curiosity is a vice under certain, relatively commonplace conditions. Like Mulligan, Engel focuses on the relationship between curiosity and interest, as well as the nature of epistemic goals. Finally, Engel offers an analysis of the differences and similarities between curious people, bullshitters, and snobs. By exploring and connecting these issues, Engel’s paper defines a number of interesting positions at the intersection of virtue epistemology and virtue ethics, highlighting the significance of the epistemological dimension of curiosity for questions concerning its moral status.

Chapters in the fifth and final section explore the educational dimensions of curiosity. What roles does curiosity play in teaching and learning? How can curiosity be cultivated? Can we, and should we, educate for curiosity? This section includes contributions from myself and Kunimasa Sato. My own paper, “Educating for Curiosity” (chapter 14), explores the possibilities of educating for curiosity with a view to outlining the underlying necessary conditions for such as task. Curiosity is first characterized as an intellectual virtue, defined by the curious person’s motivation to acquire worthwhile epistemic goods such as truth, knowledge, understanding, and information. This characterization highlights three important aspects of curiosity relevant to the task of educating for curiosity as an intellectual virtue. I then turn to the question of why we should educate for curiosity, and present what I take to be two of the most compelling reasons to do so: namely, in order to nurture students’ intellectually virtuous character and enable students to successfully navigate increasingly complex informational environments. Sato’s complementary paper, “Fostering Curiosity with Caring Socratic Exemplars: Epistemic Care in Affective and Cognitive Environments” (chapter 15), examines the relationship between Socratic teaching methods and the fostering of curiosity in students. Sato argues that Socratic teaching can be problematic as a means of fostering curiosity, given implicit assumptions that appear to be inherent in the method. He elaborates by examining the notion of Socratic exemplars through the lens of the traditional Japanese idea of an exemplar and argues that understanding exemplars in this cross-cultural manner offers important

advantages with respect to the aim of fostering curiosity in learning. Sato's paper offers a valuable insight into the project of educating for curiosity, drawing on both Western and Eastern philosophical traditions. This rich, cross-cultural approach to the study of curiosity, and its application in education, provides a fitting conclusion to a diverse collection of original contributions dedicated to this most intriguing and ubiquitous feature of human experience.

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Part I

NATURE OF CURIOSITY

Chapter 1

Curiosity, Truth, and Knowledge

Ilhan Inan¹

When we say on a particular occasion that so-and-so is curious about such-and-such, we do not thereby wish to attribute to them a character trait, a drive, or an instinct, nor do we wish to assert that they have behaved in a certain way or are disposed to do so. Being curious, in this sense, is to be in a peculiar kind of mental state that all normal human beings enjoy, some more and some less, but regardless of their social and educational background no person is deprived of it. To be attracted to novelties, to seek new sensations, to exhibit exploratory behavior does not require one to be in that state of mind. Wandering is not wondering. To wonder at something, in the sense of being curious, is an intentional mental state in that it requires the mind to focus its attention on a specific item that it represents as being unknown. This form of representation, at least for normal adults who have mastered a language, can be expressed in language and has conceptual content. Putting aside the issue of whether there can be another form of representation that is not conceptual and does not require the mastering of any language, or whether there can be conceptual curiosity that is ineffable, curiosity that can be put into words may then be said to be intensional. Every case of curiosity that can be put into words can be expressed by an inostensible term whose referent is unknown to the curious being. The referential character of the inostensible term is what makes curiosity intentional, and the conceptual content of it is what makes curiosity intensional. I call this the intentional-intensional model of curiosity. Instances of curiosity that are expressible by wh-questions nicely fit into this model. Curiosity that is expressible by a question that has propositional content, on the other hand, is more problematic. Detecting its intensionality is easy, for the content is a proposition, but how to give an account of its intentionality is more difficult than it may first appear. In this chapter I take up this issue and argue that being curious is not always to seek truth or

knowledge; by distinguishing between what I call ostensible and inostensible knowledge, I argue that the acquisition of propositional knowledge does not always satisfy one's curiosity.

1. OBJECTUAL CURIOSITY

The intentional-intensional model provides a relatively simple analysis of what may be called "objectual" curiosity. These are cases in which one is curious about an entity that is represented under a certain concept, where that concept is never a full proposition. Such instances of curiosity are always expressible by a *wh*-question.² The fact that the content of curiosity in such cases cannot be given by a full proposition is revealed at the linguistic level; the inostensible term that purports to refer to the object of curiosity is not a declarative sentence, but rather a simpler singular term that is, in most cases, a definite description, though it could also be a simple general term, or even a proper name. If, for instance, you are curious about what the capital of Rwanda is, your curiosity is about the referent of a definite description, which is inostensible in your idiolect. The conceptual content of the description, *the capital of Rwanda*, is what allows you to form a representation of a city unknown to you, and the referent of the description is the object of your curiosity. That object in this case is a city, with all its streets and monuments; it is not a concept or any intensional entity as such. One may be curious about such entities as well, but this is not such a case. If you were to be curious what *thauma* meant in ancient Greek, then the object of your curiosity would be the meaning of a word; and if you were to be curious about the philosophical concept most frequently used by Aristotle, your curiosity would be about a concept. The content of curiosity in such cases would have second-order conceptual content. None of this is true for the capital-of-Rwanda case. There is no restriction on the kind of object one may be curious about as long as one is able to conceptualize the entity in question: If you are curious about who Plato's mother was, your curiosity is about a woman; if you are curious about the closest planet to Earth on which there is liquid water, your curiosity is about a planet; if you are curious about what the 98th prime is, your curiosity is about a number; if you are curious about the last common ancestor of humans and chimps, your curiosity is about a species; if you are curious about why dinosaurs became extinct, you are curious about a cause; if you are curious about why Marilyn Monroe committed suicide, you are curious about a reason; if you are curious about when you will die, you are curious about a time, etc. In each and every instance of curiosity, the curious mind is curious about some entity that is unknown to it under the way in which it is represented. I call this form of representation that arouses curiosity, and,

more importantly, makes curiosity possible, "inostensible." It is our aptitude for inostensible representation that allows us to be curious, express this in the form of a question, start an inquiry to find its object, and, in effect, to extend our knowledge.

Objectual curiosity that arises out of inostensible representation is common in scientific practice, and in many instances, it has led to novel discoveries. There is good historical evidence, for instance, that there was curiosity about Neptune long before it was discovered. Assuming that the planet that we today call "Neptune" was, in fact, the very same planet that was predicted by Le Verrier and others as being the planet perturbing Uranus, we may conclude that these curious minds were able to think about and refer to an unknown planet prior to its discovery. The chemical element helium was given a name before it was discovered, whose reference was fixed by a description, as the element causing a bright yellow light in the solar spectrum, which at the time referred to an unknown entity. The name *helium* at the time was an inostensible name given that its reference-fixing description was inostensible, which had the potential of arousing the curiosity of the interested scientists. More recently it appears that scientists were curious about an undiscovered elementary particle whose existence was predicated by the Standard Model, which was given a name almost half a century prior to its discovery: the Higgs boson. Again, assuming that there has indeed been a discovery and that the newly discovered elementary particle was, in fact, the particle predicted by Higgs and others, again we may then conclude that the curiosity here involved successful reference to the object of curiosity.

Though curiosity is an intentional mental state, there is, of course, no guarantee that the object to which it is directed, in fact, exists. When the relevant inostensible term fails to refer, then there simply is no object of curiosity. Such was the case concerning the name *Vulcan*, which was supposed to refer to the planet that was hypothesized to have been responsible for the so-called perturbations in the orbit of Mercury. There is no reason not to assume that Le Verrier was curious about what he thought to be an undiscovered planet just like he was curious about Neptune. But unlike the Neptune case, it turned out that the Vulcan hypothesis was, in fact, mistaken, and that there really was no such planet perturbing Mercury, at least not in the predicted way. Similarly, in order to account for the so-called actions-at-a-distance problem, Newton came up with the ether hypothesis that he and many of his successors made various attempts to verify, all of which failed. Now, it is reasonable to assume that people who took the ether hypothesis seriously were curious, and if they were curious about something, it was a substance that they called "ether." If it is now established that the hypothesis was mistaken and that there is no such thing as ether, then there is a sense in which these curious minds were curious about nothing. Curiosity in such cases is not about nonexistent entities.

It would be a mistake to conclude that Le Verrier was curious about a non-existent hypothetical planet; it would also be wrong to conclude that Newton was curious about a hypothetical nonexistent substance. It would be wrong to draw such conclusions, not because the Meinongian ontology they presuppose is mistaken. Even if one does countenance beings that do not exist and allow hypothetical planets or substances in their ontology, these would still not be the appropriate kind of entity that could count as the object of curiosity of Le Verrier or Newton. Le Verrier wished to know about an actual planet, not a hypothetical one, and Newton wished to discover a physical substance; their desire for knowledge was not directed toward an abstract entity that turned out not to have physical existence. Though curiosity is itself not a desire, it typically causes a desire for knowledge or understanding. So one way to find out what a person is curious about is to ask that person what they wish to know. Had we put this question to Le Verrier in the case of Vulcan, he surely would not have said that he wished to know more about an entity that might turn out to be a nonexistent planet; his curiosity and his desire for knowledge were directed toward what he took to be a real planet, and once he found out that there was no such planet, his curiosity was sated. Claiming that the object of curiosity in such a case is a hypothetical nonexistent planet is tantamount to saying that the name *Vulcan* refers to such an entity. Le Verrier would be the first to acknowledge that this is not the case. Curiosity then is an intentional mental state that is directed toward an entity, though it does not require the existence of that entity. Of course, if we are not skeptics, we would hold that in many "normal" cases, the object of curiosity does, in fact, exist.

To say that the intentional-intensional model nicely accommodates objectual curiosity does not imply that in each and every case we can easily detect its object. There are many cases of curiosity that are based on shaky or controversial ontological grounds, which makes it more difficult to determine what the inostensible term in question is, what it is supposed to refer to, and whether there is or can be such a referent. Our curiosity that involves counterfactual considerations is a paradigm case. People have been curious, for instance, about what would have happened in the Middle East had the United States not invaded Iraq. Here, in order to give an account of what the curious mind is representing, and to decide whether such an entity could exist, one would have to do some serious philosophy concerning counterfactuals. The curious mind, however, may be totally ignorant of such philosophical issues. Curiosity about the future is another problematic area. There is no guarantee that there is an actual object of curiosity when one is curious about, say, what the world population would be in some distant future, whether there will be a sea battle tomorrow, etc., which relates to the time-honored problem of the so-called future contingents. Normative curiosity is another interesting area: When one is curious about what one should do, one does seem to presuppose

that its underlying inostensible description, *the act I should perform*, does, in fact, refer to an unknown act-type. In certain contexts, reference may go through; in others it may not. All in all, the main point is that the intentionality of objectual curiosity does not always provide us with an unproblematic entity, nor does it entail the existence of its object.

Philosophical curiosity expressed by our typical what-questions is itself a topic that deserves special attention. What is it that we are curious about when we raise a question such as "What is beauty?" Is the object of curiosity a concept, a Platonic form, a property, a universal? Or is it something that can be referred to only by a description, such as the nature of beauty, the essence of beauty, or the necessary and sufficient conditions for something being beautiful? For every such interpretation, we would get a different inostensible term. If the object of curiosity is taken to be the concept of *beauty* itself, we would have to conclude that the concept is unknown to us. But if the concept was completely unknown, then we would not even be in a position to grasp the very question we are asking, given that this concept is a part of it. One may perhaps appeal to the Leibnizian idea that our grasp of a concept is never complete. We could then say that we have a partial grasp of the concept of *beauty*, which is sufficient enough for us to raise the what-question about it. Under such a view, our goal may be to gain better grasp of the concept through philosophical (as well as empirical) experience. Ones who are not fond of the idea of a partial grasp of concepts may deny this. They may still hold that though our grasp of the concept of *beauty* may be complete, it may still be an inostensible concept. If so, we should ask: What makes it inostensible? To answer this question, we would have to distinguish between the concept that a general term such as *beauty* expresses and what it designates. What does a general term like *beauty* designate? Given that there simply is no consensus on this issue, detecting the object of curiosity for such philosophical questions would require us to take a position on how and to what general terms as such refer. So when I claim that the intentional-intensional model accommodates objectual curiosity expressible by a wh-question, I do not mean to imply that in each and every such case, the object of curiosity can be detected easily. It may even turn out that such philosophical questions are based on inostensible terms that lack referents.

Let us now turn our attention to curiosity whose content involves a full proposition.

2. PROPOSITIONAL CURIOSITY

To my knowledge within the scarce philosophical literature on curiosity, the distinction between objectual and propositional curiosity has only recently

been explicitly formulated.³ One reason for this may have to do with the propositional-bias that appears to be very dominant nowadays. The fact that contemporary epistemology concentrates so much on propositional knowledge while sparing so little attention on objectual knowledge, or other such objectual epistemic verbs, is one good indicator that most philosophers tend to deplore the use of such objectual talk. This strong trend appears to have dominated not just epistemology, but other subdisciplines within contemporary philosophy as well. In order to understand the nature of curiosity, I believe, we have to overcome our propositional-bias. As I stressed, being curious about whether such-and-such is the case, is different from being curious about who someone is, or where something is, or what something is, or why or how something happened. Only in the former type of curiosity can we isolate a full proposition whose truth value is being sought. A simple indicator of this difference is revealed by the fact that the question that expresses the curiosity in the former case can be answered by a simple “yes” or “no,” whereas no matter what content we attribute to the latter case, the question posed can never be answered as such. This is because the former type of curiosity is propositional, whereas the latter is objectual. Now, one reason we may be tempted to think that curiosity must always have propositional content is because whenever we are curious, and no matter what form our curiosity takes, there will always be a proposition out there, such that, once we come to know that proposition, our curiosity will be satisfied. We may then wish to conclude that whenever we are curious, what we are after is truth. This is the position Jonathan Kvanvig takes: “the goal of inquiry and the nature of curiosity are to be identified with finding the truth and avoiding error” (145–46). Interestingly, Kvanvig is not only among the few philosophers who has had some interesting things to say on curiosity in current philosophical literature, but he also does not appear to have the propositional bias. Kvanvig distinguishes between objectual knowledge and propositional knowledge, and makes the same point concerning understanding. In fact, as I read him, he takes objectual understanding as the highest epistemic goal one can achieve. Interestingly, however, there is no sign in anything that he says indicating that he wishes to distinguish between objectual and propositional curiosity. In fact, the following passage seems to reveal that Kvanvig commits himself to the view that all curiosity must have propositional content:

inquiry or curiosity is teleological, directed at some goal. The aim of such inquiry, from within the intentional states of the cognizer, is not to find the claims that are true, for such a characterization requires possession of the concept of truth by the cognizer. From the perspective of the cognizer with respect to a particular proposition *p*, the goal in question is to ascertain whether *p* or not-*p*, not to ascertain whether or not *p* is true. Once we see the teleological nature

of inquiry and curiosity from the inside in this way, the most accurate way to describe it from the outside is in terms of some motivation for finding the truth, for the concept of truth allows us to generalize across all the particular instances of attempting to ascertain whether *p* or not-*p*, which is the accurate portrayal from the inside of the nature of inquiry and curiosity. It is in this way that the goal of inquiry and the nature of curiosity are to be identified with finding the truth and avoiding error. (Kvanvig 2003, 145–6)

As I have stressed, when the object of one’s curiosity is a person (expressed by a who-question), a location (expressed by a where-question), a cause or reason (expressed by a why-question), a process or method (expressed by a how-question), an instance or interval of time (expressed by a when-question), or any other kind of object (expressed by a what-question), there need not be any proposition that the subject wishes to know whether it is true or false, and if not, there may simply be no proposition the subject wishes “to ascertain” it or its negation. To see this, it is enough to consider a simple case in which one is curious about something when they are not in an epistemic position to put forth any hypothesis. If Holmes is curious about who the murderer is in a certain homicide case, there need not be any suspects for him to even formulate and entertain a hypothesis in the form of a proposition, and if not, then there will simply be no proposition about the murderer Holmes wishes to know whether it is true or false. This is one good indicator that the content of objectual curiosity is never captured by a proposition. Now, Kvanvig, in the above-quoted passage, is talking not about the content of curiosity, but rather its goal. Perhaps we may wish to say that even when the content of curiosity is not propositional, its goal is. First let me note that the idea that curiosity is teleological and is directed toward a goal is, I believe, debatable. I have argued that curiosity is itself not a desire and that there may be cases in which one is curious without having any desire to sate their curiosity.⁴ Putting this aside, let us grant Kvanvig that in the typical cases of curiosity, one does develop a desire to acquire knowledge, and that may be taken to involve a goal. The question, then, is: Can the goal of curiosity always be “finding the truth”? Now, I take it that truth is a propositional notion; so if the goal of curiosity is to find truth, that should mean that what is being sought has propositional content. As I have stressed, when Holmes is curious about who the murderer is, there may simply be no particular suspect for him to even formulate a proposition in order to seek its truth. Can we nonetheless still say that when he is curious about who the murderer is, Holmes’s goal is to “find” a true proposition, and come to know it, or come to justifiably believe it? If so, then we may perhaps conclude that even when curiosity does not have propositional content, its goal could still be “to find the truth,” as Kvanvig claims. Now, what could be this truth that Holmes is after? The

only obvious candidate appears to be a proposition that truthfully states of a certain individual that he or she is the murderer. Of course, this cannot be the trivial identity statement, *the murderer is the murderer*. If Holmes has sufficient evidence that there is a unique person who murdered Smith, then Holmes already knows that this identity statement is true (though, as I shall discuss in the next section, even that piece of knowledge, as trivial as it may sound, is inostensible for Holmes and therefore may arouse his curiosity). What we are looking for is a proposition that is unknown to Holmes. If, for instance, the actual murderer is Jones, then Holmes's goal would have to be to come to know that Jones is the murderer. Now, if Jones is not a suspect, and Holmes has no earlier connection to him, we should ask: Is Holmes even in a position to formulate this proposition? If not, we would have to conclude that Holmes's goal is to come to know a true proposition that he cannot yet grasp and even entertain in his mind. Now I am not suggesting that having such a goal is impossible or unreasonable; I am also not suggesting that such a goal is not present in certain cases of objectual curiosity. The emphasis here is, rather, that if one cannot even grasp the proposition in question, then it surely cannot be the content of one's curiosity. Second, even if there is a propositional goal in every instance of objectual curiosity, it cannot be the only one, and more importantly, it cannot be one's primary goal. When Holmes is curious about who the murderer is, his primary goal is to find the referent of the singular representation *the murderer*. It is the inostensibility of this notion that arouses his curiosity, which naturally leads him to develop a desire to convert it into an ostensible one. Coming to know a proposition may be one way of doing this. When Holmes finds out that Jones is the murderer, he may satisfy his curiosity and convert his inostensible term into an ostensible one, but that does not imply that the content of his curiosity could have been given by this proposition. Holmes may not have been curious about whether Jones is the murderer, and he may not have been in a position even to grasp this proposition. Note that had Holmes been curious about whether Jones was the murderer—say, if Jones had been a suspect—he would have satisfied his curiosity by finding out the truth. The acquisition of propositional knowledge in many cases may satisfy various instances of curiosity in one go, but that would not show that these instances of curiosity have the same content. We shall further see now that the acquisition of the relevant piece of propositional knowledge does not always satisfy one's objectual curiosity.

Curiosity whose content can be expressed by a full declarative sentence I shall call "propositional curiosity." When I am curious about who took my book, the content of my curiosity cannot be given by any sentence, but if I am curious about whether or not Sue took my book, then there is a full sentence, namely "Sue took my book," that would capture the content of my curiosity.

Let us call the kind of question that we employ to express our propositional curiosity a "propositional question." Given that curiosity is an intentional mental state, we should ask: What exactly is it that we are curious about in such cases? This is the question that does not seem to have a straightforward answer, unlike in the case of objectual curiosity that can be expressed by a wh-question.

If we were to follow Gottlob Frege on his thesis that a sentence refers to one of the two truth values,⁵ then it will turn out that the asking of a propositional question out of curiosity will be just like asking a which-question. Is there life on other planets? The sentence in the interrogative, namely "there is life on other planets," refers either to the True or the False, but given that we don't know which of the two it refers to, we wish to find out. The object of our curiosity is then one of the two truth values. This is like a case in which you point to two bright heavenly bodies in the night sky, knowing that one of them must be Venus, but without knowing which one it is, you ask: Which one is Venus? There are two possible referents, but only one of them is the actual referent of the term. Which-questions in general are a special subspecies of wh-questions, and the curiosity they express is normally objectual.⁶ In our simple example, for instance, the inostensible term that expresses the content of curiosity would be something like "the heavenly body among those two bright heavenly bodies that is Venus." The object of curiosity is then Venus, but what is unknown is not Venus itself, but rather Venus under a singular concept. Under the Fregean model, propositional curiosity expressed by a propositional question will be a very special type of case in which we know, believe, or merely presuppose that our sentence refers to one of the two Fregean objects, but we do not know which one it is. Now, ones who do countenance these two peculiar Fregean objects in their ontology would presumably assume that we are acquainted with them, as long as we have acquired the concepts of truth and falsity in some normal way. Just like in the Venus example, the object of curiosity would then be an object of acquaintance to some degree, and what is unknown would be the referent of our inostensible term, which is, this time, not a definite description but rather a full declarative sentence. This could then be a coherent Fregean model that accounts for the object of curiosity in such cases. Should we be satisfied by it? One serious defect with it is that we have no clue what these Fregean objects are supposed to be like. Is the True an abstract entity? Or is it something like the mereological sum of everything? Is the False the empty set or the null class? I doubt that one can find any satisfactory answer to these questions in the writings of Frege.⁷

An intuitive alternative to the Fregean model is the view that the object of propositional curiosity is one of two properties, namely the property of

being true and the property of *being false*. Being curious about, say, whether there is life on other planets, on this account, would be tantamount to being curious about which of these two properties belongs to the proposition that there is life on other planets. Let us call this the “property-based” account of propositional curiosity. In terms of its ontological presuppositions, this is a lot more promising than the Fregean account. A deflationist of some sort who holds that truth and falsity are not genuine properties may wish to deny even that. On their account, being curious about whether it is true or false that there is life on other planets, would be tantamount to being curious about whether there is life on other planets, period. They may insist that there is no need to bring in the extra baggage of the truth and falsity predicates. Call this the “deflationist-account.” Now, independent of their ontological basis, it seems to me that none of these three positions—the Fregean account, the property-based account, or the deflationist-account—can be fully satisfactory. That is because all three accounts make an unarticulated commitment to the view that propositional curiosity must always be expressible by a whether-question, and thus must always be about truth. This is what I wish to deny.⁸ To do this, we will need to distinguish between knowing that a proposition is true, on the one hand, and knowing what makes that proposition true, on the other. The most intuitive way in which to make this distinction is to countenance facts as truthmakers and to advocate a referential theory of truth within the spirit of the correspondence theory. One can, however, make the same distinction without having to presuppose the ontology of facts, and by appealing to an alternative theory of truth, so I do hope that even if the reader finds these two theoretical positions problematic, they may still appreciate the distinction I wish to make. In a nutshell, the referential theory of truth I have in mind is one that takes off from the Fregean idea that sentences are referring expressions. It, however, departs from Frege afterward by denying that sentences refer to truth values. Under this alternative theory, a simple sentence containing no reference-shifting operators that expresses a truth refers to a fact, which is its truthmaker. A sentence that expresses a falsity, on the other hand, purports to refer, but fails. Truth, then, can be reduced to a form of reference, and falsity to a form of failure of reference. The theory does not presuppose that facts are entities that are fully independent of language. It also does not entail that every truth corresponds to a fact; in particular, it does not countenance the so-called negative facts, disjunctive facts, conditional facts, existential facts. A sentence containing a logical operator that expresses a truth refers not to fact, but to what I call a content state. For brevity’s sake, I shall ignore all this and simply concentrate on curiosity and knowledge that involve simple truths, mostly in the simple subject-predicate form.⁹ Now let us look at several cases before we get into theory.

3. EXAMPLES OF PROPOSITIONAL CURIOSITY THAT ARE NOT ABOUT TRUTH

Case 1: Sue has an amateur interest in whether or not there is life on other planets. She has read about the space observatory launched by NASA, Kepler, and learned that its mission is to discover Earth-like planets orbiting other stars. One day on the NASA website she comes across the following piece of news:

NASA’s Kepler Space Telescope, astronomers have discovered the first Earth-size planet orbiting a star in the “habitable zone”—the range of distance from a star where liquid water might pool on the surface of an orbiting planet. The discovery of Kepler-186f confirms that planets the size of Earth exist in the habitable zone of stars other than our sun. (<http://www.nasa.gov>)

At this point, what can Sue be curious about concerning the proposition that Kepler-186f is a planet?

Sue has a good grasp of the naming system that NASA employs regarding planetlike objects in space; she also grasps the concept of *planet*. So she does have sufficient understanding of the proposition in question. Given that she trusts NASA experts in their announcements, she comes to believe that the proposition is true. Assuming that the NASA website is a reliable source of information, we may conclude that Sue is also justified in her belief. If it is, indeed, the case that Kepler-186f is a planet, then Sue knows this. Unless she forms skeptical doubts, she would not be curious about whether the proposition is true or false, given that she already knows it. If that is the only form of curiosity that she can develop with respect to this proposition, then we would have to conclude that there will be nothing else for her to be curious about. Given her philosophical bent, however, let us suppose that Sue reflects upon her epistemic connection to the referents of the parts of the sentence in question. She asks herself: *What do I know about Kepler-186f?* Not much. She infers that the name “Kepler-186” must be a star cataloged by NASA, and that the whole name refers to the fifth-discovered planetlike object orbiting it. Her epistemic connection to this entity is quite remote; her mental file of it contains very little information. She does not know where in the galaxy this planet is, what kind of sun it orbits, what the color of its sky is on a sunny day, whether it has oceans and volcanoes, what the chemical composition of its atmosphere is, if it has one, etc. The name “Kepler-186f” is closer to the inostensible end of the epistemic scale in Sue’s idiolect. Sue then reflects upon her epistemic status regarding the concept of *planet*. She remembers reading about how Pluto had been demoted from its planet status, how scientists had redefined the term *planet*, and how Pluto was declared a

dwarf planet, but not much else. All she recalls is that it is not sufficient for an object to regularly orbit a sun to be called a “planet.” She realizes that her understanding of what it is to be a planet is far from complete. Putting the two together, she comes to realize that the full proposition is itself a source of mystery, despite the fact that she grasps it and she knows that it is true, and she knows that she knows that it is true. The proposition is about a planet that is epistemically very remote to her, and though she is in a better position with respect to the predicate part of the proposition, namely the property of *being a planet*, she is aware of her ignorance concerning what its necessary and sufficient conditions are. Despite the fact that Sue knows the proposition, both the name and the predicate within the sentence that expresses it do have a potential to arouse her curiosity. If she has an interest, she could inquire into both of these entities: Kepler-186 as an object, and *being a planet* as a property. The full proposition is made true by a fact that consists of exactly those two entities. If she can be curious about those two parts, she can be curious about the whole. Though she knows that the proposition is true, she has little knowledge of the fact that makes the proposition true, and if she has an interest in the topic she may still be curious about that very fact. Of course, in such a situation, she cannot express her curiosity in the form of a whether-question, given that she already knows the answer to that.

Case 2: Sue and Adira, who live together, decide to buy an antique table for their living room. Adira finds a nice table and calls Sue from the store.

Adira: Hey, I am at the antique shop. I found a wonderful piece.

Sue: Are you sure it is an antique?

Adira: Yes, I am positive.

Sue has no clue what the table looks like, she hasn't seen it, and Adira hasn't told her much about it. All she knows is that it is a table that Adira has seen in a shop, which she is sure to be an antique. At this stage, what can Sue be curious about concerning the proposition that the table is an antique?

If Sue trusts Adira's judgment, then she already can be said to know that the table is really an antique. But even if she is convinced that it is so, she may also wonder what the table looks like, what kind of wood it is made of, what its size is, etc. She knows that the table's being an antique is a fact, though a constituent of that fact, namely the table, is an object of her curiosity. Regarding the proposition in question, contrast her epistemic situation with that of Adira. Sue knows the proposition, and so does Adira, but Adira knows something that Sue does not know, given that she has observed the table, but Sue hasn't. The table may not be an object of curiosity for Adira, but it may be for Sue. They both know that the fact of the table's being an

antique exists, though Adira has far better experience of that fact. We may imagine that Adira has analyzed the table in great detail, observed many of its fine subtle qualities, learned about its origins from the shop owner, etc. They are now on the opposite ends of the epistemic scale. The term *the table* is at the far side of the inostensible end in Sue's idiolect, whereas it is a lot closer to the ostensible end for Adira. Now, this epistemic difference between them concerning the term *the table* carries over to the whole sentence: *The table is an antique*. Though they both know that the sentence expresses a truth, Adira has experienced the fact that makes it true, but Sue hasn't. If she is curious about this fact, she should be able to express this in terms of a question. Obviously asking “is the table an antique?” will not do. Sue already knows the answer to this. Her curiosity has propositional content, but it cannot be expressed by a whether-question.

Case 3: Sue is having dinner with a friend whom she hasn't seen for a long time. At one point in the conversation, they have the following dialogue:

Sue: So, are you seeing anyone?

Friend: Yes, there is someone . . . She is great, and I just love her eyes.

Sue: What color are they?

Friend: My favorite color.

Sue takes his word for it. She now knows that the proposition that her friend's lover's eyes are his favorite color is true. Sue, however, neither knows who her friend's lover is, nor her friend's favorite color. What can Sue be curious about concerning this proposition?

Obviously, Sue can be curious about the two parts of the proposition—namely, who her friend's lover is, as well as what her friend's favorite color is—but can she be curious about the proposition itself? Now, the proposition in question says of a certain woman that she has a certain eye color. If unbeknownst to Sue, her friend's lover is Cyra and his favorite color is brown, the proposition in question is made true by the fact of Cyra's eyes being brown. Though Sue knows the proposition, she does not know that it is made true by this fact; therefore, she may be curious about it. She cannot express this by asking the whether-question, given that she already knows that the proposition is true. What she is ignorant of is what makes it true. This does not necessarily imply that she does not know this fact under a different guise. It may turn out that Cyra happens to be an old friend of Sue's, and she may have observed her eyes in the past. Sue may, in fact, know this fact, but not under the propositional guise in question. Just like one may know an object under one description but not under another, one may know a fact under one proposition, but not under another. Now, if she is curious about the fact that

makes the proposition true, how could she express this by asking a question? She might decide to divide it into two separate questions, and ask, "Who is your lover?" first, then, "What is your favorite color?" and from the answers she gets, she may try to infer the fact. That is a roundabout way. If Sue is curious about the fact, she should be able to ask this in one go.

Case 4: Suppose now that Sue's conversation with her friend develops in the following way:

Sue: So, who is the new lover?

Friend: In fact, you know her.

Sue: I know her?

Now the interrogative that Sue utters at the end may be taken as one expressing her astonishment; or it may be taken to be a request from her friend to reveal the identity of his new lover. Under such interpretations, Sue is not asking a question out of curiosity. We may, on the other hand, take Sue's utterance of this interrogative to be asking a genuine question to express her curiosity. We may even imagine that Sue asks this question to herself, as a private mental act, without uttering any words. The curiosity expressed here is not about whether she really does, indeed, know the lover; she takes her friend's word for this, and if so, she is not curious about whether she really knows her. If her friend were to misunderstand Sue and answer her by a simple "Yes," Sue would then not be satisfied. She may insist on a further answer by saying, "No, I believe that I know her, that is not what I am asking." The question that Sue is asking, then, is not a whether-question. Here is, then, a case in which Sue knows a certain proposition to be true, but nonetheless uses that very proposition to ask a question out of curiosity.

4. TRUTH-CURIOSITY VERSUS FACT-CURIOSITY

For every sentence in the simple subject/predicate form, we may distinguish three things relative to an epistemic agent who grasps that sentence: (i) the agent's knowledge of whether the sentence expresses a truth or a falsity, (ii) the agent's epistemic connection to the referent of the subject term, and (iii) the agent's epistemic connection to the referent of the predicate term. The view that a propositional-question asked out of curiosity can always be reduced to curiosity expressed by a simple whether-question only takes into account (i), and completely ignores (ii) and (iii). Knowing that a sentence expresses a truth does not require one to have high degree of acquaintance with the referents of the logical parts of a sentence. This could happen when

a part of the sentence is inostensible for the agent. In Case 1, the sentence that expresses Sue's curiosity, namely "Kepler-186f is a planet," contains a name that is closer to the inostensible end of the epistemic scale for Sue. The predicate term can be taken to be less inostensible than the name; still, it is one that has the potential to arouse her curiosity. Given this, the proposition expressed by the sentence can arouse her curiosity despite the fact that she knows that it is true. Similarly, in Case 2, given her little information about the table in question, the sentence "the table is an antique" is inostensible for Sue. We may also imagine Sue being curious about what it is for a piece of furniture to be an antique, which would make the proposition even more inostensible. In Case 3, we have a clear case in which both the subject term as well as the predicate term are inostensible for Sue, given that she neither knows who her friend's lover is, nor his favorite color. Again, Sue knows that the proposition in question is true, but she is still curious about it. In Case 4, Sue uses a whole sentence, which she knows to express a truth, not to make an assertion, but to ask a question. What motivates her to do this is that the sentence "I know her," as uttered by Sue in the appropriate context, contains a pronoun whose referent is unknown, making the sentence inostensible in her idiolect.

In all these cases, Sue's curiosity has propositional content, but it is not one that can be expressed by a whether-question. So, what is Sue curious about, then? Does she wish to acquire better justification of the proposition in question? That does not seem to be correct. Her curiosity is not directed toward the strengthening of her belief by gaining new evidence for its truth. We may assume that her belief is firm enough, even if it is based on fallible justification. Her concern is not about truth, and therefore it is not about justification—which is about truth.

The intentional-intensional model implies that the inostensible term that captures the content of one's curiosity is always a referring expression that purports to refer to the object of curiosity. In these cases, the inostensible term is a full sentence. This could be taken to provide some support for the Fregan thesis that declarative sentences are also referring expressions. Second, we would have to deny that a sentence refers to a Fregean truth value, for Sue in these cases already knows that the proposition expressed by the sentence is true. As said previously, the most obvious alternative would be to take sentences to purport to refer to portions of reality that we normally call "facts." Let us then assume that a declarative sentence that expresses a true proposition refers to a fact, namely the fact that makes the proposition true. Once this is acknowledged, then we can provide a reasonable explanation as to what Sue is curious about in these cases. We have seen that when a sentence contains a term that is inostensible in the idiolect of a speaker, then the whole sentence would also be inostensible, even if the agent knows that the sentence expresses a truth. The agent in such a situation would know that

the sentence in question does refer to a fact, but would have little or even no acquaintance with that fact.¹⁰ Even if the agent fulfills all the conditions for propositional knowledge, his ignorance is not fully eliminated. The agent knows that the proposition is true, but he does not know the fact that makes it true. This is what I have called "inostensible knowledge."¹¹ If the agent is able to reflect on his or her epistemic status with regard to the proposition in question, he or she may be curious about that very fact. This is a form of propositional curiosity, but it cannot be captured by a whether-question. What we need is a question that asks for a fact, not a truth value. Let us call it a "fact-question." That a whether-question is different from a fact-question reveals itself once we realize that an answer that may correctly answer one, may not answer the other. A whether-question admits of "yes" and "no" as answers, while a fact-question does not; a whether-question asks whether a proposition is true or false, while a fact-question asks for the fact that makes it true; one asks for a truth-value, while the other asks for a fact. A whether-question is a form of an existential question asking whether there exists a fact that makes the proposition true. In correspondence terms, it asks whether there is a fact to which the proposition corresponds, and in truthmaking terms, it asks whether there is a truthmaker that makes the proposition true. A fact-question, on the other hand, asks for the fact that makes a proposition true. When one asks such a question out of curiosity, the object of curiosity is not a truth value, but a fact. This suggests that there are two forms of propositional curiosity; in one case, one is curious about whether a proposition is true, while in the other case, one is curious about the fact that makes that proposition true. In all of the four cases we have considered, there is an agent who comes to know a given proposition, but is still curious about the fact that makes it true, given that a part of the sentence that expresses the proposition in question is inostensible for the agent.

Though Sue knows that Kepler-186f is a planet, she is curious about the fact of *Kepler-186f's being a planet*, given that her epistemic connection to the planet in question is too remote, allowing her to develop curiosity toward it. Sue knows that her friend's lover's eyes are his (her friend's) favorite color, but she does not know the fact that makes the proposition true: the fact of Cyra's eyes being brown. In the third case, Sue is curious about the fact of the table's being an antique, given that she is curious about the table, which is a part of that fact. In the last case, Sue directly utters a sentence as an interrogative to express her curiosity, not about its truth, but about the fact that makes it true. We should expect Sue to be able to express her curiosity in the form of a question in the previous examples, as well. In the table case, Sue may try to take a shortcut. Assuming that her curiosity of the fact of the table's being an antique is merely due to her ignorance with respect to the table, she could then simply take that part of the sentence and raise a question about it. This

cannot be a which-question. If she were to ask her friend "Which table are you talking about?" her friend would simply respond by reiterating, "It is the one I saw at that shop today." Though that certainly would be good enough as an answer, it would hardly satisfy Sue. It is not that she does not know which table her friend is talking about. It is quite odd that our language does not allow us to express our curiosity in such a case by simply asking, "What is the table?" This is odd, because when the object of curiosity is a person rather than a table, we do have a standard way of asking our question by using the question word "who." If, for instance, her friend had told her that she met a guy at the shop, and if that aroused Sue's curiosity, she might simply have asked, "Who is that guy you met at the shop?" But when the object in question is not a person but an inanimate object, like a table, simply asking, "What is the table you saw at the shop?" is not considered to be a standard way of expressing our curiosity. Sue would have to use a descriptive language. She could, for instance, ask, "What is the table like?" but it is not clear whether a verbal answer to this question given by her friend would satisfy her. It might very well be the case that she wishes to observe the table with her own eyes to satisfy her curiosity. Given that her interest in the table is conditional on its being an antique, Sue is not just curious about the table; she is curious about the fact of the table's being an antique. She should have been able to express this in the form of a sentential question: "The table is an antique?" Though this would not be considered to be appropriate in this case, we have seen that, at times, we do make use of sentential interrogatives to express our curiosity concerning a fact. This was the case when Sue asked, "I know her?" Sue does not know the fact that corresponds to the proposition expressed by her utterance, given that she does not know whom the woman referred to by the pronoun is. She already knows that the proposition in question is true, and her friend also knows that she knows it, so this cannot be a whether-question. Rather, what she wishes to express is her curiosity concerning a fact. If in time the distinction between a whether-question and a fact-question becomes popular enough, then perhaps this will become standard use. We could then express our propositional curiosity concerning a fact by the utterance of a full sentence, not as a declarative, but as an interrogative.

5. TWO KINDS OF PROPOSITIONAL KNOWLEDGE: OSTENSIBLE AND INOSTENSIBLE

Putting aside the deficiency of our languages concerning these matters, the distinction between these two question forms, and the corresponding distinction between two types of curiosity, motivates a distinction between two types of propositional knowledge. Obviously this will sound more important

to epistemologists, given that the study of curiosity is at best a marginal area within epistemology, but the concept of *knowledge* is right at the center, and has been for more than two millennia. The satisfaction of curiosity yields knowledge. (This is the case even though I deny the received view that curiosity is a desire for knowledge.) The satisfaction of propositional curiosity yields propositional knowledge. Now, if there are two types of propositional curiosity, then their respective satisfaction could yield two different types of propositional knowledge: ostensible versus inostensible. In all of the four cases that we have considered, Sue had propositional knowledge, but given that her epistemic connection to the facts in question was too remote, her knowledge was inostensible.

Inostensible knowledge is abundant, but ostensible knowledge is scarce. This usually gets unnoticed. If knowledge is valuable, then surely ostensible knowledge should be taken to be more valuable than inostensible knowledge. There are many things people claim to know, and if we are not skeptics, we should concede that mostly they are right. Even so, we forget the fact that in most cases when someone is said to know something that is of some significance, they have little experience of the subject matter of whatever it is that they know. Merely knowing that Kigali is the capital of Rwanda says close to nothing about what the knower's experience of this city is. You may know that Bach's Chaconne is in D-minor, without knowing much about what it is for a piece to be in D-minor. Someone who has spent her whole life in Kigali would certainly have a much better understanding of the fact of Kigali's being the capital of Rwanda than someone who knows nothing about Kigali except that it is the capital of Rwanda. A professional musician who has a lot more experience with the D-minor scale would have better knowledge of the fact of Bach's Chaconne being in D-minor. One may acquire the knowledge that the Higgs boson is what gives mass to certain particles, without knowing much or anything about what the Higgs field is, what the Higgs mechanism is, how they relate to the Standard Model, etc. This would put the piece of knowledge closer to the inostensible end of the scale.

What makes knowledge inostensible has nothing to do with the amount of evidence one has for the truth of the proposition in question. We cannot, therefore, appeal to a fallibilistic account of justification to mark the difference between ostensible and inostensible knowledge. One can have infallible justification for the truth of a proposition and come to know it with complete certainty, and yet the knowledge in question may still be inostensible. One may know, for instance, that the 98th prime number is not divisible by 3 with complete certainty, without knowing what the 98th prime number is, making it inostensible.¹²

Having sufficient semantic understanding of certain terms and concepts to grasp a certain proposition and then coming to know that it is true, does

not always put one in close contact with the piece of reality to which that proposition corresponds. Knowing that a proposition is true, even when one completely grasps that proposition, could be merely the knowledge that a fact exists. If one's epistemic connection to that fact is remote, if they do not have a comprehensive understanding of it, then this would only give them inostensible knowledge. The acquisition of ostensible knowledge requires more experience. It requires one to have a better understanding of that part of reality that makes the proposition true. This could be put in terms of reference. Assuming that a declarative sentence is a referential device that purports to refer to a fact, then it follows that knowing that the sentence expresses a truth is merely knowledge that it refers to a fact. To appreciate the distinction between ostensible and inostensible knowledge, all we need to acknowledge is that one may know that a term has a unique referent without knowing much about what that referent is. This is easier to see when the term in question is a definite description rather than a full sentence. You may know that the description "Plato's mother" refers to a certain individual without knowing much about her; you may know that there must be something to which "Russell's last words" refers, without knowing what those words were. Epistemically speaking, it should be obvious that it is better to have knowledge of the referent of a definite description, rather than merely knowing that the description has a referent. Something very similar is also the case for sentences expressing true propositions. It is better to have knowledge of the fact that makes a proposition true, than merely having the knowledge that the proposition is true, and in reference-talk, for every sentence that expresses a truth of some significance, it is better to have knowledge of the referent of that sentence, namely the fact that makes it true, than merely knowing that the sentence expresses a truth, i.e., that it refers to a fact.

Having inostensible knowledge of a proposition does not always imply that one's information concerning the fact in question is not substantial. There are cases in which one may come to know that a proposition is true, and also may have a relatively rich mental file of what the proposition is about, and yet still be curious about it. For instance, in the famous Unabomber case, if we roll back the time to 1995, just before the suspect was caught, the police had accumulated a lot of information about this man over a period of seventeen years. There were all the bombs he had sent, the peculiar methods and materials used in the manufacturing of these bombs, the way in which they were mailed, the institutions and persons to whom they were sent, and finally, a manifesto written by the Unabomber that was published in the *New York Times* and the *Washington Post*. From all of this information, the police were able to deduce a pretty good picture of the Unabomber's character traits, his intentions, his desire to change the world, his political stance, his reasoning capabilities, his writing style, etc.¹³ This accumulated information of the

Unabomber at the time may have been richer than the information one might have had of, say, Thales. All that we know about Thales might be that he was an ancient philosopher who supposedly held that all is water. Nonetheless, the name *Unabomber* was more likely to arouse curiosity than the name *Thales*. That is because, given the context, it was vital to come to know certain things about the Unabomber, such as what his standard name was, and his whereabouts. They needed to know this in order to catch him, so as to avoid further casualties. Given all this information about the Unabomber, most of which I would assume amounted to knowledge, the police and the interested public were still curious about who the Unabomber was. Another example might be Frank Jackson's famous Mary case (Jackson 1982). Mary spends all her life in a black and white room and learns a lot about the color blue. Yet when she is released for the first time from her room and sees the blue sky, she experiences something new. Prior to this, Mary may have been curious about the color blue despite all her knowledge. The term *blue* in her idiolect had to be then an inostensible term. If so, then it would not have been wrong for Mary to claim, "I know many truths about the color blue, but I still do not know it." Here is then one special case in which accumulation of propositional knowledge about an entity, though it is extremely rich, does not provide one with objectual knowledge of that entity. If so, then Mary's propositional knowledge about blue, before she experiences blue, was closer to the inostensible end of the scale. She knows that the sky on Earth on a clear sunny day is blue, but her grasp of that proposition makes it inostensible for her, given that a part of the proposition contains an inostensible concept. Again, we may then distinguish between the whether-question that asks whether the sky is blue, from the fact-question that asks for the fact of the sky's being blue. Learning that the sky is blue does not, by itself, put Mary in *de re* epistemic contact with that fact. Just like she may have been curious about blue itself, she may also have been curious about the sky's being blue. When she observes the sky, she not only experiences blue for the first time, but she also experiences *the sky's being blue*, and those are not the same experiences, though the former is a necessary condition for the latter. And given that these are different experiences, the curiosity that corresponds to them should also be different; the object of curiosity is the color blue in the first case, but it is the fact of *the sky's being blue* in the second.¹⁴

Propositional curiosity, I have claimed, can be of two different varieties. One is about whether the proposition is true; the other is about the fact that makes the proposition true. The former can be expressed by a whether-question, whereas the latter can be expressed by a fact-question. The satisfaction of these two forms of curiosity both yield knowledge, but in different ways. When you learn that a proposition is true, this may satisfy your curiosity, but

the knowledge in question would be inostensible knowledge if you are still to some degree ignorant of the fact that makes it true. When you acquire knowledge of that fact, then you would know the very same proposition ostensibly. This is obviously not an all-or-nothing affair. That is, the distinction between ostensible and inostensible knowledge is one that allows for degrees making propositional knowledge gradable, an idea that has not been welcomed by philosophers in general.¹⁵ For every case in which an agent knows a proposition, we may talk about the degree of the agent's epistemic connection to the fact that makes the proposition true. Just like one's knowledge of an object may come in degrees, their knowledge of a fact concerning an object's having a certain property, or an object's having a certain relation to another object, may also come in degrees.¹⁶ At one end of the scale, we may have complete ostensibility, which would be the case when an agent has infallible justification for the truth of the proposition and is therefore certain that the fact in question exists, and also has complete acquaintance with all of its constituents. This is something we rarely achieve, first because our justification for the truth of a proposition seldom gives us the right to be certain about it, and second, it is almost never the case that we have full acquaintance with the constituents of the fact that makes a proposition true, even when we know with complete certainty that the proposition is true. The closer we are to the inostensible end of the scale, the more room there will be for curiosity. This is what makes it possible for one to be curious about the fact that makes a proposition true, even when they know that the proposition is true.¹⁷ This goes to show that the acquisition of propositional truth or knowledge, even when it is accompanied with complete certainty, cannot be the ultimate goal of inquiry.

NOTES

1. I presented some of the ideas in this paper at Bogazici University in 2014 on *Curiosity: Epistemics, Semantics and Ethics*; at Western Washington University on *Philosophical Perspectives on Curiosity* in 2015; the University of Maribor on *The Philosophy of Curiosity* in 2015; and at the EIDYN Research Center, the University of Edinburgh in 2017. I would like to thank the audiences for valuable discussion. I have had the support of many colleagues and students, especially Nenad Mišćević, Lucas Thorpe, Stephen Voss, Duncan Pritchard, Orestis Palermos, Gürol Irzik, Abrol Fairweather, Murat Baç, Dennis Whitcomb, Aran Arslan, Safiye Yiğit, Irem Günhan, Bill Wringe, Erdiç Sayan, Erhan Demircioğlu, Hilmi Demir, Kevin Mulligan, Pascal Engel, Mark Alfano, Kent Dunnington, Carlos Montemayor, Michael Brady, Elias Baumgarten, Mirela Fus (and apologies to ones whose names I have left out). This work has been funded by the Scientific Research Fund of Boğaziçi University; Title: The Epistemic, Semantic, and Ethical Dimensions of Curiosity; Code Number: BAP 12B02P3.

2. I hold that being curious is a way of asking a question, not as a speech act to request information, but rather as a private mental act. See Inan (2009) and especially Inan (2012) for a more elaborate discussion of this. It thus follows that the content of conceptual curiosity can always be captured by a question. Whitcomb (2010) has also argued for a similar view.

3. See Inan (2009) and Inan (2012) for a discussion of this distinction. See also Mišćević (2016) and his chapter in this volume. Kvanvig, whose views on curiosity I shall discuss later, distinguishes between propositional and objectual knowledge as well as understanding, but does not distinguish between objectual and propositional curiosity.

4. See Inan (2012), especially 129.

5. See Frege (1970). Though I am critical here of Frege's obscure ontology of truth values, I should note that I find his idea that declarative sentences are referring expressions to be a groundbreaking contribution he has made to the philosophical literature.

6. For a more detailed discussion of curiosity expressed by which-questions, see Inan (2012), Chapter 3, "Asking and Answering."

7. In a recent paper, Heck and May (forthcoming) have the following to say on this issue: "Why are Frege's arguments for the Truth-Value Thesis so pathetic? The answer is simple: He doesn't really have a direct argument for it. His argument is ultimately pragmatic. . . . The Truth-Value Thesis solves a lot of problems, and it solves them, Frege thinks, better than anything else on offer. That is his real argument."

8. Aristotle was perhaps the first one to distinguish between what-questions and whether-questions. In contemporary philosophy, various authors have suggested finer distinctions, but to my knowledge all of them have agreed with Aristotle on there being a single genuine category of a whether-question, though they have given it different names. The general trend is to hold that all questions that have propositional content must be whether-questions.

9. I provide a detailed defense of this theory in my *Truth as Reference, Falsity as Failure* (unpublished manuscript under consideration).

10. The notion of *acquaintance with a fact* has not been a popular one in philosophy. Russell (1912) uses it to argue that it cannot be exemplified, given his high standards for acquaintance. In complete contrast, Hetherington (2001) uses the notion to argue that one may be acquainted with a fact without knowing much about it. My use of the notion of *acquaintance* in the text is not as strong as Russell's (given that it is gradable), but it is not as loose as Hetherington's (given that I take acquaintance as a form of knowledge). I am, however, in agreement with Hetherington that *propositional knowledge* is a gradable notion.

11. The idea that propositional knowledge may be inostensible first occurred to me as I was dealing with how Russell's notion of *knowledge by description* relates to my notion of inostensible reference. His two classical texts, Russell (1905) and Russell (1912), contain various examples of how it is possible to gain knowledge of truths by using inostensible terms, though there is no textual evidence that Russell distinguished between ostensible and inostensible reference. For a discussion see Inan (2012), Chapter 2, "Knowledge by Acquaintance and Knowledge by Description."

12. I borrow this example from Donnellan (1979), though he makes use of it to distinguish between *de re* and *de dicto* knowledge, so as to argue against Kripke (1980) on the possibility of the contingent *a priori*. I have argued in Inan (2012) that the ostensible/inostensible distinction cannot be reduced to or analyzed in terms of the *de re/de dicto* distinction.

13. In 2009, I gave a lecture on curiosity and inostensible reference to the Logos group in Barcelona, in which I talked about the Unabomber case. I would like to thank Genoveva Marti, who raised this objection to my account of an inostensible name by pointing out that the police had a very rich file about the Unabomber before he was caught.

14. It may be said, as an objection, that what is inostensible for Mary prior to her experience of blue is not the concept *blue*, but rather the concept *what it is like to experience blue*. Though this concept is one that has the potential of arousing her curiosity as well, it seems to me that it is different. In general, for any concept F, being curious about F is not the same thing as being curious about what it is to *experience* F. It seems clear to me that being curious about, say, why dinosaurs became extinct, is not the same as being curious about what it is to experience that cause. One would have to have an argument to show that this does not apply to concepts such as *blue*.

15. Among the very few epistemologists who have argued that propositional knowledge is gradable are Hetherington (2001), Hetherington (2005), and Aikin (2014). Though there are various points of agreement between their views and mine, neither author bases their argument on the idea of inostensible reference.

16. For every term in our idiolect, including full sentences, we may talk about its "degree of ostensibility." See Inan (2014) for a more elaborate discussion of this notion.

17. When one knows that a proposition is true, but is curious about the fact that makes it true, one does achieve an "epistemic contact with reality" in Zagzebski's (1996) terms. It appears that that knowing is not the only way in which we have such a contact, as she claims; being curious, whether it is propositional or objectual, when it is *de re*, is also a way of having a contact with reality. For the distinction between *de re* and *de dicto* curiosity, see Inan (2012), Chapter 5, "De Re/De Dicto."

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Chapter 2

Curiosity, Its Objects and Varieties

Nenad Miščević

1. THE PHILOSOPHY OF CURIOSITY

The desire to know, or curiosity or inquisitiveness, has been, for more than two millennia, discussed in philosophical literature, under these various, not completely synonymous, names.¹

Sometimes "curiosity" is used in a negative sense, of meddlesomeness; this is not the sense that is used by Inan, nor the one to be used here. A closer approximation would be the interest in how things are, theoretically and practically. But the central place will be occupied by the idea of the desire for knowledge and understanding; this will be the main curiosity concept to be used here, as it is also quite important for Inan. Curiously, the publication of a philosophical book devoted specifically to curiosity has been in waiting all this time; and Ilhan Inan, whose work we are discussing, celebrating, and criticizing here, produced the first philosophical book ever written on curiosity! *The Philosophy of Curiosity* (2012) is indeed a brilliant and original contribution to the discussion. One of the features that attracted me to Inan's account is his stressing the centrality of curiosity in people's coming to know what they do. On the first page of his book, he tells us: "Hume called it 'that love of truth that was the source of all our inquiries'" (2012, 1). I would take the word *source* in a strong sense. Curiosity motivates us. My own sketchy account of curiosity that I proposed some years ago (Miščević 2007), and developed a bit further in 2016, claims that curiosity is a motivating virtue, indeed *the* motivating epistemic virtue. I called it *the* motivating virtue account, and I will say a few words about it in Section 3 of this chapter. My motivating question in reading the book was what someone who believes in the centrality of curiosity for normative epistemology can learn from Inan's explanatory work. And, indeed, there is a lot to learn.