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SCRIPTABLE

A Bispectral Review of Recent Books



Robert Tenor, editor
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EDITORIAL

[Scriptable](#) is an irregular review of what was once called the belles-lettres, where we essay upon a wide assortment of current books and articles with an eye open for “the beautiful jumble of discordant congruencies” derived from the authors and titles under discussion. We cast a wide academic net through the social sciences and humanities, with a strong orientation toward current events, social theory, religious and cultural studies.

With this number we move away from simple reportage of current scholarship to something more ambitious. The body of each issue includes editorial essays examining themes inspired by the works under consideration. The sum of our reviews are carefully pruned excerpts from the books themselves so as to preview the style and technicality of the text itself.

Our purpose is to inform and entertain. Through the review essays we hope to visit new and timeworn places through unsettled ideas in currency newly minted. Perhaps to see the outlandish as intimate and to show up the familiar as stranger than before thought. Each issue should surprise.



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HELLENISTIC ASTRONOMY: THE SCIENCE IN ITS CONTEXTS edited by Alan C. Bowen and Francesca Rochberg [Brill's Companions to Classical Studies, Brill, 9789004243361]

In **HELLENISTIC ASTRONOMY: THE SCIENCE IN ITS CONTEXTS**, new essays by renowned scholars address questions about what the ancient science of the heavens was in the ancient Near East and Mediterranean worlds, and the numerous contexts in which it was pursued. Together, these essays will enable readers not only to understand the technical accomplishments of this ancient science but also to appreciate their historical significance by locating the questions, challenges, and issues inspiring them in their political, medical, philosophical, literary, and religious contexts.

Reviews

"This is an absolutely wonderful book, well-written and a pleasure to read. It is generally based on the most recent research and very informative without being inaccessible to the layman. That the field of ancient astronomy is under rapid development is evident from the bibliography alone. [...] It is generously supplied with interesting and relevant illustrations and its structure and composition take the reader by the hand so that it can be read easily from cover to cover. The individual chapters can also be read on their own, and the "Historical Glossary" and indices make it an excellent handbook as well. It provides a status question in a way which is at the same time accessible to the interested layman and contains a brilliant survey and much new to be learnt for the specialist in any parts of the vast topic covered as well." Ulla Koch, BMCR 2021.04.23

Winner of the 2020 Choice Outstanding Academic Title Award

Subjects: Ancient Science & Medicine Naturwissenschaften und Medizin der Antike, Classical Studies Klassische Altertumswissenschaften, Philosophy, Science & Medicine Philosophie, Wissenschaft & Medizin, Ancient Near East and Egypt Alter Orient und Ägypten, History of Science

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Wissenschaftsgeschichte, History Geschichte, Gnosticism & Manichaeism Gnosis & Manichäismus,
Biblical Studies Bibelauslegung

Readership

This volume will appeal to all interested in the history of ancient astronomy as found in Mediterranean and Near Eastern sources, its technical requirements, its fundamental questions, and its diverse contexts.

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Excerpt: The Hellenistic science of astronomy was one aspect of a distinctive intellectual culture arising in the Near East and Western Mediterranean—indeed, in all three of the Antigonid, Seleucid, and Ptolemaic Empires in the geographical area briefly unified by the conquests of Alexander the Great—during a period roughly extending from the late fourth century bce to the rise of Arabic astronomy. As a result of cultural contacts, some of longstanding and even more ancient roots, the development of astronomy in this period came to bear the impress particularly of Babylonian knowledge and practices. The significance of Babylonian influence is a key feature of the development of astronomy in the Hellenistic Period; whereas, at the same time, the development of Babylonian astronomy itself reached its apex in Babylonia under Seleucid rule. The characteristic features of

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Hellenistic astronomy as manifested in the various parts of the Near Eastern and Mediterranean worlds during this period and the contexts within which it functioned and was further developed are the remit of this volume.

Of all the sciences created in Antiquity, astronomy is second in importance only to medicine in its impact on human lives. And, for this reason, like medicine, it achieved remarkable sophistication. The development of astronomy in Greco-Roman culture from a qualitative science in the late fourth century BCE to a fully quantitative and predictive science in the second century CE that was the paradigm of human knowledge and a rival to philosophy is truly astounding. So there is no denying the historical importance of astronomy as a basis for insight into the Greek and Roman worlds of that time. But ancient astronomy also developed in other geo-cultural domains and their understandings of the heavens are also important and merit close attention because they influenced, and were influenced by, the Greco-Roman science. In effect, each of these cultures played a role in defining ancient astronomy as a set of historically interacting bodies of knowledge that lasted in various forms to the beginnings of Arabic astronomy in the latter half of the eighth century CE.

One of the fascinations of astronomy in the period from roughly 300 BCE to 750 CE, which we call Hellenistic, is surely that its geographical range was vast, spanning regions that were, prior to Alexander's unification, culturally distinct. Even before Alexander the Great briefly formed a single inhabited world (*oikoumene*), the layers of culture and language, especially in the eastern part of that conquered area, were many and already integrated with one another in various ways. Thus, for example, in Mesopotamia, the region of the Seleucid Empire, the ancient Sumerian and Akkadian traditions of the third millennium fused into a Babylonian tradition that was followed by an Assyro-Babylonian form in the first millennium that was replaced yet again by a Late Babylonian form (after ca 500 BCE), within which mathematical astronomy first made its appearance.

The Persian Empire had its own impact on the cultures of its political domain, accounting for the rise of Aramaic as a learned language in many parts of the Near East in the sixth to fourth centuries BCE. The Hellenistic Near East, however, ushered in an unprecedented culture of intellectual transmission and circulation of knowledge. The component of Hellenistic astronomy that we see in Judea [chs 13.1–2] is an important instance of the influence of the Babylonian astronomical tradition within the new Hellenistic world and its adaptation for local interests in the Eastern Mediterranean.

Pre-Hellenistic Egyptian knowledge of the heavens was also absorbed within new forms of Hellenistic Egyptian astronomy [chs 4.8 and 11.1]. The capital city of the Ptolemies, Alexandria, became a center for scientific activity and served under the Ptolemaic dynasts to foster intellectual culture and, with it, the combined astral sciences of astronomy and astrology. Some of the most significant Greek treatises, such as the *Almagest* and *Tetrabiblos* by Claudius Ptolemy, came from Alexandria during the second century of our era.

Needless to say, therefore, any historical analysis that does not account for the impact of the cultures of the eastern regions of the *oikoumene* will be inadequate for understanding the Hellenistic sciences, particularly astronomy and astrology, since the East is where these sciences originated. In much the same way, the Hellenistic traditions of medicine and magic and, indeed, the combinations of these with astronomy to produce new ideas and practices (such as astral medicine [ch. 9.3] or astral magic) were equally products of the circulation of knowledge and the remarkable intellectual transmission of ideas from the East that characterizes the Hellenistic world.

Just as the geographical domain for the study of astronomy in the Hellenistic Period is extensive, so too is the range of the sources to be considered. The textual evidence for Hellenistic astronomy stems from tablets and papyri (or artifacts and inscriptions) from Seleucid Babylonia, Ptolemaic

Egypt, and Macedonian Greece, as well as from the Roman Near East, where it may be found, for example, in the astronomical texts of the Qumran community in the first century BCE [chs 13.1–2]. In tracing the continuation of Hellenistic astronomy in even later periods, it is clear that the Late Antique heirs in both East and West carried on certain elements of Hellenistic astronomical culture. These late manifestations of the tradition, such as in Christianity [ch. 13.3], Stoic and Neoplatonic philosophy [chs 14.1–2], and Hermeticism [ch. 13.5], have a place in the history of Hellenistic astronomy, and consequently a place in the present volume.

In order to accommodate the different languages, cultures, religions, and intellectual traditions that supported astronomy and astrology, we have adopted what is perhaps an ultra-long Hellenistic Period for our chronological framework (*ca* 300 BCE to 750 CE). Our chronological limits are determined not by singular political turning points but rather by developments within the science considered as a transcultural phenomenon of shared knowledge. We have not found the standard date-limits given for the ‘Hellenistic Period’ (323–31 BCE), the ‘Greco-Roman Period’ (332–395 CE), the ‘Byzantine Period’ (330–1453 CE), or ‘Late Antiquity’ (third to eighth centuries CE in the West and third to mid-eighth CE in the East) to be appropriate or useful in delimiting chronologically the long period within which astronomy appeared and then persisted until the major shift that occurred in the development of the science as it entered the Islamic world of the eighth century. Such transculturally shared and interactively created systems of knowledge demonstrate yet again greater staying power than kingdoms and empires. Astrology, after all, was one of the longest lasting sciences of all from Antiquity.

Apart from delimiting the geographical and chronological framework for studying Hellenistic astronomy, what is called for is a history that is ever mindful of the fact that its great success was due to the development of an impressive mathematical apparatus, yet aware as well that this very success entailed addressing needs and requirements deriving from the diverse contexts in which this science was pursued. Our goal, then, is to provide critical analyses that lay out the great success that astronomy enjoyed by addressing the complex interplay between these needs or requirements and the mathematical apparatus developed to meet them.

But there is a caveat. The present volume is only a first step toward the larger project of understanding astronomy as a scientific and social phenomenon of the Hellenistic world. Given that the ambit of Hellenistic astronomy as we conceive it is extremely wide, it should not come as a surprise that this volume is incomplete in both its temporal and geo-cultural coverage. Practical constraints have necessitated that our focus be on the Mediterranean and Near East and mainly in the interval from 300 BCE to 300 CE. And so much remains to be said and much more to be done. But completeness can only be a goal in a project that proposes to set Hellenistic astronomy in its diverse cultural contexts in order to understand both why and how its ideas and practices developed.

We are mindful, of course, that the very features that made Hellenistic astronomy such a success in its time, its technical apparatus, can prove an impediment to readers today, even to the few who have some knowledge of the heavens. And so, astronomy, that magnificent science which afforded its results, insights, and authority to so many aspects of Hellenistic culture [e.g., ch. 10.2] is often not given its due in studies of the cultures to which it was once such an integral part. Thus, this volume strives to overcome our modern preference for compartmentalizing knowledge, particularly scientific knowledge, in order to understand the more complex processes by which Hellenistic astronomy came to be the paradigmatic science that it was, and came to represent, as against a number of alternative cosmological pictures, a basic geocentric, spherical construction of the universe that lasted until the Early Modern Period.

Accordingly, we have divided the volume into three parts:

- a. Technical Requirements;
- b. Observations, Instruments, and Issues; and
- c. Contexts

A Technical Requirements

The opening Part of our volume presents Hellenistic astronomy as a mathematical science with an ever evolving vocabulary and budget of techniques and results. Our aim here is to provide readers with enough of the theory to facilitate their understanding of Hellenistic documents bearing on astronomy and to supplement this with a scholarly apparatus that directs them to further reading. This means that Part A is not the complete and comprehensive handbook to Hellenistic astronomy that is ultimately needed: the list of topics covered is not complete and there is often more to say in covering them. There is, for example, no full-blown study of the great changes in theorizing that the work of Claudius Ptolemy embodies. The reasons for this are practical. Ptolemy's writings are technically demanding. Furthermore, the great challenge, once one has mastered the technical aspect of his work, is to locate it in the context of his own times, a daunting task that still lies ahead.

For those interested in Hellenistic Greco-Roman astronomy and who wish to learn more about what was known at the time, we recommend Geminus' *Introductio astronomiae* [Evans and Berggren 2006] or Cleomedes, *Caelestia* [Bowen and Todd 2004] and then Ptolemy's *Syntaxis* or, as it was later known, *Almagest* [Toomer 1998]. Macrobius' *In somnium Scipionis* and Martianus Capella's *De nuptiis* c. 8 [Stahl, Johnson, and Burge 1977] will also reward attention. For Babylonian astronomy, one may consult the texts collected in Neugebauer 1955, Hunger 2001–2012, and Rochberg 1998, and turn to Hunger and Pingree 1999 for an overview. For Egyptian astronomy, there are Neugebauer and Parker 1960–1969, Ross 2006a, and Clagett 1989–1999, vol. 2.

B Observations, Instruments, and Issues

In Part B, we turn to astronomy understood as a system or complex of knowledge and practice. The first task here is to characterize Hellenistic astronomy by considering the ways in which theory was grounded in observation and the various instruments developed as tools of astronomical practice. The second is to provide a critic's overview of the problems defining astronomy during the Hellenistic Period. Accordingly, we offer chapters on the role of observation [chs 5.1–2] and on instruments and their use [chs 6.1–4] that are followed by chapters dealing with the basic problems and subjects of astronomy in Egyptian, Babylonian, and Greco-Latin sources [chs 7.1–3].

C Contexts

To counteract any tendency to reduce the history of Hellenistic astronomy to its technical results, be they parameters, techniques for observation and calculation, or hypotheses, Part C is devoted to an exploration of the uses of astronomy in a variety of contexts, from practical to theological. By this means, we aim to contextualize the science itself, that is, to understand astronomy in its various intellectual and social contexts, and to do this from the diverse standpoints of those who drew on astronomy in their own enterprises. In this Part, the focus is on the numerous ways in which Hellenistic astronomy affected, and was affected by, the culturally diverse communities in which it was practiced. Accordingly, we offer chapters on the professional astronomer/astrologer [ch. 8], astronomy in public service [chs 9.1–10.2], astronomy as priestly knowledge [chs 11.1–2], and the use of astronomy in medicine, in divination and natal astrology [chs 12.1–4], as well as in theological and philosophical contexts [chs 13.1–5, 14.1–2].

Astronomy and Astrology

Our culturally oriented approach to ancient astronomy necessarily gives due weight to the centrally important aspect of astrology, whether in the form of celestial divination or astral omens, nativities, or horoscopes. This too was an integral part of the science of astronomy, which, accordingly, had predictive as well as prognosticatory dimensions. We have not found it necessary to discuss the modern philosophical issue of the demarcation between science and non-science since it in no way applies to ancient astronomy and astrology. This is not to say, however, that practitioners did not make their own demarcations and separated those varying dimensions of the science of the stars, only that their demarcations are not the same as the ones made today. On examining the evidence, we have found the inclusion of the astrological aspect of many of the sources produced throughout the regions of the period to be a necessary component of any study of the science of Hellenistic astronomy in its contexts.

Conclusion

In accordance with the foregoing description of this volume, we reiterate in conclusion that the primary aim has been the contextualization of the ancient science of Hellenistic astronomy in as wide a framework as we could defend. Therefore, together with the description and analysis of Hellenistic astronomy as an exact, or mathematical, science, we wish to emphasize as well its cultural reach and, in particular, the central role played by astrology in the astronomy of the Hellenistic cultures of the Near East (Egypt and Mesopotamia) and of the Eastern and Western Mediterranean regions.

Introduction

If it is prudent at any time to reflect on the assumptions underlying a question, it is surely prudent at the outset of this volume to set forth our presuppositions in asking the question What is Hellenistic astronomy? The aim of such preliminary reflection is not, of course, to answer the question but to clarify the terms on which we expect it to be answered. So, let us start with a definition and an observation.

The definition is a lexical stipulation: in what follows, the term “astronomy” will cover knowledge of the heavens no matter whether it is used for describing the heavens, for predicting celestial and meteorological phenomena or, astrologically, for understanding and prognosticating human lives and events in them. In making this stipulation, we step aside from modern concerns about science and pseudo-science. Our justification is that, while the ancients did indeed ponder how astronomy differed from astrology, they regarded both as real sciences and even as aspects of the same science in spite of their different epistemic reach.

The observation is that no idea is born or lives in the abstract, that ideas are conceived in specific contexts by people living in given places at given times in determinate communities in diverse cultures, and that they are preserved in media that are ultimately material using the languages and scripts of those communities and cultures. For us, this observation gains particular interest when the ideas concern the world about us and the question becomes Under what circumstances do groups unified by some project or shared understanding change their ideas when confronted with new ones arising either from within the group as consequences of what was held before or from without?

To bring this last question to the history of astronomy, we elaborate the observation as follows:

- I. Science as a body of knowledge and practices is entirely embedded within the historical and cultural framework of those who know and practice it. It is in no way separable from such

frameworks. Thus, while we continue to learn from the work of Otto Neugebauer and his students—without it, we would not have our current understanding of Ptolemy's debt to the Babylonians or of the ways in which he either transformed and made it Greek or was prominent in this process—we will not limit our study of ancient astronomy in any culture to considering its mathematical methods and parameters, an approach exemplified in Neugebauer's monumental *A History of Ancient Mathematical Astronomy* [1975].

2. Understanding a culture's science and appropriating or interpreting it in one's own framework is made possible to the extent that science is about, or concerns, a shared world and that the cultures involved and individuals within them share some commonalities.
3. Change in science does not arise only in response to the solution of technical problems within the science; it may also be brought about proximately by ideas that come from outside the boundaries of the science as conceived and practiced at the time.
4. Since any such change in ideas is, however, mediated by the individuals and groups that have them, the acceptance of new ideas may ultimately depend on interests and concerns that are far from scientific themselves.
5. Accordingly, such acceptance can bring about radical change not only in the scientific ideas that a community or culture has, it may also bring about new scientific practices and even professions as well as broad challenges to previous norms of belief and behavior.
6. Finally, when communities and cultures interact and share knowledge in part, it makes sense not only to speak of the science of one group in distinction from that of another but also to view the science embedded in both together as a single transcultural phenomenon, that is, as a locus where questions of what is and is not admitted in each gain real meaning.

It is true, we admit, that adopting premises of this sort is self-fulfilling: to look at the history of a particular science under these terms is pretty much to guarantee that they will be found to be the case. Yet, this is not a fault but a feature of most inquiries: in intellectual history especially, the findings tend to confirm the terms under which they were found. Indeed, the real test for such an inquiry once completed is whether it encompasses all and only what should be encompassed. With this in mind, then, let us spell out what we take to be the guiding principles of the kind of answer that we expect in asking the question What is Hellenistic astronomy?

Since Hellenistic astronomy has been an object of modern scholarship for close to 300 years, we begin with the adjective "Hellenistic" because its use in classical scholarship bears the weight of established tradition.

Why "Hellenistic"?

There are many ways in which historians divide their subject into periods. It is important to keep in mind that, when such periodization is done properly, it is with an eye to the subject itself and its internal structure. Like Plato's butcher [cf. *Phaedrus*265e1–3], one must carve the animal at its joints. To introduce periods that belong to another subject or class of questions is a misstep that will separate what ought to be grasped at once and keep together what should be separated. Thus, for example, periodizing the history of ancient Greek mathematics by reference to the Archons of Athens would not be a particularly good idea. So let us turn to the history of ancient astronomy by itself.

When one considers ancient astronomy in the Near East and Mediterranean as a transcultural phenomenon, that is, as a set of diverse but interacting astronomies, it becomes readily evident, nowadays at least, that Babylonian mathematical astronomy and astrology were the original

instigators of a great change in other cultures that demarcates one period of astronomical theorizing in the history of Western thought from the next. (This is not to deny that older forms of theorizing persisted.) Scholars will, of course, set the timing of this change differently in different cultures. For the Greeks and Romans, it started in the late fourth century BCE. This is important because the Greco-Roman transformation of the earlier native science, a process involving the appropriation of Babylonian astronomy that was effectively completed in the works of Claudius Ptolemy, became itself an instigator of change in other cultures, primarily as recorded in Greek. Moreover, it persisted even with the emergence of Christianity as a political power and it is not until the mid-eighth century CE, when the Arabs took Greco-Roman science in new directions, that we see the end of the era that began roughly a millennium earlier. For this reason, then, we maintain that the period from the late fourth century BCE to the mid-eighth century CE is a discrete era in the history of Western astronomy and that it is rightly called Hellenistic.

Hellenistic Astronomy as a Subject

For students of astronomy in Greco-Roman intellectual culture, what makes this view of Hellenistic astronomy especially interesting is that astronomy in this period was actually contested, that Greek and Latin writers urged divergent views of what astronomy is and should be without there being clear winners, Ptolemy's great synthesis notwithstanding. Indeed, one defining question for authors writing in Greek and Latin was whether to include Babylonian astronomy in the traditional astronomy that went back to Plato and Aristotle, and, if so, how much of it, all or some.

Such concern about what to appropriate from Babylonian astronomy is not limited to Greco-Roman culture; it is reflected in other cultures too and points to the more basic fact that the process of appropriation is a complicated one of interpretation, rejection, and transformative

acceptance.³ Moreover, this process was often bi-directional: while Babylonian astronomy left its mark on other cultures (and not always by the mediation of work in Greek and Latin) without signs of changing much itself, there are indications that these other cultures, Egyptian for example, likewise impacted astronomy in Greco-Roman culture even as they were in turn influenced by it. The upshot for inquiry into Hellenistic astronomy as we propose is two-fold:

- First is that to understand how and why the various Hellenistic astronomies took the form that they did will require exploring the intellectual and social contexts of each in its culture. This entails that we must reject any personification or essentializing of culture or civilization—Greco-Roman or whatever—as though it were an agent and had impermeable boundaries. To the contrary, the history of Hellenistic astronomy shows exactly how permeable these supposed boundaries of language and culture can really be.
- But second is that this will make sense only if we distinguish Hellenistic astronomy from Hellenistic astronomies without reifying the former as a body of knowledge and making it anything more than a meta-historical category. In other words, on our terms, while it is useful and necessary to speak of Hellenistic astronomy, it was not a body of knowledge held by any one community or culture in Antiquity. Further, there was no single, authoritative way of understanding the heavens that merited the title “astronomy” before all others or was universally valued as such.

Consequently, in asking What is Hellenistic astronomy?, we rule out any assertion that Hellenistic Greco-Roman astronomy was the authoritative paradigm for knowledge of the heavens, since this would impede our understanding the very processes by which this particular astronomy or any of the others was formed and transformed. As we see it, then, Greco-Roman astronomy has nothing to do with any modern hierarchy of value attached to ancient sources for science and will have no

more centrality or epistemic authority than Babylonian or Egyptian astronomy, for example, in our discussions.

The Geo-cultural Reach of Hellenistic Astronomy

Once Hellenistic astronomy is viewed as a corpus of interacting astronomies, the question becomes Whose astronomies does it include? In our view, it should include the astronomical science of each of the geo-cultural regions that was engulfed by the Alexandrian conquest in the late fourth century BCE. Well, almost all. In this volume, however, we do not address Indian astronomy because it makes better sense to us to present it as a subject while considering astronomy in the Arab world as it impacted the Latin West and Byzantine East.

The Challenge of Contextualization

Such contextualization of Hellenistic astronomy as we propose raises a problem that may be cast as a dilemma: while ignoring the contexts of a science by abstracting its ideas is to miss the *history* of that science, to focus on these contexts and to ignore the ideas and their role in bodies of knowledge is to miss the history of the *science*. The challenge to be faced in our asking What is Hellenistic astronomy? is to pass between the horns of this dilemma which is at once historiographic and philosophical.

So far as the two opposed schools in the historiography of science in evidence today are concerned, this is easy enough. To internalists who restrict their study of astronomy to its technical content, that is, to its observations, the use of these observations to quantify models, and the parameters of these models, we propose by virtue of our concern with context an answer to the Why?-questions that they broach only on the most restricted terms, if at all. That is, we propose a course that will allow much fuller explanations of changes in the technical theorizing of Hellenistic astronomy. To those historians who focus on scientists and scientific institutions, we are proposing here a case study of astronomy that connects the socio-cultural environment of a body of scientific learning to its technical apparatus and structures.

As for those in either school who advocate histories of *longue durée*, we here set out a theme by which to study more than a millennium of thought. Granted, this theme comes with no hope for a narrative—and this not just because the evidentiary materials for such are lacking but because in focusing on Hellenistic astronomy understood as a number of interacting astronomies each with its own cultural context, we embrace the adventitious character of human history and, thus, its resistance to overarching storylines and narratives of continuous progress.

Conclusion

Thus, our understanding of what is involved in asking What is Hellenistic astronomy? is that, while it is a body of knowledge to be acquired by historians, it has no historical standing, no meaning in Antiquity. To ask about and study Hellenistic astronomy is, in our view, to ask about and study a set of numerous, interacting astronomies held in the interval from 300 BCE to 750 CE, say, by the cultures of the various regions brought into contact by Alexander the Great in the late fourth century BCE. <>

HIPPOCRATIC COMMENTARIES IN THE GREEK, LATIN, SYRIAC AND ARABIC TRADITIONS: SELECTED PAPERS FROM THE XVTH COLLOQUE HIPPOCRATIQUE, MANCHESTER edited by Peter Pormann [Series: Studies in Ancient Medicine, Brill, 9789004470194]

This collection of article presents cutting-edge scholarship in Hippocratic studies in English from an international range of experts. It pays special attention to the commentary tradition, notably in Syriac and Arabic, and its relevance to the constitution and interpretation of works in the Hippocratic Corpus. It presents new evidence from hitherto unpublished sources, including Greek papyri and Syriac and Arabic manuscripts. It encompasses not only the classical period (and notably Galen), but also tackles evidence from the medieval and Renaissance periods.

Contributors are: Elizabeth Craik, David Leith, Tommaso Raiola, Jacques Jouanna, Caroline Magdelaine, Jean-Michel Mouton, Peter N. Singer, R. J. Hankinson, Ralph M. Rosen, Daniela Manetti, Mathias Witt, Amneris Roselli, Véronique Boudon-Millot, Sabrina Grimaudo, Giulia Ecce, Kamran I. Karimullah, María Teresa Santamaría Hernández, and Jesús Ángel y Espinós.

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Scholars of ancient medicine and philosophy have come to recognise the role commentaries play in the history of ideas in areas as diverse as logic, physics, metaphysics, cosmology, anthropology, and ethics. In the field of philosophy, the last thirty years saw an increased engagement with the philosophical commentaries of late antiquity, which contain fascinating insights and debates and do not conform to the scholastic images which previous scholars have painted of them. During the same period, medical historians have paid increased attention to the commentaries of late antiquity, which often reflect the teaching in the amphitheatres of Alexandria. Likewise, although the importance of Galen's commentaries on the Hippocratic corpus has long been realised, recent scholarship has brought them into much clearer focus, not least because of their importance for the textual history of the various Hippocratic treatises. And again, although it has long been acknowledged that the so-called 'Oriental' tradition played a crucial role in the transmission of Galenic and other commentaries on Hippocrates, it is only recently that this branch of Hippocratic scholarship has been put onto a firmer footing. Take the *Epidemics* as an example: only in the last decade has the Arabic version been studied in depth and published for the first time (although this remains an ongoing effort). The influence of the Greek commentary tradition is also immense, and equally felt in the Latin and Arabic traditions, both East and West, so to speak. For instance, the Hippocratic *Aphorisms* attracted enormous exegetical attention in Latin, Arabic and Hebrew, not just during the medieval period, but also the Renaissance.

The aim of this volume (and the *colloque Hippocratique* on which it is based) is to bring the whole commentary tradition into clearer focus. Galen, to be sure, was a watershed, not least in our understanding of the development of the Greek exegetical tradition on the Hippocratic Corpus. Yet, his fame obscured the many contributions by earlier and contemporaneous commentators. But we also wanted to capture the richness of the subsequent exegetical tradition, and especially the importance of the Syriac and Arabic translations, as well as Renaissance developments. This variety is reflected in the first paper by Elizabeth Craik, which opens the volume with a panoramic reflection about the nature of commenting on works in the Hippocratic Corpus. Some texts in the Hippocratic Corpus attracted more exegetical attention than others, such as the *Aphorisms*, *Prognostic*, and *Epidemics*. The tradition to write commentaries goes back to early Hellenistic times, with Baccheius (c. 270–200 BC) being one of the earliest proponents. Yet we do not know much about Hippocratic commentaries prior to Galen, as he successfully superseded earlier attempts; in many cases, we only know of earlier commentaries through Galen.

Craik also explores the subject groupings that exist in the commentary tradition, where, for instance, surgery emerges as a separate theme. There is also a strong link between philological work and writing commentaries. For instance, those engaged in editing the Hippocratic Corpus in Alexandria also produced commentaries on various works within it. But this link between editorial and exegetical activity is not only present in Alexandria during the Imperial period, but also in Renaissance Italy, as she shows by surveying the commentary activity of editors of Hippocrates such as Asulanus, Cornarius, and Foesius. Another Renaissance scholar, Theodore Zwinger, comments on more theoretical works and illustrates his commentary with tables.

Hippocrates remains an important reference point in medical debates in the seventeenth century. William Harvey, for instance, quotes him repeatedly, including in his famous work on blood circulation (*De motu cordis*, 1628). The German physician active largely in the Low Countries, Anton Deusing (1612–1666), employs Hippocrates to underpin his own arguments about anatomy and

physiology. Many others physicians selected certain passages from the Hippocratic Corpus and reinterpreted them in light of their own conviction. In this way, the exegetical process provided renewed relevance to the works that by then are more than two millennia old.

To return to Antiquity: Craik also distinguished between ‘commentary’ and ‘quasi-commentary’, for instance in Galen’s oeuvre. His *Method of Healing* 3–6 explains Hippocratic doctrine on surgery; in many cases, Galen first writes quasi-commentaries in the form of monographs on certain subjects which then engage with Hippocratic material quite heavily. And such quasi-commentaries also exist, for instance, in the lecture notes which survive from the early modern period.

One of the pre-Galenic commentators about whom we know relatively little is Asclepiades of Bithynia, who lived in the second century BC and was largely active in Athens and Rome. He adopted an anti-Empiricist viewpoint and stands in contrast to the Alexandrian exegetical tradition. Only a few fragments of his commentaries on the Hippocratic treatises *Surgery*, *Aphorisms* and *Epidemics* I survive, and David Leith offers a critical survey of this material in his contribution. He begins with the evidence for Asclepiades’ commentary on *Surgery*, for which we have the most evidence, as Galen quotes it repeatedly in his own commentary on this text. Asclepiades’ commentary appears to have been a lemmatic commentary, preceded by a discussion of the Hippocratic treatise’s title. Asclepiades appears to have been particularly interested in terminology as well as textual problems, and his entries consist of a good deal of analytical paraphrase.

This general picture is confirmed by the only evidence for Asclepiades’ commentary on the *Aphorisms* found in Caelius Aurelianus’ *On Acute and Chronic Diseases*. There, too, we see him define a technical term, *synánchē*. The newest evidence, however, comes from a recently discovered papyrus fragment. It contains an anonymous commentary on *Epidemics* I, probably written in the late first century BC, which criticises Asclepiades’ ideas. By combining this criticism with Galen’s discussion, Leith reconstructs Asclepiades’ exegetical approach, showing that he read his own theory of corpuscles (*ónkoi*) and passageways (*póroi*) into the Hippocratic text; and that he refuted the Hippocratic idea of critical days, whilst insisting on the necessity to observe paroxysms closely. Leith concludes by exploring two further pieces of evidence which could suggest that Asclepiades possibly wrote commentaries also on books 3 and 6 of the *Epidemics*, but his findings remain inconclusive.

The next two articles also deal with fragments of earlier commentators, in this case preserved in Galen’s *Commentary on Hippocrates’ Epidemics*. Yet, the Greek manuscript tradition for this text is particularly poor: Galen wrote commentaries on books 1–3 and 6, but those on book 2 and the last third of book 6 are only extant in Arabic translation. But even where the Greek text is extant, the manuscript tradition is often problematic. That led Ernst Wenkebach, who produced the first critical edition for the *Corpus Medicorum Graecorum*, to consult a German translation of the extant Arabic translation produced by his colleague Franz Pfaff. Where he perceived differences between the Greek and the Arabic, he often followed this German translation and translated it ‘back’ into what he thought was Galen’s Greek. There are two problems, however, with this procedure. First, Pfaff’s German translation as reported in Wenkebach’s apparatus is sometimes unreliable; occasionally, he simply misunderstood or misread the Arabic. Second, Wenkebach was a child of the early twentieth century when editors would often intervene in the text and rewrite the Greek in order to make it smoother; they were confident that they could reproduce authentic Greek text not attested in the manuscript tradition. The modern reader can easily be misled by Wenkebach’s retroversions as printed in the CMG editions: they suggest a confidence and even certainty about the Greek text that is simply misplaced. For it is virtually impossible to translate back the Arabic target text into the Greek source text. Vagelpohl, the editor of Galen’s commentary on book I, highlights the

problematic nature of Wenkebach's and Pfaff's collaboration which led, for instance, to 'additions Wenkebach made on the basis of the Pfaff's translation that could not be confirmed or need to be corrected, or some Arabic passages that may well be based on lost sections of the Greek original'.

When editing Raiola's and Jouanna's contributions, I began to check the Arabic translation of Galen's commentary on *Epidemics* 3, and soon realised that Wenkebach's text was in need of correction on a number of occasions. Sometimes, the text of the Greek manuscripts could stand as a *lectio difficilior*; at other times, additions by Wenkebach were simply wrong, owing to a misunderstanding of the Arabic; at others yet, the Arabic helped fill lacunae. Therefore, I have systematically provided the Arabic translation alongside the Greek source text in these two articles (and elsewhere in this volume).

In his contribution, Raiola introduces us to Sabinus, a commentator of various Hippocratic works, including the *Epidemics*. He lived roughly two generations before Galen and was a very keen Hippocratic. After surveying the sources from which we can extract Sabinus' writings, the most prominent being Galen's extant Hippocratic commentaries, Raiola turns to Sabinus' own words and analyses how Galen portrays his writings. Galen criticises Sabinus for his 'chattiness (*perilâlêsis*)', as he often employed flowery expressions that lack precision. Yet Raiola cautions against taking Galen's assessment of Sabinus as an objective opinion. By painstakingly going through quotations in Galen, Raiola reconstructs the sometimes complex arguments that Sabinus makes and that appear to have some merit, even if Galen disapproves of them. For instance, Sabinus clearly draws on a wide variety of sources, is interested in aetiology, and pays special attention to the patients' habits, age, and environment. Moreover, his language is often rich in metaphors and *recherché* expressions, again highlighting the great care that Sabinus took when writing his Hippocratic commentaries.

Jacques Jouanna investigates Galen's commentaries on *Epidemics* 1 and 3. These two Hippocratic books originally formed one continuous work, but in the process of copying, they were later separated by the insertion of what is now book 2. In particular, Jouanna studies Galen's attitude to other commentators as well as his own metadiscourse on his commentary activity. Jouanna's first striking observation is that Galen's attitude when commenting on books 1 and 3 is very different. He hardly ever mentions any previous commentator by name when commenting on book 1 (the exception being Quintus, quoted six times). Yet, when commenting on book 3, Galen names no fewer than fourteen commentators from the third century BC to Galen's own age.

Among the fourteen exegetes whom Galen quotes by name, Sabinus is the most prominent. Jouanna shows that Galen's attitude to his predecessors was largely critical; he inveighs against Sabinus, for instance, on a number of levels, criticising him for not paying close attention to the environment; for drawing false inferences from, and overinterpreting, the text; and for a lack of understanding of Hippocratic diction. Galen even has a whole section on 'inferior commentators' and is particularly concerned with the so-called 'characters (*χαρακτήρες*)', signs at the end of the patient records, that have baffled many previous interpreters. Finally, Galen offers also some metadiscourse on his own exegetical activities, reflecting on his methods and justifying his own approach. Therefore, although the Hippocratic *Epidemics* 1 and 3 originally formed a whole, Galen's commentary on them treats them quite differently.

We have already seen the importance of the Arabic evidence for Galen's *Commentary on Hippocrates' 'Epidemics'*, where book 2 and the last third of book 6 are completely lost in Greek, but where the corrupt state of the Greek text for book 3 can also often be improved by taking the Arabic version into consideration. Caroline Magdelaine and Jean-Michel Mouton present here an example of how evidence in Arabic can fill important lacunae in our Greek text. They discovered important textual evidence for a commentary on the Hippocratic *Oath* which was originally written in Greek, and

subsequently translated into Arabic and attributed to Galen. According to Galen's own testimony, he never wrote a commentary on the *Oath*, but in the Arabic tradition, Galen is credited with one. Franz Rosenthal had previously collected the quotations from this commentary in later sources, the indirect evidence, so to speak. Magdelaine and Mouton are the first to discover direct evidence for the Arabic translation and, thus, expand our knowledge about this commentary significantly.

The text is preserved in the so-called 'Damascus Papers', discarded material from the medieval period that was found in the Great Mosque of Damascus in the late nineteenth century, and then transferred to Istanbul and studied and photographed in the 1960s by two French scholars; Magdelaine and Mouton rely on these photographs for their study. They briefly argue for an early, possibly ninth-century, date for the manuscript on palaeographical grounds and establish that the text preserved in the 'Damascus Papers' is the same as previously known from the indirect tradition and studied by Rosenthal. The most important part of the extant text comprises ten continuous folios concerned with the ethical part of the *Oath*. Magdelaine and Mouton discuss in detail the topics of abortion and bladder stone surgery mentioned there, editing a number of extracts and establishing parallels with other medical texts, such as Soranus' *Gynaecology*. For instance, the commentary appears to allow therapeutic abortions, even if the *Oath* itself enjoins against 'abortive pessaries'. Magdelaine and Mouton conclude with a discussion of whether Galen was the author of this commentary, and advance arguments both for and against; in the end, this question will have to remain open, at least, for the present.

After this exciting new discovery, the focus moves to the many instances in which Galen comments on Hippocratic treatises in works by him that are not lemmatic commentaries. Singer reflects on these different modes of Hippocratic exegesis in Galen and sets up a number of theoretical dichotomies: a commentary can aim at elucidating the text or the meaning conveyed by it; it can be destined for private use or publication; it can take the form of a lemmatic commentary, going through the text line by line, or be a more systematic exploration of a Hippocratic text. Galen himself discusses these different modes or genres, notably in his 'auto-bibliographic' works, although the lines clearly get blurred in practice when he comments on Hippocrates.

One work that is not a lemmatic commentary but clearly aims at explaining Hippocratic doctrine is Galen's *Elements according to Hippocrates*. In it, Galen refutes some contemporaneous philosophical positions such as monism and atomism, and attributes what Singer calls the 'element-body' theory—that the cosmos is made up of four elements, fire, air, earth, water, which each have two of the four primary qualities, dry and wet, and warm and cold—to Hippocrates. Galen argues, in particular, that this is the underlying theory of *Nature of Man*, which famously sets out the four-humour theory—that health depends on the mixtures of blood, phlegm, yellow bile and black bile, each of which has two of the four primary qualities. Galen's trick is to blur the lines between the four-humour theory and what Singer calls the 'element-quality' theory, the idea that health depends on the mixture of the primary qualities.

Singer then explores the previous doxographical tradition, on which Galen might have drawn, and notably the famous account of medicine contained in an anonymous treatise preserved in a London papyrus, the so-called *Anonymous of London* or *Anonymus Londinensis*, which comes from an Aristotelian milieu. Ultimately, however, Singer asks the question of whether we should take Galen's interpretation seriously that *Nature of Man* espouses the element-body theory. Singer's crude answer is no: neither the element-body nor the element-quality theories are in evidence there. And yet, Galen was highly successful in persuading scholars across the centuries of two things: a) that the element-quality theory underlies *Nature of Man*; and b) that the element-body theory, to which he adheres, is the same as the four-humour theory expressed in *Nature of Man*. In other words, Galen

achieved two things: to reinterpret Hippocrates according to his own doctrine; and to be seen to be a faithful follower of Hippocrates.

In the next article, *Nature of Man* again figures prominently: Jim Hankinson looks at a concrete example of how Galen dealt with the Hippocratic question: to know which writings in the Corpus can be attributed to the historical Hippocrates; which are by other members of his entourage and reflect, at least, Hippocratic doctrine; and which works or parts of works are spurious or interpolated. In doing so, he focusses on *Nature of Man* and how Galen explained it in his lemmatic commentary on this text.

Nature of Man is a very heterogenous text; Galen usefully divided it into three parts: Part 1, consisting of chapters 1–8; Part 2, consisting of chapters 9–15; and Part 3, consisting of chapters 16–22. For Galen, Part 1 exemplified the essence of true Hippocratic doctrine, of what we nowadays label humoral pathology: health is the balance of the four humours: blood, phlegm, yellow bile, and black bile. They, in turn, each have two of the four primary (or cardinal) qualities (hot or cold, and moist or dry), and are thus linked to the four elements, fire, water, earth, and air. Yet Part 2, for instance, contains some anatomy that is patently wrong for Galen and therefore cannot go back to his hero Hippocrates; rather, he argues that it must have been authored by Polybus, a physician in Hippocrates' circle (and possibly his son-in-law).

Through painstaking analysis of key passages taken from the Corpus and Galen's oeuvre, Hankinson shows how Galen reshapes the Hippocratic text in his own image, in order to lend weight to his own medical theory. In the process, Galen refutes many of what Hankinson calls his 'commentatorial opponents'—physicians such as Sabinus who also had penned commentaries on Hippocratic works. And, although Galen is certainly *parti pris* in his exegetical efforts, many of his arguments deserve to be taken seriously.

Next, Ralph M. Rosen gives a concrete example for a Galenic text that represents a quasi- or proto-commentary. He investigates one of the most famous Galenic treatises, *The Capacities of the Soul Depend on the Mixtures of the Body*, known through its abridged Latin title *Quod Animi Mores* (further abridged to *QAM*). Galen has often recast Hippocrates in his own image by interpreting his writings to support his own ideas. This procedure is especially apparent in his Hippocratic commentaries, which are lemmatic, that is, Galen first quotes the text to be explained and then offers his own exegesis. In *Capacities of the Soul*, Galen frequently quotes from the Hippocratic treatise *Airs, Waters, Places*, which in its second part contains a long section on how the environment influences a person's character; for instance, the Hippocratic author famously distinguishes between Asian and European character types, linked to climate and environment. At times, Galen's own discussion somewhat resembles a lemmatic commentary, as the quotations from the Hippocratic source follow in quick succession, punctured by Galen's own explanations.

Rosen investigates these quotations and notes that Galen does not really link them to his main topic, namely to explain the causative link that leads from the mixture of a place (the 'external' mixture) to the mixture of the body (the 'internal' mixture) and thence to character traits. Rosen therefore turns to Galen's *Commentary on Hippocrates' 'Airs, Waters, Places'*. Galen himself connects the *Commentary* to his earlier treatise *Capacities of the Soul*, referring the reader back to it in two places, once directly and once indirectly. It is, however, only later that Galen explains this causal link between environment and character, established through food in particular: foodstuffs specific to certain locations create particular humours and thus influence the mixture of the body, which, in turn, determines character traits.

In another book on a specific topic, we find that Galen engaged with Hippocrates as well, namely in *Difficulties in Breathing*. Manetti first considers the date of this work, arguing for 175, and its audience. Galen himself stated that he wrote it for himself, and not for publication, nor even for circulation among his own friends. He was motivated to write it, because although Hippocrates had touched upon the subject in the *Epidemics*, no one has specifically dealt with it; Galen paints himself as completing Hippocrates' work where others have neglected to do so. Although Galen composed the work for himself, he still employed the same exegetical strategies with which we are familiar from his commentaries written for publication.

At the beginning of the second book of *Difficulties in Breathing*, Galen even went so far as to suggest that the book 'is an explanation of what Hippocrates said about the difficulty of breathing'. He paid homage to previous generations of physicians who wrote on this topic, and of course, none more so than Hippocrates. Manetti then painstakingly shows how Galen interpreted various case histories from *Epidemics* 1 and 3, whilst also drawing on other writings of the Hippocratic Corpus, such as *Prognostic*. Galen contrasted Thucydides with Hippocrates in their approach to describing diseases: whereas the former wrote for laypeople, stating many obvious things but omitting technical details, the latter focussed on things that are normally missed by lay people. Therefore, although *Difficulties in Breathing* is generally considered a work on a specific topic, it often resembles a lemmatic commentary: Galen quotes Hippocratic passages, explains obscure words (and even considers conjectures), and constructs a coherent theory of breathing difficulties on the basis on these quotations, as interpreted by him.

The next two papers tackle Galen's exegesis of Hippocratic texts on surgery. Both explore in particular the close relationship between these surgical works and Galen's *Method of Healing*. Although the *Method of Healing* is not a lemmatic commentary, it still aims at explaining Hippocratic texts, with books 3 and 4 dealing with *Ulcers*; books 5 and the first half of 6 with the lost *Deadly Wounds*; and the second half of book six with *Head Wounds*. Witt offers a classification of different types of cranial injuries, ranging from line fractures with or without depressed margins to depressed fractures, so-called 'ping pong' fractures, and various forms of bottomhole fractures. In particular, he argues that Galen's arrangement of these various types of fractures can help us amend the Hippocratic text, in which the order of these fractures has been disturbed. Moreover, he also adduces cases where the juxtaposition of the Hippocratic and Galenic texts can help solve textual problems in the former.

Amneris Roselli, for her part, compares the material in the *Method of Healing* with that contained in Galen's commentaries on the Hippocratic works *Joints* and *Fractures*. She begins by considering a passage from the *Method of Healing*, in which Galen speaks about the relationship between this work and the commentaries on *Fractures*: since Galen explained the topic at length in the commentary, he can just deal with it briefly in the *Method of Healing*. Apart from the Hippocratic *Head Wounds*, *Joints* and *Fractures*, pre-Galenic works on surgery only survive in quotations, the two most prominent sources being Galen and Celsus.

Roselli therefore argues that the commentaries on *Joints* and *Fractures* are of particular importance, and that they share certain characteristics with monographs: Galen uses the Hippocratic text as a springboard to provide a full discussion of the subject. He does not quote the lemmas in full, but rather focusses on those parts that allow him to make his points. Nor is Galen overly concerned here with explaining rare Hippocratic vocabulary or other philological issues; the surgical content takes centre stage. Moreover, Galen goes to great length to show that his explanations of surgical procedures were already adopted by Hippocrates. Galen's intended audience is twofold: those who have not yet mastered anatomy, and potentially lack the experience of seeing the human skeleton

themselves; and those who do have this knowledge and have seen human skeletons. He offers something to both. Roselli also shows how the commentary on the first lemma of *Fractures* serves as a preface or introduction to the topic. Galen insists on the fundamental importance of ‘extension’, of straightening the fractured limb and holding it in place. Finally, Roselli analyses an allusion to the Platonic idea that if you nourish bad souls, they become worse.

Galen operated in an environment of extreme competitiveness, as Jacques Jouanna already demonstrated in his contribution by highlighting his attempt to criticise earlier and contemporaneous interpreters of Hippocrates. Through painstaking philological work, Véronique Boudon-Millot reveals the author of the treatise *Theriac to Piso* to be one of these competitors. *Theriac to Piso* is generally attributed to Galen, but Boudon-Millot has shown elsewhere that Galen cannot be the author. In her contribution, she looks at how Galen and the author of *Theriac to Piso*, whom she calls Pseudo-Galen, offer different interpretations of two Hippocratic passages relating to drugs. The transmission of the first passage, *Epidemics* 2.3.2, is particularly complicated, as it survives in Greek in the direct manuscript tradition and indirectly in a quotation in Pseudo-Galen; and in Arabic in the lemma quoted in Galen’s *Commentary on Hippocrates’ ‘Epidemics’* as well as the anonymous Arabic translation of *Theriac to Piso*. Boudon-Millot shows that Galen and Pseudo-Galen understood the text differently and favoured different variant readings (some of which were known to both). Her second example, *Aphorisms* 4.5, confirms this picture and underlines the main difference in interpretation between the two: whereas Galen took the terms φάρμακα and φαρμακείαι narrowly to refer to purging drugs, Pseudo-Galen understood them to denote drugs in general. In this way, Boudon-Millot reconstructed an exegetical debate that is of relevance not only in its own right, but also because it helps us reconstruct the textual history of the Hippocratic text.

Next, Sabrina Grimaudo investigates a silence in Galen’s exegetical activity: with one exception, he never mentions the Hippocratic treatise *Ancient Medicine* anywhere in his extant oeuvre. This is all the more surprising, as in modern Hippocratic scholarship, *Ancient Medicine* is often seen as the text within the Hippocratic Corpus that best aligns with what we know about the historical Hippocrates. Émile Littré placed this text at the beginning of his *Complete Works of Hippocrates*, and it has since gained enormous traction among historians not just of Greek medicine, but also of philosophy. At first glance, it is not difficult to see why Galen would reject *Ancient Medicine*, as this treatise argues against explaining health and disease in terms of the four primary qualities—hot and cold, and dry and wet—that underly the doctrine of the four humours as articulated in the Hippocratic treatise *Nature of Man*.

Grimaudo first discusses the one mention of *Ancient Medicine* that Galen did make, namely that contained in his commentary on *Epidemics* 2, extant only in Arabic translation. She highlights the reasons why Galen doubted the authenticity of *Ancient Medicine* and painstakingly reconstructs other interpreters’ arguments how the passage in *Epidemics* 2 could be construed as aligning with ideas expressed in *Ancient Medicine*. Grimaudo also shows that Galen must have been intimately familiar with this treatise, and details instances where his own opinions overlap with it. And yet, despite the shared doctrine between *Ancient Medicine* and other Hippocratic texts such as *Regimen*, on which Galen also wrote a commentary, as well as some of Galen’s own views, he passes over it in silence. To be sure, there are some lost Galenic treatises in which he may have said more, but the fact remains: Galen deliberately did not mention *Ancient Medicine* in many contexts where he could easily and justifiably have done so.

With the next contribution, we move from Galen to late antiquity. Giulia Ecca studies a hitherto unedited prologue to a commentary on the Hippocratic *Aphorisms* that survives in two medieval manuscripts; the commentary itself is a mixture of commentaries by Galen and Theophilus. She

edits, translates, and comments on this prologue, which can be divided into two parts: the first explains the title ‘Aphorisms’ and gives a two definitions of what medicine is; and the second explains a number of expressions found in the first aphorism (‘Life is short, the Art long, ...’). The prologue clearly comes from a Christian milieu, as the pious formulae at the beginning demonstrate. It also has strong links to the late antique Alexandrian tradition, and therefore cannot be older than the sixth century AD. Beyond this, however, it is difficult to establish its date: it may go back to the Alexandrian tradition, as there were quite a few Christian commentators active there; but it could also be a Byzantine compilation.

The material compiled here has parallels in Galen’s *Commentary on Hippocrates’ ‘Aphorisms’*, as well as those by Stephen of Alexandria and Palladius, two late antique Alexandrian commentators. More importantly, however, Ecce shows that there is a lot of affinity with explanations found in the philosophical commentary tradition, notably by two Neoplatonic exegetes called David and Elias, who belonged to the school of Olympiodorus and probably lived in the sixth century. Moreover, there is some overlap with Christian authors such as Gregory of Nazianzus (ca. 329–390) and John of Damascus (fl. early eighth century). This confirms Ecce’s suspicion that the prologue belongs to the late antique Alexandrian tradition, where medicine and philosophy were often taught in tandem. Other elements also point in this direction, such as the discussion of the title ‘Aphorisms’. The title was one of the eight topics (or ‘headings [*kephálaia*]’) routinely discussed in introductions to medical and philosophical commentaries.

The Greek commentary tradition on the Hippocratic Corpus had a long afterlife in Syriac and Arabic, and it poses numerous scholarly problems, one of which is the textual history of source and target texts. When dealing with the Hippocratic text, one always needs to distinguish the direct and the indirect tradition, that is, the text of Hippocratic texts as transmitted in manuscripts containing these texts; and the text of lemmas and quotations in commentaries and other exegetical works. In the Arabic tradition, Hippocratic texts, even when transmitted on their own, are generally extracted from the lemmas in the Arabic versions of Galenic commentaries. This would suggest that they form part of the indirect tradition. Whilst this is generally true, there are, however, quite a few cases where the translator also drew on the direct tradition, as Jouanna argued for the *Prognostic*, the subject of the next article by Kamran Karimullah.

We also know that Ḥunayn and his school (or ‘workshop’) often produced Arabic translations based on a previous Syriac translation that they or others produced. This is again the case for the *Prognostic* according to Ḥunayn’s *Epistle (Risāla)* on his translations of Galen. Jouanna was the first to attempt to establish the place of the Syriac translation of the *Prognostic* as preserved in Paris, Bibliothèque National de France, MS 6734 fonds arabe (henceforth P7) within the stemma.¹⁵ He argues that this Syriac version was produced by Ḥunayn and that it displays similar characteristics to the Arabic translation in drawing both on the direct and the indirect traditions.

In his contribution, Karimullah sounds a note of caution against this first conclusion. His argument begins with a review of the different versions of the account about how the *Prognostic* was translated into Syriac and Arabic in Ḥunayn’s *Epistle*, and then moves on to a number of both textual and stylistic considerations. For the *Prognostic*, he arrives at similar conclusions to those of Taro Mimura and Samuel Barry for the *Aphorisms* (also contained in P7), namely that the exemplars of the Syriac and Arabic translations are independent of each other; and that the scribe of P7 attempted to bring the Arabic version in line with the Syriac text. Importantly, Karimullah (again like Mimura and Barry) argues that Ḥunayn was not the translator of the Syriac version as preserved in P7. Although these conclusions are at odds with those at which Jouanna arrived, this does not detract from the fact that

the latter was the first to broach the question of how the Syriac *Prognostic* relates to the overall textual tradition.

With the last two articles we turn to the Renaissance, and, in particular, the medical humanism of the Iberian Peninsula. Both articles also deal with the *Epidemics*. María Teresa Santamaría Hernández explores the only Renaissance commentary specifically devoted to *Epidemics*, book 2, written by the Spanish humanist physician Pedro Jaime Esteve (ca. 1500–1556), who was active in Valencia. She shows that Esteve was guided by the same principles as other Renaissance humanists such as Leonard Fuchs. For instance, Esteve endeavoured to improve the Hippocratic text by offering his own conjectures. Some problems involve sentence division. In some, he relied on Galen's *Commentary on Hippocrates' 'Epidemics'*, book 6, which contains a number of parallel passages. He also criticised other Renaissance Latin translations of this text, notably that of Calvus (1525). In one case, for instance, he misread 'νότος (south wind)' for 'νότος(back)'.

Esteve was not only concerned with improving the text, but also with understanding it in the correct way; he wanted to get to the 'truth of the Hippocratic text', the *Hippocratica ueritas*. According to Esteve, this truth was opposed to the medical 'barbarism' that reigned in many parts of Renaissance medical culture. The latter is characterised, for instance, by corrupt or unclassical Latin usage. Some of its exponents are arrogant physicians with little or no regard for their patients. Esteve quotes the case of one individual who would not even take critical days into consideration—although the *Epidemics* clearly shows that it is important to do so. Esteve describes his fight with vivid metaphors: his opponents dive into the dark waters of Styx, whereas he draws pure water from limpid fountains. These opponents are animated by a craving for fame and fortune; they are not just incompetent, but deliberately falsify even the doctrine of their own authorities, chief among them Avicenna. Therefore, Esteve's rhetoric and outlook chime with that of other humanist physicians such as Leonard Fuchs, who virulently inveighed against 'Arab' physicians.

Galen famously only considered books 1–3 and 6 of the *Epidemics* worthy of being commented upon, whilst dismissing books 4, 5 and 7 as spurious. Therefore, it is not difficult to see why Esteve focussed on book 2 (where the Greek text of Galen's commentary is lost and only an Arabic version survives). It was only in 1577 that the Spanish physician Francisco Vallés (1524–1592) produced a commentary on all seven books of the *Epidemics*, and this commentary is the object of the final article by Jesús Ángel y Espinós. Vallés lived under king Philip II and praised the latter's effort to stem the tide of decline in Classical learning, which was partially due to a prohibition to study abroad.

When writing his commentary on the *Epidemics*, Vallés failed to use a number of important sources that would have been available to him in the Escorial library. These include, for instance, an Arabic copy of Galen's commentary on *Epidemics*, book 2 and the last third of book 6, made by the Scottish monk David Colville (c. 1581–1629) at the Escorial; and manuscripts of Greek commentaries from late antiquity. Although Vallés missed some of these opportunities to consult relevant sources, he did draw on others, not least work by other humanists such as Esteve and Leonard Fuchs, as well as other figures from the Iberian peninsula.

This overview shows the richness of the Hippocratic commentary tradition and the importance of considering it in a holistic way. As said above, this was the main aim of the fifteenth *colloque Hippocratique* 'The Hippocratic Corpus and its Commentators: East and West', held in Manchester on 28–30 October 2015. Some papers delivered there are not, however, included here for a variety of reasons. Nathalie Rousseau gave a talk entitled 'Οὐ κυρίως, ἀλλ' ἐκ καταχρήσεως: les méthodes d'analyse du sens des mots dans les commentaires de Galien aux traités hippocratiques', in which she argued that Galen borrowed the technical terms 'κυρίως (properly)' and 'ἐκ καταχρήσεως (through misuse; i.e., improperly)' from the rhetorical tradition and applied them when discussing

rare Hippocratic expressions. Stefania Fortuna addressed the delegates on the topic of 'the Medieval Commentaries on the *Hippocratic Law*' and subsequently published her revised paper elsewhere. Robert Alessi broached the fascinating topic of 'Hippocrates' 'Sayings' in Ibn Abī Uṣaybi'a', in which he analysed the roughly fifty pithy sayings attributed to Hippocrates in a highly influential thirteenth-century bio-bibliographical Arabic history, and compared them to those transmitted in other Arabic gnomologies; many of these sayings were extracted from the *Aphorisms* and the *Epidemics*. Finally Rocío Martínez Prieto presented on part of her graduate work on 'Hipócrates como fuente en Libro de Theriaca (1575) de Lorenzo Pérez: interpretación de contenidos y empleo de ediciones y comentarios' and subsequently published it elsewhere.

The *colloque Hippocratique* formed part of a much larger project on the 'Arabic commentaries on the Hippocratic *Aphorisms*', funded by the European Research Council. We used this venue to present our project to the delegates during a double slot. Three Ph.D. students, Samuel Barry, Rosalind Batten, and Elaine van Dalen, briefly talked about the topics of their theses, which have all now been completed. Likewise, the postdocs Taro Mimura, Kamran Karimullah, and Nicola Carpentieri presented work-in-progress. We have also published preliminary editions of all the extant Arabic commentaries on the *Aphorisms*, and our editions are freely available under a permissive creative commons licence; the total edited texts contain well over 1.5 m words and therefore similar in size to Kühn's edition of Galen.

For me personally, one of the highlights of the conference was to discover the new evidence for the Arabic commentary on the Hippocratic *Oath*, presented by Magdelaine and Mouton. Yet, my team and I also had a surprise for the delegates. Previously, scholars had accepted the attribution to Palladius of a commentary on the *Aphorisms* that survives only partially in a privately owned Arabic manuscript. Yet during our weekly reading class when we perused this commentary, made available to us through the kindness of Hinrich Biesterfeldt, who shared his preliminary edition with us, we realised that the Arabic text contains misunderstandings that cannot have occurred in Greek and therefore must be an Arabic work incorporating Greek translated material rather than a Greek commentary translated into Arabic. In other words, the commentary is not by Palladius and was not originally written in Greek, even if it incorporates a lot of material from late antique Alexandria.

This volume stands in a long tradition of proceedings of *Colloques Hippocratiques* that have been published over the last 46 years. Yet, the overview above already shows that the present volume differs from previous ones in a number of ways. Perhaps the most notable is that all the papers published here are in English. Previous meetings were organised in many different countries by different colleagues and appeared with different publishers. They all brought some of the best Hippocratic scholarship in multilingual form: articles appeared in French, German, Italian, Spanish, as well as English, and the editors did not try to impose linguistic unity. The approach taken here is a different one. The organising committee of the fifteenth *Hippocratic Colloquium*, consisting of Véronique Boudon-Millot, Philip J. van der Eijk, Jacques Jouanna, David Langslow, Amneris Roselli, and me, met on 10 September 2014 and decided that papers could be given in any language during the oral presentations, but that the publication would be in English. This compromise had been suggested by Jacques Jouanna to accommodate my desire to make this volume as accessible as possible, notably to undergraduate students in Manchester and the wider English-speaking world, many of whom do not read languages other than English. Thus the choice of English was motivated by the target audience: we wanted to reach not just the experts, but also students, and interested scholars from other fields who want to get an impression of what is happening in Hippocratic studies. The foremost authority in the field, Jacques Jouanna, only writes in French, but some of his works have thankfully been translated into English (as well as other languages). Therefore, this choice of English is not motivated by linguistic hegemony, but rather accessibility and practicality.

Moreover, this volume is intended to be a companion to the recent *Cambridge Companion to Hippocrates* (if you forgive the pun). Both the *Cambridge Companion* and the present volume are, in a way, the result of the ERC project on the Arabic commentaries on the Hippocratic *Aphorisms*. Whereas the *Companion* aims at providing an easy access to the topic of Hippocratic studies, the present volume can serve to illustrate some of the best recent scholarship in this area in an accessible format. It is for this reason that I have worked particularly hard at harmonising the style of the contributions and to make them as accessible as possible. To be sure, some contributions will be more difficult for the novice than others, but collectively, they illustrate the kind of scholarly debates that the Hippocratic Corpus provokes today. In the *Companion*, I provided some guidance about style and references, and its conventions have been followed here, as well.

The Manchester *colloque hippocratique*, and the present volume that arises from it, would not have seen the day, were it not for the help and support of many individuals and institutions. The original idea goes back to Jacques Jouanna, who asked me informally during the 2012 Paris meeting whether I would be willing to host the next; I immediately agreed most enthusiastically and the final panel of the meeting voted to hold its fifteenth iteration in Manchester. I would like to record my gratitude to Monsieur Jouanna and the other members of the *comité scientifique*, as well as the authors who contributed papers here. I know full well that things have taken longer than they should have, and the *Cambridge Companion* (to which many of the present authors also contributed) is only a feeble excuse for the delays. The authors also put up with more editorial interference than is customary in these sorts of publications, and again, I thank them for their forbearance.

When organising the conference and editing this volume, I was also able to draw on the help of the *Aphorisms* project team, not least Dr Michelle Magin, the project administrator, who did so much to make the colloquium not just an intellectual, but also a culinary and social success; the then doctoral students and now Drs Rosalind Batten, Elaine van Dalen, and Samuel Barry; and the postdocs Drs Taro Mimura, Kamran Karimullah, and Nicolà Carpentieri. The University of Manchester, the School of Arts, Languages, and Cultures, and especially the Graduate School all provided an extremely congenial institutional environment, and the last also a wonderful space in which to meet. Finally, none of this work would have been possible without the support of our external funders, first and foremost the European Research Council, but also the British Academy and Leverhulme Trust, who supported this meeting through a small grant, as well as the Maison Française d'Oxford, who facilitated the travel of some of the delegates coming from France.

My gratitude also goes out to my commissioning editor at Brill, Giulia Moriconi, and to the editors of the series *Studies in Ancient Medicine*, who accepted this book for publication (as well as my very first book, Pormann 2004a). Moreover, I would like to record my admiration for the superb work done by my production editor at Tat Zetwerk, Arianne Moerland, who had to overcome significant difficulties when typesetting not only the Latin and Greek, but also Syriac, Arabic and Hebrew. Philip J. van der Eijk, the editor in charge of the present project, went through the whole manuscript with great attention to detail and saved me from many an error. He also served on the organising committee of the Manchester colloquium, and I therefore owe him a special debt of gratitude, which I would like to record here.

In 2018, the *colloque hippocratique* took place in Rome, and in October 2021, it will come to Munich, celebrating nearly fifty years of Hippocratic scholarship. The papers published here and the recent surge of publications on all things Hippocratic, including popular culture, show that the interest in Hippocrates and the works attributed to him continues to grow. We can also discern here a trend to take greater account of the 'Eastern' or 'Oriental' legacy of Hippocrates and the Hippocratic corpus, particularly of the Syriac and Arabic evidence that has only recently begun to come into

clearer focus. Likewise the field of studying the exegetical modes employed to elucidate the meaning of the Hippocratic text is now firmly established, although much remains to be done—after all, we still do not have critical editions of most of the Galenic commentaries on Hippocrates, not least that on the *Aphorisms*, perhaps the most influential of them all. Therefore, it can only be hoped that the present volume (as well as the ‘companion’ *Cambridge Companion to Hippocrates*) will open up new areas of research and stimulate scholars to close many of the gaping holes that still remain in our understanding of the intellectual world that is Hippocrates.

Reflections on Hippocratic Commentary by Elizabeth Craik

Preamble

This short introductory paper, a lightly revised and slightly extended version of that presented at the colloque, has few pretensions. It ranges very widely but its coverage is uneven in depth. It may, however, serve as an appropriate introduction to the more detailed papers that follow. In the first part of the paper, the rationale of editorial choice is examined, with particular reference to the history of the commentary tradition. In the second part, it is suggested that the distinction between commentary and critique is somewhat artificial and proposed that the new term ‘quasi-commentary’ may be applied to many works of many periods, not generally classified as commentaries; examples of these are given and, in conclusion, a brief sketch of typology is essayed.

Questions of Rationale in the Exegetical Tradition

The writing of commentary involves a series of choices, foremost being choice of works for exegesis, choice of topics for emphasis, and choice of length or detail in exposition. In all of these, prospective readership is an important determinant and authorial self-presentation tends to play some part. The rationale for choice in the writing of commentaries tends to be taken for granted, rather than examined. We are all conditioned by our own place and time. But all of us who have written commentaries are aware of certain reasons for our own choices, even if we seldom declare them.

(For my part, I remark that I seem to gravitate towards unusual or neglected—and rather difficult—works: I chose Euripides’ *Phoenician Women* rather than a more familiar play; then the Hippocratic *Places in Man* in preference to *Ancient Medicine* or the ubiquitous *Oath*, followed by the relatively unknown *Anatomy, Vision and Glands*. The brevity of these three may have been an attraction (but both *Phoenician Women* and *Places in Man* are unusually long). As to choice of topics for emphasis and choice of length or detail in exposition, my main interest has been language and expression rather than medical content. There is a place for Hippocratic works in the regular Classics syllabus, and at a conference on commentaries it is appropriate to plead that more commentaries be written to make these texts accessible.)

In this paper, commentators’ choice of work or works is a recurrent concern; the reasons for and the purposes of writing commentaries are closely related questions. The power of a bandwagon effect is a recurrent topic. The situation is paralleled in attitudes to Greek tragedy. Why are there so many modern productions of Sophocles’ *Antigone* and Euripides’ *Bacchae*? Of course, these plays are perceived as ‘good’ or ‘important’ and viewed as having a perennial ‘relevance’ to the human condition; but they are also plays that have become popular choices, and so, through general familiarity with previous interpretations, have become easier for directors to produce and stage, and for audiences to appreciate.

Among Hippocratic works, *Aphorisms* has had an enduring popularity over the centuries. *Epidemics* too was long elevated, and its clinical insights valued; an old popular view held that *Epidemics* represented the practice of Hippocrates' prime and *Aphorisms* the reflections of his old age. The veneration accorded *Aphorisms* continued as late as the nineteenth century. This is due primarily to its perceived value as a teaching aid and pithy *vademecum* but it may be asked why this collection (often somewhat allusive and obscure) is valued to the exclusion of the collection *Coan Prognoses* (generally, by contrast, clear and well-organised). In early printed collections of Hippocratic works, *Aphorisms* was sometimes known as 'Lex (the law)', somewhat confusingly. Incidentally, we may wonder why the Hippocratic *Oath* is so much valued and the comparable *Law* so little. One more example may be given: there is no obvious reason why *Prorrhetic* 2 was traditionally neglected in comparison with the similar and much-studied *Prognostic*.

Then since Littré's influential favour, putting *On Ancient Medicine* at the beginning of his monumental edition, it has had more than its fair share of commentaries. It is evident that there is an enduring imbalance in the tradition: certain Hippocratic texts have been strongly favoured and others largely, or even completely, neglected. To some extent, this bias stems from the perceived importance of certain aspects of medical theory (such as professional ideals) and practice (such as prognostic skills and therapeutic method) on the part of medical commentators writing for a medical readership; but other reasons can be isolated also in different ages. In the early modern period, after the fundamental anatomical and physiological discoveries and insights of Harvey and Aselli, such Hippocratic works as *On Places in Man*, *On Bones* and *On Glands* seemed to acquire a new relevance and appeal, as they put forward theories of fluid components and action in the body (see further below). In more modern times, with the advent of women's studies as an academic subject, there was a new interest in Hippocratic gynaecology; in this the vast body of material in *On Diseases of Women* was rather selectively quarried, while the short tract *On Diseases of Girls* became disproportionately popular.

Hippocratic commentary began early. Thanks to Galen, we know the names of many of his predecessors in a long exegetical tradition. Among them Baccheius (c. 270–200 BC) can be singled out as an important early figure, an *éminence grise* in the later tradition. According to Galen, Baccheius, well known for his importance in lexicography, made significant contributions to the commentary tradition also; among his works were commentaries on *Aphorisms* and on *Epidemics* 6. In addition, it appears on Galen's authority that he had a serious interest in anatomy: he disseminated views expressed in public lectures (ἀκροάσεις) on the important topic of the pulse, vessels and heart. This type of publication may reflect a didactic activity broadly similar to that of the great early modern pioneers in anatomical and physiological research: like them, Baccheius was operating in a climate of extraordinary scientific research and discovery.

Erotian's Hippocratic lexicon (dated to the age of Nero through its dedication to the imperial physician Andromachus and so about a century before Galen) sketched a classification of the Hippocratic works. In this, *On Fractures*, followed by *On Joints*, was placed at the head of the group comprising surgical works. These highly technical works had already attracted specialised commentators and have long continued to do so. About 100 BC, or a little later, Apollonius of Citium wrote an outstanding commentary on *On Joints*, illustrated by diagrams. Galen's commentary on *On Joints* was his longest and most full. And in the nineteenth century the Hippocratic surgical works still attracted specialist exegetical interest.

Galen has his own peculiar rationale, and his subsequent influence is one significant element, justly recognized by its prominence in the programme and proceedings of this conference. Galen, more perhaps than anyone before or after, had an equally strong motivation in philological and

philosophical interests on the one hand and medical exigencies on the other. He knew his Plato and Aristotle as well as his Hippocrates and had a deep understanding of Ionic Greek vocabulary and idiom. Galen's aim to elucidate and to clarify Hippocratic texts is undeniably fulfilled and if he hoped for the notice of posterity, he surely succeeded. But as to contemporary readership, though pupils and colleagues are frequently named we may be sceptical over the common *topos* that a commentary was undertaken in response to the request of a 'friend': Galen is ever self-conscious and self-promoting. Also, much of his commentary is vitiated by personal polemic. There is a marked tendency to superimpose his own ideas on Hippocratic texts; thus he favours works that seem to express humoral theories similar to his own and fancifully identifies expressions of supposed teleological slant, in line with his personal interpretation. Galen's own professed purpose in writing is to interpret obscurities in the Hippocratic account, which he finds not imperfect but merely incomplete, and his averred aim is to follow the Hippocratic method. It is typical of Galen's general view of himself as the supreme Hippocratic heir that he frequently asserts rather than argues his point. Although he does cite some passages to substantiate his stance of adherence to the Hippocratic model, on the whole he takes a uniform and monolithic view of 'Hippocrates' and quotes simply to fit his current purpose. Galen's view of a monolithic Hippocrates prevailed. And in the coincidence between views expressed in the commentaries and views appearing elsewhere we can see the same elements of 'quasi-commentary' as those traced below in early modern writers.

The editorial work of Dioscurides and Artemidorus Capito served as a stimulus to the exegetical activity of Galen and many others. In the same way, the publication of Calvus' translation of all the Hippocratic works into Latin (1525) and the Aldine Greek *editio princeps* of Asulanus (1526) gave an immediate impetus to scholar-physicians seeking to interpret and to better the text of these first works. Here we may note that a careful translation can often itself serve as a rudimentary commentary. Calvus' Latin translation is frequently illuminating in its renderings, indicative of the text followed as well as the interpretation intended.

Cornarius (1500–1558) claimed in his edition (1538)—preceded by production of individual works, including *Airs, Waters and Places* and *Winds* as well as *Prognostic* and *Aphorisms*—to have improved on the Aldine; it has been demonstrated that he made changes in part by adopting Galenic readings, in part by consultation of additional manuscripts. Cornarius did not offer a translation with his edition (1538) but later added a Latin translation, for the benefit of Greekless doctors (1546). Cornarius innovated in the use of helpful subdivisions in the text, but the full organisation of the text in numbered sections, greatly facilitating ease of reference, was generally accepted only after the work of van der Linden (1665).

Foesius (1528–1596) in the main reprinted Cornarius' text, though with some independent source material, but suggested many changes in translation: whereas Cornarius' main contribution was textual, Foesius' was primarily exegetical. Foesius' unrivalled knowledge of medical Greek, evident already in *Oeconomia* (1588), pervades his editorial work (1595). There are short notes on each text, but Foesius' main commentary, in the form of long and somewhat prolix notes, is printed at the end of his volumes. This labyrinthine format often challenges the orientation of the reader, in a way not unlike that of today's CUF Budé texts, with notes both on the page and at the end of the volume.

Prior to Foesius, Zwinger (1533–1588) was an important and uniquely fascinating commentator (1579). In the first place, he selected twenty-two works for translation and comment. Then the layout of his commentary is remarkable: there are short, frequently exceptionally perceptive, verbal comments. These notes, however, are presented not sequentially but in a diagrammatic format intended to illumine the structure and argument of each work: the commentary is 'illustrated by diagrams (*tabulis illustrata*)'. Zwinger offered a similar analysis of the ten books of

Aristotle's *Nicomachean Ethics* and the method is perhaps more suited to philosophy than to medicine. Zwinger's choice of works displays his interests in theoretical rather than the practical medical content: *Art; Ancient*

Medicine; Law; Oath; Physician; Decorum; Precepts; Flesh; Sevens; Generation; Nature of the Child; Seven-Month Child; Eight-Month Child; Nature of Man; Airs, Waters and Places; Winds; Nutriment; Places in Man; Glands; Regimen in Acute Diseases 1–3; Regimen in Acute Diseases 4 (On Dreams); and Use of Liquids. Zwinger was following the 'méthode spatiale' pioneered by Pierre de la Ramée (Petrus Ramus, 1515–1572) in which the arts were methodically analysed with use of summaries and headings and above all with diagrammatic arrangement, rather than simply presented in verbal exposition. Zwinger's method illustrates an alliance between mathematical and medical thinkers, not uncommon in other places and at other times; his work was little emulated but much cited.

The prominence of *Aphorisms* in the early commentary tradition was overwhelming: critics vied to provide further interpretations of the text, frequently in conjunction with the commentary on it by Galen, occasionally with reference to the commentary of Oribasius. There was a longstanding and much repeated convention that with the Hippocratic text was printed the commentary of Galen, or very occasionally that of Oribasius: commentary by proxy was so perpetuated in the long-standing practice of echoing in agreement or disagreement the interpretations of one's predecessors.

A few original contributions may be noted also. John Caius (1510–1573, who had been a friend of Vesalius at Padua) essayed a conjectural reconstruction of a putative lost Hippocratic work on anatomy involving the conjunction of several works transmitted separately: *Anatomy, Bones, Heart and Glands*. In the course of his argument, Caius made pertinent remarks on the common content and expression of these works, annotating in full details of the text. Other doctor-scholars too chose to focus on particular works that engaged their interest. A few early editions with vestigial commentary are here noted: Jean de Gorris (1505–1577) *On Generation* and *On the Nature of the Child* (1545); Adrien L'Alemant (1527–1559) *On Winds* (1557); Étienne Gourmelon (1538–1593) *On Nutriment* (1572); all have a marked philosophical bent. A less slight work, and an important corrective to the protracted focus on *Aphorisms*, is an edition of *Coan Prognoses* produced by Jacques Houllier (d. 1562); later, this was republished considerably augmented by admiring followers (1576).

3 Commentary and Quasi-Commentary

Commentary, regarded now as a distinct genre, was not always so, though anachronistically we tend to forget this. Galen used the descriptive term *hypomnēmata* ('notes') in a wide-ranging way, generally but not always distinct from his use of *synggrámmata* ('connected work', 'treatise'). Paul of Aigina subtly employed exegetical skill in presentation of material, partly straight borrowing more or less verbatim, partly abridgement and only occasionally elaboration; his proem evinces a clear view of his own rationale and achievement. The scholarly physicians of the fifteenth and sixteenth century applied a range of terms interchangeably to works we might regard loosely as commentaries. Title pages announce a contribution as *liber commentariis illustratus*, as *commentaria*, as *expositio*; a work is presented *cum interpretatione et commentariis* or *brevi enarratione* and an author is described as *interprete et enarratore*.¹³ But certain aspects and characteristics of the commentary could, then as now, be readily identified.

The canonical form of the commentary is sequential and systematic and the format is governed by the use of the lemma, in that words, phrases, sentences or segments are selected and excerpted for comment. The material selected to serve as lemma varies greatly in length and character. In layout, one of two methods is usually followed: entire commentary follows entire text; or sections of commentary follow sections of text. Similarly, where a translation is given, this may be laid out in its

entirety or in sections facing or following the relevant sections of text. Although the basic structure is constant, there is much variation in slant and in style as well as in detail. The simple general intent is to clarify the content of the chosen text.

There is, of course, a distinction to be made between a complete commentary, discussing a complete text sequentially, and a partial commentary, discussing only selected passages from a text. In the reception of Hippocratic texts, however, a major part is played by (as I designate them) 'quasi-commentaries'. Certain pervasive features of these 'quasi-commentaries' replicate regular features of complete commentaries: in content, citation of the views of others, often polemical or with obvious *parti pris*; in form, extensive use of the lemma. It has been demonstrated that material presented by Galen in his *Therapeutic Method* (books 3–6) is replicated, in closely aligned form, in his subsequent commentaries on Hippocratic surgical texts. It has been argued further that the first represents an informal 'synthetic' type of commentary, directed at beginners, and the second a more formal 'lemmatic' type, intended for advanced learners; and thus that Galen employs two 'steps' of commentary, each having a distinct didactic function.

It is, however, in the seventeenth century that the quasi-commentary really flourished. For several decades as physicians wrestled with the new discoveries relating to body fluids—not merely blood and chyle or lymph but all fluids, ranging from nasal mucus and sweat to semen and breast milk—certain passages in certain Hippocratic texts, viewed as key, became over and over again the subject of comment. Body fluids, like the various 'humours' of Hippocratic physicians, were central in medical theory. The work of William Harvey (1578–1657) on the circulation of the blood (*de motu cordis et circulatione sanguinis exercitatio*, 1628) and that of Gaspare Aselli (ca. 1581–1626) on the lymphatic vessels (*de lactibus sive lacteis venis dissertatio*, 1627) received a quick response from Jean Pecquet (1622–1674), Jean Riolan the younger (ca. 1577–1657) and others, such as Anton Deusing (1612–1666), all attempting from their knowledge of Hippocratic texts to rebut or corroborate the latest anatomical and physiological advances. These dissertations or monographs on medical topics focus closely and repeatedly on particular Hippocratic passages; Riolan's view was that 'Hippocrates conceived, Harvey discovered and he (Riolan) corrected'. The commentator's practice of commenting on predecessors' comments is pervasive. Similarly, the letters of Walaeus (Jan de Wale, 1604–1649) base their response to these fundamental medical questions on Hippocratic analysis.

And in the medical faculties of every prestigious university, professors gave courses of lectures on medical topics based on Hippocratic doctrine and involving close study of particular texts, especially *Aphorisms* and *Prognostic*. Guerner (Werner) Rolfinck (1599–1673), who at Jena made practical innovations in the teaching of anatomy and by introduction of a botanic garden, wrote a commentary on *Aphorisms* (1662) and in his lectures cited Hippocratic texts with immense erudition. In all these activities there was active ongoing interaction in a relatively small intellectual community operating in an increasingly international world. The activity of Baccheius in Alexandria evinces the same impetus from medical research to philological exegesis, the same combination of pedagogy and publicity.

In conclusion, I return to van der Linden (1609–1664). The complete Hippocratic commentary, published posthumously by his son (1665), is well known. In addition, van der Linden displayed an unrivalled mastery of literature relating to the great anatomical and physiological discoveries of the age, both in terms of the original presentations and of subsequent reactions to them. He published magisterial collections of the most seminal papers, notably in a beautiful volume published by Blaeu in Amsterdam (1645). Further, he produced a wide-ranging work of his own on physiology, replete with Hippocratic citation and, tellingly, with appropriate Hippocratic quotation as the starting point of each successive chapter (1653). In all his publications, there was a strong focus on detailed

exegesis of Hippocratic texts. There is the same wrestling with philological detail in passages excerpted from texts; the same citation or discussion of, and polemic against, earlier views (frequently those of Zwinger), all in a style close to that of commentary.

Towards the end of his life came an important series of *exercitationes*, professedly the work of students but effectively reflections of the master's doctrine and each concluding with a summation replete with reflections on significant questions: *27 Hippocratic exercises about blood circulation* (*Hippocratis de circuitu sanguinis exercitationes XXVII*) (1659 etc.). The format was a presentation by a named author followed by the master's response; the fourteenth *exercitatio* is the work of one Lucas Walckier. The series was recognised as a standard authority by the immensely erudite doctor-philologist D.W. Triller (1695–1782) in the magisterial *Opuscula medica* (1766–1772).

Finally, I mention *Discussion and Advice on Menstrual Migraine* (*de hemicrania menstrua historia et consilium*) (1660, 2nd ed. 1668), a short piece dedicated to the *serenissima princeps* Sophia Margaretha of Brandenburg-Solms (1634–1664): an attempt to explain and advise on menstrual headaches affecting sometimes the left sometimes the right side of the head. The *serenissima princeps* was married at the age of eighteen to Albrecht von Brandenburg-Ausbach; she died at the age of twenty-nine, having in the intervening years had five children. Perhaps it is surprising that she was free from pregnancy for long enough to notice menstrual problems. As a dissertation on an aspect of period pain the work is useless; as a collection and exegesis of Hippocratic passages on the character and action of the blood it is remarkably full and authoritative: the quasi-commentary at its best.

Typology

Quasi-commentaries take various forms, most common being dissertations, letters and lectures: monographs with a learned agenda, correspondence notionally personal but in truth open and intended for publication, and sequences of pedagogic instruction for learners. Like Socrates' companions, we may have described characteristics rather than reached a definition of the quasi-commentary. But there is no doubt that an open minded examination of the rich tradition will reveal many further examples. <>

PROGNOSTICATION IN THE MEDIEVAL WORLD: A HANDBOOK edited by Matthias Heiduk, Klaus Herbers and Hans-Christian Lehner [De Gruyter Reference, De Gruyter, 9783110501209]

Two opposing views of the future in the Middle Ages dominate recent historical scholarship. According to one opinion, medieval societies were expecting the near end of the world and therefore had no concept of the future. According to the other opinion, the expectation of the near end created a drive to change the world for the better and thus for innovation. Close inspection of the history of prognostication reveals the continuous attempts and multifold methods to recognize and interpret God's will, the prodigies of nature, and the patterns of time. That proves, on the one hand, the constant human uncertainty facing the contingencies of the future. On the other hand, it demonstrates the firm belief during the Middle Ages in a future which could be shaped and even manipulated. The handbook provides the first overview of current historical research on medieval prognostication. It considers the entangled influences and transmissions between Christian, Jewish, Islamic, and non-monotheistic societies during the period from a wide range of perspectives. An international team of 63 renowned authors from about a dozen different academic disciplines contributed to this comprehensive overview.

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The Development of a Handbook-Project

The Tanakh, the Bible, and the Quran are rich in prognostics: From Late Antiquity onward, the three major monotheistic religions, including their internal variations (especially Sephardic and Ashkenazi Judaism, Latin and Byzantine Christianity, and Shiite and Sunni Islam), established their own emphases

and characteristics of prognostication. However, these did not arise independently of one another. Their development resulted, in fact, from the lively exchanges and relationships between them. Whether directly or through reputation, the members of these religious cultures knew each other, despised or feared each other and regarded their colleagues as ideological opponents or allies. Knowing the teachings of another religion often led to an opposing position or to reflection on one's own position.

Some areas of anticipating the future, like apocalyptic thinking or political prophecy, belong to traditional topics of research in the field of Medieval Studies, besides that prognostication remained a marginal field until now. This handbook on prognostication in the Middle Ages now brings the different facets of prognostication together comprehensively for the first time. It emerged from a series of workshops held between 2016 and 2018, each dealing with prognostic elements within the Christian, Jewish and Muslim traditions.

This project was, in turn, prompted by in-depth research carried out at the International Consortium for Research in the Humanities (ICRH) "Fate, Freedom and Prognostication. Strategies for Coping with the Future in East Asia and Europe" in Erlangen, established in 2009 by the Federal Ministry of Education and Research. The way in which people deal with issues of the future is analyzed across epochs and cultures under the leadership of the core disciplines of Sinology and Medieval Studies. As one of the largest interdisciplinary research projects on prognostication worldwide, studies in multiple disciplines were funded. A large number of international visiting fellows presented relevant work on the theme. At numerous events – workshops, conferences, seminars, and lecture series – individual aspects were deepened and their results published. The spectrum of this research ranged from astronomy and astrology to apocalypticism, from the history of science and philosophy to questions of divination and manticism in secular and canonical law, from hermetic tracts to personal preventive medicine, prophecy or observing favorable and unfavorable days, to name but a few areas. An annotated list of the most important relevant publications can be found in the publication by ICRH deputy director Klaus Herbers (Herbers 2019).

After the mutual exchange between Sinology, Medieval Studies and other disciplines was consistently sought and implemented, it seemed obvious to bring the results together. This endeavor was carried out separately by the two leading disciplines, but approached in close exchange with one another, not least in order to discuss and decide on the various theoretical, methodological and structural issues within the dialogue.

The respective volume is now available for the field of Medieval Studies in its religious and cultural diversity. In this introduction, the three editors wish to outline the approach, reflect on the central terms "Prognostication, the Middle Ages, and the Medieval World," and explain the compilation, structure and usage of this volume.

The Varied Forms of Prognostication in Different Societies – Uniform Western Traditions in the Middle Ages?

In 2013, Léon Vandermeersch argued (Vandermeersch 2013), with regard to Chinese history, that the Chinese pictographic scripture of the thirteenth century BCE was not invented in order to state the facts, but rather to record "divination."

This language, he wrote, had developed from manticology. By relying on the examination of divinatory equations, the author concludes, among other things, that there was something like a divinatory rationalism, characterized rather by a "raison manticologique" than by a theological rationality (as in the European West).

Confronting this thesis with the Christian-Latin development, one aspect is striking: although, in the Christian world, the prophet was highly appreciated, fewer calculations were made to fathom the future. This more personal approach has been common in Christianity since the prophet figure was introduced in the Old Testament. Max Weber was so impressed by this concept that he even spoke of a “prophetic charism” (Weber 1922, III, 4 § 10). He was referring to persons who possessed supernatural gifts that others lacked. The charism of the prophet was different from that of the magician or priest. In the Latin West, however, prophecy gained importance above all when, in contact with Byzantium, the ancient Sibylline traditions became relevant. This resulted in the dichotomy between prophets and false prophets.

But what was typical for future visions? For a long time, it was claimed that utopian ideas were barely projected in the Latin Middle Ages (Cf. Hartmann and Röcke 2013, 3–9). Nevertheless, there were also scattered phenomena, directing hope toward the arrival of an earthly realm of peace. Especially the messianic chiliasm aimed at a real reform “in this life.” The word “chiliasm” is derived from the Greek term *chilia* for “thousand” (years), and can be traced back to the twentieth chapter of the Revelation to John, which deals with a “millennial”/thousand year realm of peace, preceding the end of all things. Probably the most impressive example of Christian chiliasm is provided by Joachim of Fiore. His ideas provoked a sustained impact. The philosopher Ernst Bloch (Bloch 1959, 590) called Joachim’s reflections the “most effective social utopia of the Middle Ages” (“die folgenreichste Sozialutopie des Mittelalters”). Joachim built an ideal by making use of biblical symbolism; his most essential source of knowledge remained the Bible. He illustrated this in his Book of Figures, the *Liber Figurarum*.

Conceptually, a third aspect should be emphasized: it is related to the structuring of earthly time. The historical ideas dominant in the Latin Middle Ages followed the doctrine of successive realms, which were finally, at the end of days and in certain forms, raised to another level. Classically, Karl Löwith (Löwith 1953) spoke of “world history and salvation” (“Weltgeschichte und Heilsgeschehen”) and thus of the “theological foundations in the philosophy of history” (“Die theologischen Voraussetzungen der Geschichtsphilosophie”). Apocalyptic thinking, ideas concerning the Antichrist, but even the calendrical determination of the Christian salvation and far more belong, therefore, to the great prognostic designs of the Christian-Latin tradition.

Apart from these aspects – prophecy, utopia, the world ages and apocalypticism –, here were also traditions, that recalled mythical knowledge, developed further practical methods such as the use of lots or resulted from various practices (partially clinging to tradition). These include the position of the stars and their interpretation in astrology, the existing horoscopes, the reading of entrails in the ancient tradition, games and numbers, and many other procedures regarding medical and meteorological prognoses – some of which reached the West as part of cultural exchange.

However, time and space need to be defined more precisely for the large-scale overview intended in this handbook. To date, mainly the Christian-Latin traditions have been the focus but an increasing amount of medieval research is underlining the influence of the Arab-Muslim, Jewish, but also the Greek-Byzantine influences in Medieval History.

Focusing solely on “Occidental” conceptions that only concern the Latin-Christian area not only risk absolutization, but they also ignore the crucial exchange between the different worlds (cf. above all Borgolte et al. 2011; Herbers and Jaspert 2007).

Many works on medieval prognostics have already pointed out that Antiquity had a huge influence on medieval practices (e. g. Tuczay 2012). In the Greek-Byzantine East, prophetic traditions strongly evolved. One has only to recall the prophecy of Pseudo-Methodius, or the Sibylline writings which,

in their later Latin versions as well, reveal strong references to the Eastern Mediterranean. After all, both the Jewish and Arab-Muslim traditions are of special significance, for they intermediated Ancient and Eastern knowledge to the Latin Middle Ages (primarily in the Late Middle Ages). In the present handbook, as stressed at the beginning, these different traditions are taken into account.

In the face of the new discussions arising about the Middle Ages (recently Bauer 2018; cf. also the review article by Lehner 2020), it is indeed challenging to define larger areas with uniform temporal boundaries for these varying geographical regions. The Islamic World for instance included large parts of Spain in the Middle Ages, but in very different ways and intensities during different periods.

For this reason, the difficult decisions in this context were allocated to the involved experts. We wish to express our sincere thanks for their manifold support! We operated with linguistic and religious criteria equally, because these overlap to some extent, too. The differentiation in the Western World is based not only on systematic considerations, but also on the evidence that the “Large Areas,” the Western Roman Empire, Eastern Roman Empire as well as the Islamic and Jewish worlds, emerged from Antiquity (cf. for example Pitz 2001).

The structure we have proposed does not suggest homogeneous cultural areas or periods; but without these “soft” geographical boundaries, this handbook would hardly have been achieved. The respective deviations from a scheme familiar to many at the same time reflect the state of research and the research opportunities within the corresponding disciplines.

Prognostication, the Middle Ages, and the Medieval World – the Evidently Non-self-evident

Why prognostication?

This handbook explores the views of the future in the Middle Ages. The emphasis is placed on the term “prognostication,” whereas other publications highlight “prophecy” or “divination.” This requires an explanation. The future can be anticipated in many different ways, as reflected in the vocabulary of the European languages and its abundance of terms, with all of their semantic ambiguities and overlaps. Many of these terms are loan words derived from ancient Greek and Latin (see also the etymologies in 71 Demaitre, *Medical Prognostication Western Christian World*). The future can be foretold and predicted (*predicere*), foreseen (*providere*), forethought (*prognoscere*), and known beforehand (*precognoscere*). Prognosis, fore-knowledge, has proven to be the central term in this semantic field. When the processes required to gain that fore-knowledge are taken into account, the semantic field widens to include related terms such as prophecy (*propheteia*), the gift to communicate the knowledge revealed. Inspired by divinity, the prophet or prophetess interprets this knowledge, which may or may not be related to the future. Divination (*divinatio*) is the ability to recognize and interpret the signs sent by divine powers. It encompasses the past, present and future. In Hebrew and Arabic, the historical terms used for looking into the future are more or less the equivalents of prophecy and divination (71 Bar Levav, *Prognostication Jewish Culture*; 71 Schmidl, *Medieval Traditions Islamic World*). In European cultural history, however, the term “divination,” originally neutral, acquired a different connotation. The Christian doctrine associated divination with magic, which consequently became a negative term, smacking of superstition (71 Heiduk, *Prognostication Western Christian World*). Unlike the other terms, prognostication is a neutral expression, that clearly relates to the future and also points to both observation and calculation (see also Grünbart, *Prognostication Eastern Christian World*). In this handbook, prognostication is, therefore, used as the standard term for anticipating the future, free of all connotations. It includes the future-oriented forms of prophecy and divination, but also purely mathematical-calculative methods, without any metaphysical or cosmological framework.

If prognostication indicates gaining foreknowledge, the handbook places the focus on how people looked into the future, with which expectations and using which methods. That implicates the fears, hopes, desires, and daily problems that made them want to know the future. People wanted to know what would happen to them and their loved ones – who was the best person to marry, what were the chances of their children surviving, what could be done to stay healthy, when was the best moment to make a journey, and which business transaction would yield a profit. People also wanted to know what was in store for their community, country, and the whole of humankind: good fortune or hardship – would the harvest be good, the political situation stable? Was disaster looming, war, or even the end of time? Which conclusions the knowledge-seekers might have drawn from the wide range of possible answers in order to be prepared for what was to come, is, however, not covered by the subject of prognostication. There are merely a few references in this handbook to whether a prediction was, supposedly, right or wrong; for instance when the narratives of medieval commentators are cited.

This handbook pays equal attention to all forms of prognostication: prophecies inspired by a divinity, interpretations of dreams and visions, calculations of opportune or less opportune days or the influence of stars and constellations, the drawing of oracle lots, the summoning of spirits, or the calculations of assurance risks and the odds of gambling.

To this end, the expertise of many different research disciplines was collected and summarized. Until now, the access to prognostication in each discipline is defined by the specific characteristics of the historical evidence, so most publications on the subject are limited either to a “history of prophecy,” a “history of astrology,” or, under the heading of a “history of magic,” the history of divination, while this handbook presents the sum of what is known about the history of all forms of prognostication in the Middle Ages. The equal treatment of those different forms also breaks with a still widespread, traditional point of view which ranks, openly or implicitly, the subject on the basis of hierarchies of rationality, so the various methods of knowing the future are evaluated according to their degree of progressiveness or backwardness, dull superstition or enlightened spirit, scientific value or irrelevance, religious probity or insubordination, sophistication or primitiveness, or, quite simply, their degree of supposed truth or falsehood. Neither narratives of teleological progress nor accounts of the history of development based on such dichotomies form part of this handbook.

On the contrary – its content and conception may serve as an antidote to certain current forms of prophecy, such as economic forecasts, trend research or future technologies. Still, in spite of the editors’ best efforts to present prognostication in all its diversity as a form of cultural achievement, they must admit that, on occasion, the reader may catch a glimpse of a certain rationality-based hierarchy in some of the articles. This is due to the academic diversity and different scientific cultures of the scholars involved in this project, which the editors did not wish to limit by imposing a compulsory vocabulary.

The Concepts, Practices, and Contexts of Prognostication

The purpose of this handbook is to provide a comprehensive view of prognostication, to shed light on its functions and structures in the social fabric, its significance for customs and the social order, but also to examine the concepts of prognostication prevalent in the medieval world and their practical application. Special attention is paid to the circumstances under which prognostication was practiced in daily life, the habitus of the people involved and their milieu. The particular emphasis which this handbook places on the practical aspects of prognostication is the result of an interdisciplinary dialogue at the IKGF. It became apparent that, more than any other aspects, practical applications allow hands-on comparisons between different cultural environments over the course of history, whereas the comparability of concepts quickly reaches its limits due to their

enormous diversity. The focus on practices leaves sufficient room for relatively unconventional approaches to prognostication such as the study of images and artefacts. It also places the normative and classifying text genres in perspective. They represent the largest part of the historical legacy available for research and have, therefore, long been its main focus of attention. The conventional approach to research into prophecy and divination often builds upon the academic classifications of the Middle Ages – such as Thomas Aquinas’ *Summa Theologiae* – and the definitions they provide. Often, however, these works are examined out of context, without regard to the associated academic and theological discourse, and interpreted as a universal mirror of the medieval worldview. Comparable misconceptions are usually based on the assumption that daily life faithfully reflected the standards set in the legal texts. The genres of normative and classifying texts undoubtedly provide important historical sources, due to the classification schemes they offer and also their sheer abundance, but they usually describe things according to specific discourses or even from an outsider perspective. They rarely contain information about the daily practices of prognostication or the practitioners’ perspective. Ideally, research should focus on the different settings in which prognostication was practiced – from the ruler’s court, the places of learning and monasteries to the households of ordinary people – to convey an overall impression of its role within medieval life.

The editors are keenly aware of how difficult it is to carry out this type of research. The material available is scarce to begin with: the historical tradition offers little evidence in terms of a material legacy, and the written sources are usually limited to the aforementioned standards and classifications. The research is also influenced by the traditions and priorities of the various disciplines, so the degree of accessibility of the historical material varies considerably. An expert in astrological treatise literature, for instance, would not necessarily know what else the archives of a sovereign’s court or a city state contained, and so might find it difficult to piece together instructions on the practice of prognostication and the accounts of the services related to it to create a coherent picture of daily astrological practice in the Middle Ages. The focus which this handbook places on the practical application of prognostication is, nevertheless, important, as it brings out surprising facets of what seemed familiar and points to the gaps in our knowledge and the research.

Which Time Period is Covered by the Term “the Middle Ages”?

In academic and everyday language, the Middle Ages traditionally denote a period in the history of Europe which spans the millennium between 500 and 1500 CE. This handbook, too, follows this convention and aims to provide an overview across this millennium. The editors understand – as mentioned above – that this timeframe is by no means self-explanatory. In the millennium between 500 and 1500, there was no such thing as a culturally coherent European continent, nor were there any common characteristics which would have clearly delimited this millennium from its preceding and ensuing periods. In terms of the history of development, Europe in the seventh century is closely linked to Europe in the fourth century, and Europe in the fourteenth century to Europe in the seventeenth century, whereas the seventh and fourteenth centuries have very little in common. If, therefore, as in this handbook, the term the “Middle Ages” is used in the conventional sense and applied to the whole European continent over the millennium between 500 and 1500, this is done for the purpose of spatial and chronological delimitation and is not to be understood as a political statement, claiming that a homogeneous occidental Europe existed at the time. By exploring the historical roots of “medieval” prognostication in Antiquity and pointing at further developments in the Early Modern Age, characterized by both changes and continuities, two detailed surveys in this handbook illustrate the flexibility of those period boundaries.

The editors chose to adopt a very broad approach to provide a better understanding of prognostication in “Europe in the Middle Ages.” As explained in the following section, the history of prognostication in Europe as such emerges only in its transcultural context, i. e. only when the

history of Christian-Western Europe, Christian-Eastern Europe and non-Christian Europe as well as the history of Europe's neighbors, who were part of the Byzantine Empire and the Islamic empires, are taken into account. It is important to emphasize once more that the term "Middle Ages" is used as a means of chronological delimitation, and is not to be understood as a period in Jewish, Islamic or Byzantine history. The use of both the term "Middle Ages" and the dates indicated according to the "common era" notation system in this handbook have been agreed upon by all participating research disciplines for the purpose of practicability. The fact that this handbook presents different cultural regions with different calendar systems and, consequently, different historical periodizations under the heading the "medieval world," does not mean that these differences are being ignored. The articles about calendars, for instance, address this subject.

What Exactly is the "Medieval World"?

In view of the above, it has already become quite clear that the medieval world, as the focus of this handbook, is neither limited to a specific – however defined – cultural region such as "Latin Europe," nor to the geographical continent of Europe (which was defined differently in Antiquity and the Middle Ages and ended at the banks of the Don in the East). With regard to the subject of prognostication, the editors consider it necessary to highlight the transcultural relations between the different regions. These relations result from the shared cultural heritage of Antiquity, which was transmitted, transformed or received again in a variety of philosophical concepts, scientific methods and the practice of prognostication in daily life in a Christian, Jewish or Islamic environment. Part of this common heritage found its expression in the prophetic revelations of the monotheistic religions. The fact that the medieval world did not end at the boundaries of the European continent is reflected in the history of prognostication, which has always been characterized by knowledge transfer between the Jewish, Greek-Byzantine, Latin-Western traditions and those of the Islamic world. The West profited most from the flow of this knowledge transfer. In many areas – including prognostication –, the foundation for many fields of knowledge was laid, starting with mathematical observation and calculation methods to empirical nature observation and cosmological interpretation methods, such as astrology. Knowledge transfer in the Middle Ages was more than simply the rediscovery of ancient wisdom, although this misconception is postulated repeatedly, even in academic publications. The knowledge which the West received above all from translations from Arabic was not a linguistically deformed version of the wealth of knowledge from the ancient Hellenistic world, but an amalgamation, further processing and enrichment of different concepts and traditions, being a post-antique cultural achievement in its own right. Catchphrases, such as statements about the presumably pure Aristotelianism of scholastic philosophy or a medieval renaissance of Antiquity, oversimplify and distort these historical facts.

But how can this complex and culturally interconnected medieval world be best described? The editors decided to divide the individual thematic blocks on prognostication into four parts, dedicated, respectively, to the Western-Christian, Eastern-Christian, Jewish and Islamic traditions, and to present them as equal to provide the reader with a tool for drawing direct comparisons. This "quadrinity" appeared to be the most pragmatic way of including the academic disciplines of Medieval Studies, Byzantine Studies, Jewish Studies and Islamic Studies in the project, each in their own right. Even this subdivision of the medieval world, however, is simply a means to providing a transparent outline of the subject which follows the cultural dominants Latin-Christian, Greek-Christian, Hebrew-Jewish and Arab-Muslim. It is by no means to be understood as a postulate claiming that there were four homogeneous cultural areas in the Middle Ages, because each of these areas is in itself highly heterogeneous. Many parts of Europe, for example, were only Christianized late in the Middle Ages, and Christianization has always been a lengthy process, sometimes stretching over the whole medieval millennium. This handbook attempts to do justice to "pre-Christian" Europe as well.

Three overviews address the Celtic, Nordic and Slavic traditions of prognostication. They illustrate a recurring problem: these civilizations did not leave behind any first hand testimony in written form. What little is known about them is based on the outside perception of Roman writers or Christian missionaries and chroniclers, or on testimonies such as the Nordic sagas, which were either written by Christian authors or carry the distinctive marks of contact with Christianity. These historical sources do transmit a rather deformed image of “indigenous” worldviews and cultural practices. Pagan civilizations, like those of the Avars or Sami, whose testimonies related to prognostication are almost entirely either archeological artifacts that are difficult to interpret or post-medieval references, could not be included in the handbook because of the immensely difficult research situation related to these.

The differentiation between pagan and non-pagan is just one aspect of the cultural heterogeneity of the medieval world that all of the articles contained in this handbook are committed to represent. In the Christian West, there are not only sources in Latin but also in vernacular languages; the Christian East covers not only Byzantium, but also the Eastern European Slavic world; while the Jewish traditions come from the Mizrahi, the Sephardi, the Ashkenazy, the orthodox mainstream and the mythical branches. The authors of the articles on the Islamic world will have found it particularly difficult to develop an overview of the cultural and religious heterogeneity of the area between Andalusia and South-East Asia. The extremely difficult question of how to define and delimitate this Islamic world and relate it to Europe could only be answered by putting the focus on points of orientation in or near the Mediterranean region or concentrating on particularly influential traditions. In the end, the desiderata in many fields of research assisted the actual selection which allowed the authors to refer mainly to their own subjects.

This handbook does not present the medieval world within clearly demarcated borders, but this vagueness has its own appeal, as it offers the advantage of facilitating the investigation of a large number of historical phenomena and the equally large number of traditions in the humanities devoted to their studies, free from any arbitrary restrictions.

How to Use this Handbook

This handbook is divided into three major sections. In the first part, as already mentioned, the legacy of antiquity, the developments in the pagan world, as well as an overview of the continuities and innovations of the early modern period are examined in separate survey articles. There is also an overview of the prognostics in the Latin-Christian, Greek-Christian, Hebrew-Jewish and Arabic-Muslim traditions. The findings from the individual studies in the following two sections are brought together here and supplemented at certain points. In addition, the functions of prognostication are analyzed, such as their social contexts, the role of experts and clients, or their occasions.

The second section forms the core of the handbook. Nine areas were identified in which medieval prognostication manifested itself. These are illuminated from the perspective of the four mentioned traditions. This includes the area “Eschatology and Millenarism,” already mentioned above, with the various eschatological scenarios. In the second subchapter “Prophecy and Visions,” the division into four traditions was abandoned, since this topic could not be separated from the eschatology in the Byzantine context. Explanations of special forecasting techniques follow. First of all, there is “Dream Interpretation,” which can be seen as an anthropological constant up to the present day. The distinction made here between visions and dreams has nothing to do with the transcendent status (of the dreamer/visionary), but rather refers to literary genres: while visionary reports emerged in the Middle Ages, particularly in monastic contexts, tracts on dreams look back to a tradition dating back to ancient times. Various techniques, which differed in the different traditions, are the subject of the “Mantic Arts” chapter. The other sub-chapters refer to “Astral Sciences,” “Calendrical

Calculations,” and “Weather Forecasting.” It concludes with a contribution on “Quantifying and Managing Risks,” the forecasting of risks, now the basis of modern insurance. This is presented exclusively from a Latin-Christian perspective, since the research situation in the other areas has so far failed to illustrate this phenomenon clearly.

Each of these contributions follows an internal structure. A five-part system was developed and proposed to the respective authors. This envisaged the individual areas as: (I.) “Definitions and Terminology,” (II.) “Written Sources and Artifacts,” (III.) “Techniques and Manifestations,” (IV.) “Developments, Historical and Social Contexts,” and (V.) “Medieval Classifications and Discussions.” The authors adapted this proposal to the respective circumstances for largely understandable reasons. This is due to the research situation and research tradition: the individual traditions can access diversely detailed arrangements of the respective topic. This also means that some contributions are shorter than others. Aside from that, of course, not every topic can be optimally represented by the intended internal structure. This applies in particular to the “Mantic Arts.” Cross-references between the individual chapters (represented by: ^ author, chapter) refer to similar developments or to the fact that individual considerations in the different traditions were of comparable importance. In most cases, source citations are reproduced in English, and transliterations from Arabic and Hebrew were conducted in accordance with the respective standard transliteration systems. Names should be given in a standard form but, given the sheer number of cases, errors should be pardoned. The articles are intended to reflect the current state of research and offer further literature in short references in the text as well as in an attached “bibliography.” Editions of classical works (such as Thomas Aquinas or Cicero) were not included, as these passages are standardized in every edition.

The third section offers a “Repertoire of Written Sources and Artifacts.” This consists of detailed representations of text genres, text corpora, individual works or descriptions of certain objects as concrete manifestations of prognostication. The articles, which are concise in comparison to the chapters of the previous sections, are equipped with a bibliography which is divided into “Primary Sources” and “Secondary Literature.” In this section, the division into the different traditions has largely been abandoned. Therefore, space was created to undertake a closer examination of the special phenomena of individual traditions. Wherever necessary, this is indicated by cross-references both in the chapters of part II and in the repertoire itself. The repertoire benefited particularly from the research environment at the ICRH. Most of the visiting fellows of the past few years contributed a short entry here. On the one hand, this leads to a certain focus due to the competences of the contributors while, on the other, it is the reason why the Christian West is most present in the repertoire. The handbook concludes with an extensive register of names and places. <>

FATE AND FORTUNE IN EUROPEAN THOUGHT, CA. 1400–1650 edited by Ovanes Akopyan [Series: Brill's Studies in Intellectual History, Brill, 9789004359727]

If the universe were conceived to fulfill a certain divine plan or to manifest God's will and glory, what would the place of an individual be within this plan? What is more, if, from the very beginning of its existence and through divine providence, it were predestined to be driven toward a certain end, how could people adjust their individual lives to the incognizable universal design and react to the obscure future fraught with both luck and failure?

These questions, which have occupied humanity for centuries, formed a remarkable element of early

modern European thought. This collection of essays presents new insights into what shaped and constituted reflections on fate and fortune between, roughly, 1400 and 1650, both in word and image. This volume argues that these ideas were emblematic of a more fundamental argument about the self, society, and the universe and shows that their influence was more widespread, geographically and thematically, than hitherto assumed.

Contributors: Damiano Acciarino, Ovanes Akopyan, Elisabeth Blum, Paul Richard Blum, Jo Coture, Guido Giglioni, Dalia Judovitz, Sophie Raux, Orlando Reade, and John Sellars.

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Index Nominum

Excerpt: Starting, roughly, from the late fourteenth century, first in Italy and later across Europe, Renaissance scholarship became particularly concerned with an issue that received a second wind in the wake of the reception of the classical tradition. The question of whether free will and predestination are in fundamental conflict with each other was indeed posed in ancient and medieval thought. However, it significantly intensified as a consequence of the revival of an avalanche of forgotten sources, mostly of ancient origin. These texts appear to have provided a fresh intellectual perspective on what might determine the vicissitudes of fate and how alleged determinism of human life could be reconciled with divine providence. On a more profound and theoretical level, Renaissance and early modern philosophical, theological, and ethical reflections on fate inevitably touched upon the problem of whether the universe had been divinely designed. If it were conceived to fulfill a certain divine plan or to manifest God's will and glory, what would the place of an individual be within this plan? What is more, if, from the very beginning of its existence and through divine providence, it were predestined to be driven toward a certain end, how could people adjust their individual lives to the incognizable universal design and react to the obscure future fraught with both luck and failure?

These questions, which have bothered humanity for centuries, from ancient philosophy to Martin Heidegger's *Dasein* and Albert Camus's absurdism in *The Myth of Sisyphus*, formed a remarkable element of early modern European thought. Alongside a renewed interest in classical antiquity, two factors similarly contributed to a growing number of accounts centered on the notion of fate. First, fifteenth- and sixteenth-century political thought devoted a great deal of attention to the ways in which the concepts of "virtue politics" and the ruler's fortune could be put in relation to statecraft.² These socio-political discussions reached their climax in the work of Niccolò Machiavelli, which heavily influenced the early modern political discourse on the whole. Second, lotteries and gambling that began flourishing from the sixteenth century were clearly indicative of the early developments of capitalism, bringing the problem of one's fortune down to practice in place of pure theory. Given the breadth of the subjects they discussed, it comes as no surprise that fate narratives spread across a variety of disciplines and geographical locations. Thus, the ideas, most of which were initially put forth in the intellectual environment of early Renaissance Italy, eventually found their way beyond the Alps, and new approaches to fate and fortune followed. Largely drawing upon a conference held at the University of Warwick in May 2016, this interdisciplinary volume, placed at the intersection of intellectual history, philosophy, literary studies, and art history, sheds new light on early modern engagement with determinism. It investigates how contemporary scholars and artists across Europe thought on the issue in seeking to establish to what extent human life depends on the contingent.

The *fatum* dilemma was widely debated in antiquity. Suffice it to recall Sophocles' *Oedipus Rex* or Seneca's *Letters to Lucilius*, which, despite having been written in completely different contexts and periods, stress the deterministic character of human life and insist on one's full acceptance of the fruits of fate, either malign or benevolent. The Greek discourse of fate was additionally reinforced as a result of the transmission of occult knowledge from the Middle East, mainly of astrology. By the third century BC, this knowledge had spread throughout Greece and become part of philosophical discussions on *heimarméne* (destiny, fate). Along with the diffusion of Stoic thought, with its famous idea of the casual chain, first in Greece and later in the Roman Empire, the occult understanding of the universal design contributed to the formation of a framework in which the concepts of fate, fortune, and predestination were explored as a whole. However, despite the remarkable impact Stoicism had on contemporary thinking, some of the prominent ancient philosophers refused to accept the fatalistic interpretation of human destiny uncritically. Among those who proposed

alternative approaches to fate, Plotinus and Alexander of Aphrodisias are to be mentioned *in primo loco*.

As some studies have clearly shown, Plotinus polemicized with the Stoic tradition rather than with particular Stoic philosophers of the time. While demonstrating a refined expertise in Stoicism, which he considered to be the most dangerous form of “anti-Platonism,” and sometimes borrowing from the opponents, Plotinus firmly rejected Stoic materialism and epistemology. This consequently brought him to the Stoic notion of universal causality to which he opposed the providential governance of the universe combined with God’s goodness. According to Plotinus, it left room for a human being to reject the fruits of evil passions and turn the soul toward to the Good, allowing them to take personal, seen as primarily moral, responsibility for their actions. Plotinus went on to say that external elements occasionally interpreted as the causes of events, such as the position of the stars and planets, are to be regarded exclusively as signs of providence’s involvement in the terrestrial world. Plotinus’s position on fate and fatalistic astrology was rediscovered in the Renaissance and influenced, among others, Marsilio Ficino.

Apart from its attack on Neoplatonism, Stoic teaching on the causal chain was subjected to criticism by the Peripatetic school personified above all in the figure of Alexander of Aphrodisias. As is well known, the fascination for astrology and other deterministic theories in Rome, at the court of the emperor Septimius Severus and his heirs, led Alexander of Aphrodisias to write his famous treatise *De fato*. There, Alexander opposed the Stoic idea of determinism, claiming that there were no pre-determined causes for terrestrial events. He insisted that human beings were responsible for their own decisions, and that chance was a source for human freedom since it allowed the breaking of a casual chain. It is also worth noting that Alexander’s *De fato* was known in the Middle Ages. William of Moerbeke, a prolific expert in, and translator of, Greek philosophical and scientific texts, used extensively by Thomas Aquinas, translated it from Greek into Latin. Alexander’s legacy received its second life in the sixteenth century at the University of Padua, the most renowned center of Aristotelian philosophy in the Renaissance. Alexander’s approach, including his discourse on fate, was seen as a revived ancient Greek alternative to the still-dominant pro-Averroistic branch within the Aristotelian commentary tradition. This shift affected the spirit of early sixteenth-century Paduan production and resulted, *inter alia*, in the texts concerned with fate and predestination, such as Pietro Pomponazzi’s *De fato, de libero arbitrio et de predestinatione*.

Of the array of ancient responses to fate, Christian teaching adapted some elements of Stoicism while, at the same time, firmly rejecting determinism. What Christians were inclined to admit was acceptance, to a certain extent, of the fruits of fate, considered to be manifestations of the divine will. God might direct someone toward salvation through ordeals that tested and verified their faith. This became a widespread *topos* in Christian hagiography, starting from the very first saint’s life, Saint Anthony of Egypt. However, unlike Stoics, for whom *apatheia* is a sage’s highest and most noble state, Christian teaching presupposed that humans were eligible not to accept the ordeals and, moreover, to oppose them. Thus, in a significantly modified and Christianized version, elements of the Stoic view of fate appeared in later theological writings. Another explanation for how the Stoic elements were integrated into the Christian worldview is that several ancient thinkers’ deeds and texts were later reinterpreted from a Christian position. The most famous example of such a conversion is Virgil, whose *Eclogue IV* was believed to have predicted the birth of Christ. Seneca went through the same transformation. Jerome and Augustine, as well as later scholars and theologians, such as Jacobus da Voragine, praised him as one of the foremost Christian writers. This image of Seneca as a pre-Christian saint was reinforced in the early Renaissance.

The way in which Christian theology reshaped bits of Stoic teaching on fate is evident in Boethius's *De consolazione philosophiae*. Although containing no direct reference to Christianity, this influential treatise extensively touched upon the questions of *fortuna* and predestination. Written in the form of a dialogue between Boethius himself, jailed and awaiting trial, and "Philosophy," the *De consolazione* stressed the central notions of Christian teaching of man's and woman's free will and substantive goodness. At the same time, Boethius admitted that there was no implicit correlation between one's prosperity and wealth and virtue. Through the vicissitudes of fortune, good people could fall into ruin or favor evil. This does not, however, negate the centrality of virtue since that is what determines one's life. To illustrate the unstable character of fortune, Boethius introduced the image of the wheel – something that penetrated the discourse on fate, both in literature and art, in the following centuries. Widely read and translated into the major European languages in the Middle Ages, *The Consolation of Philosophy* did not lose its importance in the Renaissance and continued to play a crucial role in later debates on the nature of fate.

The other substantial problem to which Christian theology had to respond was the relationship between divine providence and free will. Evolved in the heated controversy with the followers of Pelagius, the Church's position was coined by Augustine. According to the Church Father, and in contrast to Pelagius's teaching, the free will that provided humans with an ability to choose good over evil was insufficient to obtain salvation. To turn them to the right path, God, as the Supreme Being that controlled and governed the universe, might intervene in the life of people and grant them the gift of divine grace. The latter, which implied divine providence, did not deny free will but, by its importance, undoubtedly exceeded all other divine gifts and led people to salvation. Later advanced in medieval scholasticism, receiving its full justification in Thomas Aquinas's *Summa theologiae*, the Augustinian theory presented a famous dilemma: although the soul kept control of its actions, God was aware of what choice it was inclined to make and, therefore, might act to direct it, without, again, compromising free choice. As is well known, in the sixteenth century, John Calvin adopted Augustine's account to develop his doctrine of double predestination and predestined salvation.

On the one hand, these features formed the grounds for what early modern scholars and artists viewed of fate and fortune. On the other, as mentioned above, a good deal of newly recovered primary literary and philosophical sources, as well as a deep interest in the imagery of fate, significantly intensified these reflections. Over the period between the fifteenth and early eighteenth centuries, *fatum*, under numerous faces, pervaded all layers of early modern intellectual culture. The Reformation that had eroded the religious unity across Europe; the dramatic socio-political developments of the time; and the proliferation of texts that challenged the notion of universal design, from both philosophical and scientific perspectives, all made the contingent, in general, and one's personal fate, in particular, matters of notable anxiety. It might seem that at the turn of the eighteenth century, things went through substantial changes. Mathematization of natural knowledge, rationalization of the economic life and public sphere, and the development of the scientific method are believed to have put the realm of the probable under control. However, the satisfaction with the rationalized probability (to use Lorraine Daston's words), which exceeded the boundaries of mathematics and science, and permeated into philosophy, did not last long; late-nineteenth- and twentieth-century thinkers kept constantly returning to what their predecessors had contemplated for generations. Thus, in reconstructing the history of human interaction with, and understanding of, *fatum*, the early modern era particularly concerned with the notion in question on both the divine and human levels deserves closer examination.

This volume evidences the multifaceted character of early modern reflections on fate and fortune. It does not pretend to cover the subject in its entirety, therefore making some lacunae inevitable. What this collection does aspire to do, however, is to instance the main fields of

knowledge in which thinking on *fatum* became central at the time, as well as to illustrate the approaches contemporary scholars applied in dealing with it. This determines the volume's focus on philosophical, political and societal, and art historical topics.

As will be shown below, Renaissance and early modern philosophical treatments of fate and fortune texts witnessed multidirectional trends. On the one hand, the early Italian Renaissance adaptation of Stoicism for the benefit of Christian teachings proved highly successful. The Stoic idea of a person's humility in the presence of the uncertain and predestined dressed up in Christian wording received wide support beyond the Apennine peninsula and, subsequently, culminated in Justus Lipsius's *De constantia*, a "manifesto" of early modern Christian Neo-Stoicism. On the other hand, not only did the newly revived philosophical currents, such as Platonism and atomism, shake the dominance of Aristotelianism across the whole spectrum of knowledge; they, particularly atomism that postulated the constant random motion of atoms, cast doubt on the principal conception of the universal design. This, by extension, affected an understanding of providence and personal destiny. There were three ways to react to these challenges: to adjust the new theories to keep an existing framework; to substitute what was thought to have become outdated with new concepts; or to admit that the universe may not have been designed as previously suggested by tradition and that the degree of divine involvement in human affairs and the limits of human cognition of this design, including that of an individual's *fatum*, could be different than had been presumed before. In the long run, this paved the way for the rise of modern science, on the one side, and further discussions on causality in the age of Enlightenment and Enlightenment deism, on the other.

As regards the socio-political and artistic observations of fate, they were similarly grounded in a long-standing tradition but gained fresh impetus in the fifteenth and sixteenth centuries. As the contributions in this volume demonstrate, apart from benefiting from the classical and medieval traditions, these reflections were specifically responsive to structural changes, political, economic, and gender, which formed the core of early modern intellectual culture on the whole. Thus, what this book aims to provide is a broad and manifold picture of early modern speculation on fate and fortune spreading through all fields of knowledge and through all of Europe, from England to Russia.

The volume's goal explains its structure. The division of the parts remains symbolic: in delving into a variety of subjects, the contributions thematically and intellectually interact with and complement each other. However, to give some order to the collection, it is divided into three main clusters. The first four essays center on the concept of fate in Renaissance and early modern philosophy. John Sellars gives a detailed analysis of the Christianized use of Stoic and Platonic teachings among early Renaissance scholars, from Petrarch to Marsilio Ficino. Paul Richard Blum examines Coluccio Salutati's *De fato and fortuna* and puts the humanist's argument into a larger framework of the Christian understanding of divine providence and fortune. Elisabeth Blum scrutinizes Giordano Bruno's *Spaccio de la bestia trionfante*. Through reconstructing Bruno's use of the three terms, providence, fortune, and fate, she uncovers Bruno's multifarious interpretation, metaphysical and moral, of the various forms of causation. Jo Coture's essay exposes the threats that the revival of atomism posed to Christian teaching on free will and providence. Together with an inquiry into the intellectual context of late-sixteenth- and seventeenth-century discussions on fate, his meticulous reading of Pierre Gassendi's *Syntagma philosophicum* informs of the ways in which early modern philosophy sought to remove the points of contradiction between atomism and Christian theology.

The second cluster zooms in on the political and societal factors that defined the discourse on fate and fortune in the early modern period. Exploring the relationship between the body of nature and the body politic, on the one hand, and that of the notion of *antiperistasis* and fortune, on the other, Guido Giglioni thereby sheds new light on how Niccolò Machiavelli made use of natural philosophy

and anatomy to explain the political meaning of fortune. On the basis of a good deal of textual evidence that attests to the transformations of the image of Fortuna in English Renaissance poetry, Orlando Reade masterfully interprets the literary tendencies from a methodological perspective of gender and race studies. Sophie Raux's contribution shifts the reader's attention to another, more practical form of engagement with fate. Although undoubtedly echoing the intellectual trends of the day, the increasing popularity of lotteries and gambling was at the same time symptomatic of the rise of early capitalism in the Low Countries in the sixteenth and seventeenth centuries. This, as Raux has perfectly shown, laid the groundwork for fate or fortune (depending on one's success) to become an issue of curiosity, attraction, and concern to a wider audience, which, in turn, manifested in a rich selection of imagery.

Raux's essay connects the second part to the third, which focuses essentially on the artistic representations of fate. It begins with Damiano Acciarino's erudite study of the iconology of fate in Italian Renaissance art. In the footsteps of Aby Warburg, Erwin Panofsky, and their followers, Acciarino reveals how literature and philosophy intersected with visual arts in developing an impressive and diverse collection of iconographical models of fate. Dalia Judovitz convincingly situates the oeuvre of the leading seventeenth-century French painter Georges de La Tour in the intellectual and socio-economic context of contemporary Europe and discloses the multi-layered background behind his paintings featuring the theme of the contingent. Finally, Ovanes Akopyan scrupulously investigates the origin, significance, and political message of two enigmatic early eighteenth-century Russian icon paintings that deliberately accentuated the problem of the ruler's personal *fortuna* in relation to one's desire to foresee the future. Demonstrating that the works' iconographical scheme was grounded in medieval astrological sources, Akopyan's article traces the transmission of Western European texts and imagery to Russia. It also suggests that starting from the sixteenth century, astrology, a discipline that interfered in the domain of the unknown and endangered the purity of Christian teaching on divine providence and free will, obtained a distinct political meaning in early modern Russia.

Therefore, this volume presents new insights into what shaped and constituted the Renaissance and early modern views of fate and fortune. It argues that these ideas were emblematic of a more fundamental argument about the self, society, and the universe and shows that their influence was more widespread, both geographically and thematically, than hitherto assumed. <>

WHAT CAN'T BE SAID: PARADOX AND CONTRADICTION IN EAST ASIAN THOUGHT by Yasuo Deguchi, Jay L. Garfield, Graham Priest, and Robert H. Sharf [Oxford University Press, 9780197526187]

Discusses engagement with paradox as a theme and conceptual arc in Daoist, Chinese Buddhist, and Japanese Buddhist philosophy.

Explores paradox as a rational, rather than mystical, approach in East Asian philosophy.

Defends dialetheism as a tool for exegesis in East Asian philosophical studies.

Typically, in the Western philosophical tradition, the presence of paradox and contradictions is taken to signal the failure or refutation of a theory or line of thinking. This aversion to paradox rests on the commitment—whether implicit or explicit—to the view that reality must be consistent.

In **WHAT CAN'T BE SAID**, Yasuo Deguchi, Jay L. Garfield, Graham Priest, and Robert H. Sharf

extend their earlier arguments that the discovery of paradox and contradiction can deepen rather than disprove a philosophical position, and confirm these ideas in the context of East Asian philosophy. They claim that, unlike most Western philosophers, many East Asian philosophers embraced paradox, and provide textual evidence for this claim. Examining two classical Daoist texts, the *Daodejing* and the *Zhaungzi*, as well as the trajectory of Buddhism in East Asia, including works from the Sanlun, Tiantai, Chan, and Zen traditions and culminating with the Kyoto school of philosophy, they argue that these philosophers' commitment to paradox reflects an understanding of reality as inherently paradoxical, revealing significant philosophical insights.

Review

"The use of paradoxes across East Asian philosophies is well known, but this book is rare in taking those paradoxes seriously, both as claims that reality is indeed contradictory and as philosophical positions that are reasonable and even true. It is a valuable contribution to the growing field of world philosophy." -- Frank Perkins, University of Hawai'i

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This book was written collectively. Although individual names or groups of names are associated with each chapter, reflecting those who wrote the initial drafts and exercised editorial control over those chapters, each member of the authorial collective was involved with the conception and writing of the entire book, and we take collective responsibility for its contents. We wrote over a period of several years, supported by a series of workshops.

Keywords: paradox, contradiction, dialetheism, paraconsistency, Asian philosophy, Chan, Zen, kōan, Daoism, Kyoto School

Excerpt: In this book, we bring together two topics that have never been put together before: dialetheism and East Asian philosophy. We will start by orienting the reader to these two topics. We will then provide some background on Indian Buddhism and briefly survey where our journey will take us. Finally, we will comment on the turn in our last chapter.

Dialetheism

Let us start with dialetheism, since this is a view that is likely to be unfamiliar to many readers.

A *dialetheia* is a pair of statements, A and $\sim A$ (it's not the case that A), which are both true. Alternatively, and equivalently given a natural assumption about how negation works, a *dialetheia* is a statement, A , that is both true and false. *Dialetheism* is the view that there are some *dialetheias*. A *dialetheist* holds that *some* contradictions are true, not (necessarily) that *all* contradictions are true. The view that all contradictions are true is called *trivialism*, and it is a special case.

Dialetheism countenances the violation of the Principle of Non-Contradiction (PNC): the thesis that no contradiction can be true. The PNC has been high orthodoxy in Western philosophy (p.2) since Aristotle's badly flawed but highly influential defense of it in the *Metaphysics*. While there have been some important Western philosophers who rejected the PNC—Hegel is the most obvious example—these have been but isolated voices, at least until recently.

Contemporary dialetheism is closely connected with recent developments in logic, and specifically *paraconsistent logic*. In non-paraconsistent logics, such as the familiar Frege/Russell logic, a contradiction implies everything. Hence, if one countenances any contradiction, one is immediately committed to accepting any proposition whatsoever, and this fuels the reluctance on the part of many philosophers to countenance true contradictions: trivialism is a high price to pay. A paraconsistent logic, on the other hand, is one in which contradictions do not imply everything. In the second half of the 20th century, a number of logicians have shown that paraconsistent logic is viable and indeed useful. Using a paraconsistent logic thus opens the door to the rational acceptability of theories that contain contradictions. These may then reveal metaphysical possibilities that might otherwise go unnoticed, or that might be dismissed out of hand, including, for example, the possibility that reality itself is inconsistent. This is because in a paraconsistent framework, contradictions do not spread, but are localized as “singularities.” (We will not go into the logical details here. We decided, as a matter of policy, to keep this book largely free of technical issues. Those interested can find the relevant literature in the references.)

Unsurprisingly, then, we have seen a number of philosophers who have come to endorse contradictory theories about various topics. The most high-profile of these concerns paradoxes of self-reference, such as the liar paradox. This is the simplest of a whole family of paradoxes. It concerns the sentence *This sentence is false*. If it is true, it is false; and if it is false, it is true. And, since it is either true or false, as it appears it must be, it follows that it is *both* true and false.

The liar paradox is an ancient and venerable paradox, and it has occasioned much discussion in the history of Western logic. Nearly all the discussions have tried to explain what is wrong with the contradiction-generating reasoning. The lack of success is underscored by the fact that, after some two and a half millennia, there is still no consensus on the matter. A dialetheic approach to the paradox cuts through this tortured history. The reasoning is simply what it appears to be: a sound argument for a true contradiction.

The applications of dialetheism have now gone a long way beyond the paradoxes of self-reference. Let us note briefly a few more examples. One of these concerns the nature of motion and its paradoxes. Dialetheism may be applied to solve some of these. Consider one of Zeno's paradoxes of motion: the Arrow. Take an arrow that is travelling from point a to point b . Consider any instant of its motion. At that instant, because it is an instant, progress made in its journey is zero. But the time of the motion is composed of all the instants in it. At each such instance it makes zero progress. An infinite number of zeros added together (even uncountably infinitely many) is zero. So the progress made on the whole journey is zero: the arrow never moves.

The dialetheic solution is that at every instant it *does* move. The arrow is where it is, but it is also where it is not. Since it is in motion, it is already at a later point of its motion, and maybe also at an

earlier point of its motion. Since it makes progress at an instant, it can make therefore progress at a sum of instants. Clearly, the analysis is dialetheic.

Another sort of paradox to which dialetheism may be applied—and one which is more relevant to what is to come, since it may deal with inconsistent identities—is the sorites paradox. Sorites paradoxes are paradoxes concerning some predicate which is such that making small changes does not affect its applicability. One famous sorites paradox concerns the Ship of Theseus. Theseus had a ship, call it *a*. Every day, he changed one of the old planks and replaced it with a new plank. After a while, every plank in the ship had been changed. Let us call the resulting ship *b*. Changing one plank of a ship does not affect its identity. So after each day, the ship was still the ship *a*. In particular, $a = b$. However, Theseus, being a careful fellow, kept all the old planks, and it occurred to him to reassemble them, which he did. Clearly, the reassembled ship is *a*. Equally clearly, it is not *b*, since they are in different places, so it is not the case that $a = b$. That is, *a* is and is not *b*. If you are not a dialetheist, this is obviously a problem. If you are, you may just take yourself to be in the presence of another sound argument with a contradictory conclusion.

A final application of dialetheism, and one which will also be very relevant in what is to come, is a paradox of the ineffable. A number of very important Western philosophers have argued that language has its limits: there are things of which we cannot speak. Thus, in the *Critique of Pure Reason*, Kant tells us that the categories are not applicable to noumena, such as a thing in itself. Any statement about such a thing would apply the categories, so one cannot speak of such things. Or, in the *Tractatus*, Wittgenstein tells us that statements are about objects. But statements have a form, and form is not an object. Hence, one cannot make statements about form. Or again, in *Being and Time*, Heidegger tells us that being is not itself a being. It follows that one can say nothing about it. For, as he also tells us, to make a statement about anything is to treat it as a being. But as is evident to even a cursory perusal, Kant, Wittgenstein, and Heidegger say much about the things about which they say we cannot talk, if only that we can say nothing about them. If one takes any of these theories to be correct, one therefore has a paradox at the limits of the expressible.

The philosophers in question were, of course, well aware of these contradictions. And each suggested ways in which the contradiction may be avoided. Wittgenstein even resorts to the desperate measure of calling the claims in his book literally meaningless, including, presumably, that one, resulting in further paradox. Though this is not the place to go into the matter, it is not hard to see that these ploys do not work. If one subscribes to one of these positions, a radical, but arguably more sensible, position is simply to accept the contradiction at the limits of thought. So much for the first of our two conjoined topics. Let us move to the second: East Asian philosophy.

East Asian Philosophy

As we have noted, Western philosophical traditions have generally been hostile to dialetheism. Again generally speaking, the Asian philosophical traditions have been less so—though Western commentators on these traditions have been hesitant to endorse dialetheic interpretations of the texts involved for fear of making their favorite philosophers appear irrational, given the interpreters' Aristotle-inspired *horror contradictionis*.

Take, for example, South Asian philosophy. Early Indian philosophy is arguably more open to dialetheism than Western philosophy. Various philosophers endorse the thought that some things are both true and false (or neither true nor false, thus endorsing the possibility of truth value gaps, as well as truth value gluts). This idea is often represented in a framework called the *catuṣkoṭi* (four corners), according to which a statement may be true (only), false (only), both, or neither. The framework is deployed by both early Hindu and early Buddhist thinkers. Jain logic utilizes not four but seven semantic valuations! This is their *saptabhāṅgī* (seven-fold categorization), and some of

these valuations are clearly dialetheic. Later Indian philosophy is much less dialetheism-friendly. Indeed, under the influence of the orthodox Nyāyā philosophers and the Buddhist epistemologists Dignāga and Dharmakīrti, the PNC becomes orthodox in Indian thought around the 6th century CE.

Turning to East Asia, matters are different again. Unencumbered by either Aristotelian or Nyāyā thinking, philosophers were freer to develop and explore contradictory theories. Indeed, many East Asian texts are full of paradoxical-sounding claims. Of course, it would be absurd to suppose that on each such occasion, the author of the text is endorsing a dialetheic view. Such authors are as entitled to metaphor and poetic license as anyone else. Sometimes context may show that the contradiction is simply the penultimate line of some kind of *reductio* argument. Sometimes contradictions may be uttered for their shock value alone, to shake up someone's thinking. That is, they have value as *upāya* (skillful means). And sometimes, if the authors had been more careful, they would have indicated that the contradictory claims were true in different senses.

Even when all such occurrences of contradictions are set aside, however, there remain many places where the authors utter contradictions intending to endorse them, literally and unambiguously. The contradictory natures of the things concerned are not only endorsed, but they are also defended, explained, and their consequences explored. The world (that is, all that is the case), they argue, has contradictory aspects. It may be that some of these contradictory aspects reveal profound truths about the nature of reality and human existence, truths that would be inaccessible to one limited by the bounds of consistency.

Background on Madhyamaka

This brings us to the present book. Its point is to show that many East Asian philosophers were indeed dialetheists; moreover, that dialetheism was central to their philosophical programs. That is, not only were East Asian philosophers less shy of contradiction than their Western colleagues, but they may have developed important insights that evaded their Western colleagues as a consequence of this willingness to entertain, and sometimes even to embrace, paradox. We will consider a number of texts from East Asian philosophy, examining and explaining the dialetheias their authors endorsed, the reasons for them, and their philosophical consequences.

Interpretation is, of course, always a difficult and contentious matter, and there will be times when the friends of consistency might reasonably disagree with our interpretations. But in some cases, that the view being endorsed is dialetheic is virtually impossible to gainsay. Moreover, bearing in mind the historical and intellectual influences that run between our texts, the central claim of our book, that there is a strong vein of dialetheism running through East Asian philosophy, would seem to be as definitively established as any piece of hermeneutics can be.

Our journey will start with two Chinese classics, *Daodejing* and *Zhuangzi*, but the majority of the texts we will be dealing with are Buddhist. These Buddhist texts draw, of course, on their Indian heritage. So a word of background on the relevant parts of this, and specifically the Madhyamaka Buddhism of Nāgārjuna, is pertinent here. Buddhist exegetes operated with a notion of two truths (*satyas*): a conventional one, *saṃvṛti-satya*, that concerns the way things appear to be, and an ultimate one, *paramārtha-satya*, that pertains to how things actually are. In the pre-Mahāyāna Abhidharma traditions, the ultimate point of view is that everything is composed in the last instance of *dharmas*. These are metaphysical atoms, each of which exists in and of itself; that is, each has intrinsic nature or own-being (*svabhāva*). The objects of conventional understanding are then merely conceptual/mereological constructions made up of these *dharmas*; they are collections of *dharmas*, perceived or cognized as unified wholes through the application of some name or concept.¹⁴

Nāgārjuna's *Mūlamadhyamakakārikā*, and the Madhyamaka School of Buddhism which was based in large part on this text, rejected this picture. There is nothing that is what it is in and of itself: everything is empty (*śūnya*) of intrinsic nature (*svabhāva*). Nāgārjuna is as insistent as his Abhidharma predecessors that there are two *satyas*, but he understands them differently. Nāgārjuna argues that ultimate reality is emptiness—that everything is empty of intrinsic nature, including emptiness itself. Moreover, he argues that, since to be empty is to be empty of intrinsic nature, to be (p.9) empty is to be dependently originated, which is the very nature of the conventional truth. There is, hence, both a profound difference between, and an identity of, the two truths.

Nāgārjuna's thought bequeathed Buddhism two tricky problems. First, ultimate reality is the way things are independent of the way they are taken to be when viewed through the lens of the concepts appropriate to conventional reality. It is therefore ineffable, since to describe anything, you have to apply concepts to it. But Nāgārjuna and those who followed him certainly talk about it. Secondly, and even more disconcertingly, since everything is empty, so is ultimate reality. There is, then, no ultimate difference between conventional and ultimate reality; the final nature of each is emptiness, which, again, is identified with dependent origination. Nāgārjuna himself points this out when he claims that there is not an iota of difference between the two. So they are different and the same. Indeed, if the ultimate truth is the way that things are ultimately, Madhyamaka, in virtue of arguing that there is no way that things are ultimately, suggests that there is no ultimate truth—and that this is it. The Madhyamaka view is therefore pregnant with at least two potential contradictions.

A number of later Indian and Tibetan Buddhists struggled to defuse the air of contradiction. We leave aside, here, both the question of the exegetical correctness and that of the philosophical cogency of these readings. The East Asian reaction, however, was quite different. Rather than trying to avoid the contradictions, or downplay them, many East Asian Buddhist philosophers accepted them. They not only accepted them; they foregrounded them in their Buddhist thinking. We may see, here, the influence of Daoist thought. Daoist ideas played an enormous role in the formation of various strands of Chinese Buddhism, and the Indian paradoxes resonated with those already present in Daoism.

Where Are We Going?

So here is where we are going. In the next chapter, Chapter 2, we will look at some aspects of the *Daodejing* and the *Zhuangzi*. The first will deliver us the paradox of the ineffability of the Dao, while the second will deliver paradoxes concerning meaning and reasoning. Chapter 3 turns to the *Vimalakīrti-nirdeśa Sūtra*. Though this is an Indian text, there is little evidence that it had much of an impact on the development of Indian Buddhism. It had, however, an enormous impact in China, particularly on Chan. In this chapter, we will see how this text handles the paradox of the ineffability of the ultimate. Chapter 4 concerns the paradox of the identity and difference of ultimate and conventional reality, and how this is handled by two schools of Chinese Buddhism, Sanlun and Tiantai. Sanlun, represented for our purposes by Jizang, builds the paradox into a dialectical progression of Hegelian proportion. Tiantai theorizes the identity of the two different truths by postulating a third, the middle, which is exactly the identity of the first two. Neither of these strategies avoids the contradiction involved. Rather, they are ways of articulating it.

In Chapter 5, we turn to Chan and its use of “public cases” (Chinese: *gong'an* 公案, Japanese: *kōan*). One might attempt to resolve the contradiction concerning the two truths by parameterization (disambiguation): the conventional and ultimate are different conventionally, but the same ultimately. But this can't work: if the conventional and ultimate are indeed ultimately the same, the distinction collapses. Chan public cases develop and explore this paradox in the context of various points of doctrinal controversy. In Chapter 6, we turn to Dōgen, the founder of the Japanese Sōtō school of

Zen. We examine some of the fascicles of his *Shōbōgenzō* to see how Dōgen uses the identity of the two truths to generate and deploy other contradictions relevant to Buddhism, including contradictions concerning enlightenment, time, and language.

In Chapter 7, we come to our final East Asian thinker, Nishida Kitarō, founder of the influential Japanese Kyoto School of philosophy. Nishida draws on Japanese Zen to deliver an analysis of absolute nothingness, which both is and is not an object, and which is and is not ineffable. He also produces an analysis of the self and the world in which it is embedded. These are both identical to and distinct from each other. Chapter 8 briefly reviews the preceding chapters, spelling out precisely the contradictions we have met along the way.

The Book's Coda

We could have ended there, but we decided not to do so. The central aim of the book is to establish the dialetheic tradition running through East Asian philosophy. By the end of Chapter 8, this has been achieved. Many of the thinkers and traditions we consider were clearly dialetheic.

Whether or not any of the contradictory theories we address is true is an entirely different matter. Whatever we say in the first eight chapters (as distinct from what each of us might think) is neutral on that issue. But there is a point at which neutrality becomes impossible: a contradiction that appears in our discussions, and assumes more and more significance as the chapters accumulate, is the contradiction between the first-person (“subjective”) view of the world and the third-person (“objective”) view. This is the contradiction we take up in the book’s coda, Chapter 9. And here, drawing on discussion from previous chapters, we do argue for, and endorse, this contradiction.

Why did we decide to include this final chapter? History and scholarship are interesting and important pursuits. Nonetheless, the texts we are dealing with are philosophical texts. They are dealing with philosophical issues, issues that are alive and important today. The texts are therefore no mere objects of scholarship. What they have to say is part of ongoing and contemporary philosophical debate. We wanted to foreground this point by taking up one such issue in the final chapter. Any stance one takes on a profound philosophical issue is bound to be contentious. No doubt the stance we take here is. But this stance is no philosophical quirk. As the rest of the book shows, it is informed by the thinking of some of the most important East Asian philosophers.

We thus place our own thinking in that tradition. <>

COINCIDENCES: SYNCHRONICITY, VERISIMILITUDE, AND STORYTELLING by Michael Jackson [University of California Press, 9780520379961]

Most people have a story to tell about a remarkable coincidence that in some instances changed the course of their lives. These uncanny occurrences have been variously interpreted as evidence of divine influence, fate, or the collective unconscious. Less common are explanations that explore the social situations and personal preoccupations of the individuals who place the most weight on coincidences. Drawing on a variety of coincidence stories, renowned anthropologist Michael Jackson builds a case for seeing them as allegories of separation and loss—revealing the hope of repairing sundered lives, reconnecting estranged friends, reuniting distant kin, closing the gap between people and their gods, and achieving a sense of emotional and social connectedness with others in a fragmented world.

Reviews

"In *Coincidences*, Michael Jackson has produced an impassioned and wonderfully written essay that weaves strands of narrative and philosophical reflection into a powerful and seamless tapestry that underscores a central theme of human being—its irrepressible ambiguity." —Paul Stoller, author of *Yaya's Story: The Quest for Well-Being in the World*

"Michael Jackson elegantly combines analysis, memoir, and literary sensibilities to create a vibrant and exciting book about coincidence and its ramifications in human life. An extraordinary achievement that displays the full range of Jackson's flair as a thinker and a writer."—Hans Lucht, Senior Researcher, Danish Institute for International Studies

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Excerpt:

Our lives are, for the most part, made up of unremarkable events. Inevitably, however, the course of every life is punctuated by events that disturb and astonish in equal measure, and when we recount our lives as stories we often single out such events as turning points or moments of truth. This book is about such events. Its particular focus is on coincidences, the “remarkable concurrences of events or circumstances that have no discernible causal connection,” and the notions of luck, fate, and providence to which these events give rise. Whether coincidences are construed as fortunate or unfortunate, tragic or transformative, they always evoke wonder and, as the saying goes, “make us think.”

As I am writing, my faculty assistant, Andrea Davies, appears in the doorway of my office, and we fall into conversation. At one point, Andrea mentions that she wrote her MFA thesis on James Baldwin’s nonfiction and his use of coincidence. When I mention that I happen to be writing a book about coincidence and ask Andrea which of Baldwin’s works I might refer to, she suggests I read the opening lines of *Notes of a Native Son*.

On the 29th of July, in 1943, my father died. On the same day, a few hours later, his last child was born. Over a month before this, while all our energies were concentrated in waiting for these events, there had been, in Detroit, one of the bloodiest race riots of the century. A few hours after my father’s funeral, while he lay in state in the undertaker’s chapel, a race riot broke out in Harlem. In the morning of the 3rd of August, we drove my father to the graveyard through a wilderness of smashed plate glass.

As we drove him to the graveyard, the spoils of injustice, anarchy, discontent, and hatred were all around us. It seemed to me that God himself had devised, to mark my father’s end, the most sustained and brutally dissonant of codas. And it seemed to me, too, that the violence which rose all about us as my father left the world had been devised as a corrective for the pride of his eldest son.

This coincidence of a personal tragedy and a social calamity prompted Baldwin, “the eldest son,” to ponder the connection between his father’s generation and his own as well as the connection between the race riots in America and the biblical apocalypse.

Coincidences typically occasion quite different interpretations, and my ethnographic research in Aboriginal Australia and West Africa has taught me that while Western intellectuals tend to refer coincidences to that landscape of shadow that has been termed, directly or indirectly, “the unconscious,” preliterate peoples tend to invoke unknown forces like witchcraft and sorcery, lying at the periphery of their social fields. As Michel Foucault observes, the unthought may be construed as deep within “like a shrivelled-up nature or a stratified history” or as something exterior to us, in the penumbra as it were, an “Other that is not only a brother but a twin, born, not of man, nor in man, but beside him and at the same time, in an identical newness, in an unavoidable duality.” Although Foucault draws a distinction between the unconscious and the unknown, the former being “an abysmal region in man’s nature” and the latter “an obscure space” inhabited by unknown others, he refuses to accord greater weight to either perspective. It could be argued, however, that the dominant episteme since the late nineteenth century has centered on the intrapsychic, not the intersubjective. For Sigmund Freud, as for Claude Lévi-Strauss, delving into the depths of the unconscious mind was the royal road to understanding human thought and action, while Carl Jung interpreted synchronicity as the irruption of archetypal figures and mythological motifs into our conscious life.⁴ Although these thinkers evince an intellectual habit that Henri Ellenberger characterizes as

“unmasking,” it is practically impossible to sustain any hard and fast distinction between a mode of thought that focuses on the unconscious mind and a mode of thought that focuses on the dilemmas and difficulties of social relations. As Baldwin’s compelling account of the coincidence of his father’s death and the 1943 Detroit race riots indicates, theological, sociological, and psychological interpretations may all be inspired by the same event. Aboriginal people speak of the Dreaming as an ancestral yet timeless field of being that is occasionally and partially glimpsed by the living in their dreams. For many African people, the mysteries of the invisible can be penetrated by diviners gifted with second sight or assisted by spirit allies. In religions throughout the world, the invisible is a numinous realm to which one rarely gains direct access, though it can be reached by means of prayer, ordeal, and ritual. For scientists, the invisible consists in hidden laws of cause and effect that rational inquiry and sophisticated instruments can bring to light. For many anthropologists, the field of intersubjective life is the subject of their concern: the social matrices in which we are embedded and the dynamic forces that govern our interactions—love and hate, reciprocity and exchange, attachment and separation, certainty and uncertainty, power and powerlessness, war and peace.

What is common to all these interpretive traditions is the mysterious relationship between the visible and invisible dimensions of human existence, the “landscape of shadow” that lies between the known and the unknown and is at once exterior and interior to us. Whether one approaches the phenomenon of coincidence from an intrapsychic or intersubjective point of view, the same assumption is made—that the “obscure space” between the known and the unknown, or between thought and the unthought, can be illuminated, and that the world without and the world within can thereby be seen as one. Methodologically, one therefore needs a bifocal perspective that, in the words of D. W. Winnicott, does justice to the “intermediate area of experiencing to which inner reality and external life both contribute.” This dialectical approach is also suggested by Carl Jung’s comment that synchronicity involves a “peculiar interdependence of objective events among themselves as well as with subjective (psychic) states of the observer or observers.”⁸ But Jung’s fascination with the collective unconscious leads him to downplay the dynamics of intersubjectivity—the passions that unite and divide us, coming together and moving apart in the course of our journeys through life. Historical and even prehistorical events shape our consciousness, to be sure, but we reshape those events in the multiple ways we respond to them after the fact, and any interpretation of a coincidence is inadequate unless it considers the lived experiences and immediate circumstances of those to whom the coincidence happens. Although I do not uncritically embrace

either Jung's metaphysical interpretations of coincidence" or the Freudian view that our tendency to see meaning in coincidences is an expression of an infantile fantasy of omnipotence (a defense against our anxiety of not being in control of our world), psychoanalysis remains one of the most compelling approaches to understanding "clusters of unexplained facts," not by glib reiterations of the view that facts speak for themselves but by acknowledging that our evolutionary, genealogical, historical, mythological, and biographical pasts bequeath to us a constellation of elements that emerge in different permutations and combinations at different moments in life, and that our perception of reality reflects these ever-changing assemblages that are never the same for everyone, or for any one person in any given situation. This is why one cannot entirely explain a person in terms of any one variable, be it class, culture, gender, ethnic or religious affiliation, or even personality. This is also why it is imperative to deploy a double perspective that encompasses both the object of experience and the experiencing subject, allowing that human beings are shaped by external forces and conspire in their own fates, seeing the world through the lens of their own preoccupations and interests and creating gods in their own image. One is led, therefore, to broach the philosophical problem of verisimilitude: of speaking truth-to-life, of questioning every truth claim not in order to finally arrive at the truth for once and for all but in order to more deeply appreciate the complexity of what is at play for any person, in any moment of time, or in any one place.

Synchronicity and Suffering

When I ask myself why people should assign deep significance to a coincidence rather than brush it aside as inconsequential, I am struck by the degree to which suffering and anxiety increase not only our awareness of patterns but also our compulsion to find them.' In a recent report in *Science*, two psychologists at the University of Texas at Austin describe six experiments they conducted in order to test the hypothesis that lack of control increases a person's "illusory pattern perception"—which they defined as "the identification of a coherent and meaningful interrelationship among a set of random or unrelated stimuli: They found that participants who lacked control were more likely to perceive a variety of illusory patterns, including hearing voices in the wind, discerning coherent images in chaotic or scrambled lines, perceiving conspiracies, imagining illusory correlations in stock market information, and developing superstitions.

Speaking of how lives do not end but assume alternate forms, Jung suggests that coincidences often reveal moments in our prehistories, psychic echoes as it were of previous incarnations. "What I found," he writes, "were 'coincidences' which were connected so meaningfully that their 'chance' concurrence would represent a degree of improbability that would have to be expressed by an astronomical figure."

Among the many examples, Jung adduces, is one from Wilhelm von Scholz concerning a young mother who took a photograph of her small son in the Black Forest on the eve of World War I. After leaving the film in Strasbourg to be processed, the woman was distracted by the political turmoil engulfing Europe and was unable to retrieve the film. Two years later, in Frankfurt, she purchased another roll of film, intending to take photographs of her infant daughter. When the film was processed it was found to have been double exposed. To her astonishment the ghostly image beneath the image of her daughter was of her son. For some reason, the film she had deposited in Strasbourg had not been developed but left in its canister and gone back into circulation. For von Scholz, the story confirmed the "mutual attraction of related objects" or an "elective affinity" that unites things or people that belong to each other but have been accidentally separated, like the two halves of Aristophanes's sorb apples.'

If there are not only two sides to every story, but two sides to every human being, it is reasonable to ask why von Scholz shows so little interest in the woman who took a photograph of her son on the outbreak of war and two years later recovered the photograph with the ghostly figure of her son underlying the picture of her daughter. This graphic image of one sibling displacing another is compelling enough. But is it not also notable, given the traumatic events that overwhelmed this young mother, that she should crave evidence of continuity in the midst of chaos and find it in this double-exposed photograph? That a coincidence should involve not simply the concurrence of two events, separated in time and space, but also an intersubjective union of two separate lives is not without significance, as the following story, related by my Polish friend Wojcieck Dabrowski, also suggests.

The Dabrowskis had lived in Warsaw for ten generations, and their apartment had been in the family for almost one hundred years. Wojcieck, his father, and grandfather were all born in the same bed, in the same bedroom.

The family's next-door neighbor was a Mr. Zajac—Mr. Hare.

Mr. Hare received a lot of anonymous telephone calls. The phone would ring, Mr. Hare would pick up, and the caller would ask, "Is that Mr. Hare?" "Yes," Mr. Hare would say, "Hare speaking."

"Pif! Paf!" the caller would exclaim, mimicking a shotgun going off. Then he would hang up.

This went on for several years.

In September 1939, Warsaw was besieged by German panzers and infantry. The city was bombed day and night. Heaps of rubble in the streets, paving stones torn up, gutted streetcars, the stench of burning asphalt and the dead. As fire and panic swept the city, Mr. Hare carried homemade petrol bombs to soldiers engaged in rearguard actions.

For as long as the battle lasted, Warsaw Radio repeatedly broadcast a Chopin polonaise. When the music stopped, the fighting ended. SS units entered the city, arresting and shooting teachers, aristocrats, Jews, clergymen, doctors ...

Mr. Hare was taken prisoner only to escape a few days later and make his way to England, where he joined the Resistance. Of his circle of friends, he alone survived the war.

In 1945, he returned to Warsaw. Incredibly, his apartment building was still standing, though for miles around there was nothing but rubble and ruins.

Mr. Hare climbed the stairs to his apartment. The windows were gaping holes. Splinters of glass and chunks of plaster littered the floors.

Over the next few days, Mr. Hare scavenged for food, kitchenware, sticks of furniture. When he discovered that the telephone wires were still intact, he had the phone reconnected.

A week passed, and the telephone rang. Mr. Hare picked up the receiver. "Is that Mr. Hare?"

"Speaking."

"Pif! Paf!"

Mr. Hare could not believe that this bagatelle, this puerile pun, had somehow survived the years of death and destruction. He implored the caller not to hang up. Mr. Hare was choking with the effort to establish contact. He begged the ghostly caller to reveal his identity, his name, to continue the conversation. But the phone went dead, and the caller never called again. <>

ONTOLOGY: LAYING THE FOUNDATIONS BY NICOLAI HARTMANN, TRANSLATED KEITH PETERSON [DE GRUYTER, 9783110624366]

It is no exaggeration to say that of the early 20th century German philosophers who claimed to establish a new ontology, former neo-Kantian turned realist Nicolai Hartmann is the only one to have actually followed through. "Ontology: Laying the Foundations" deals with "what is insofar as it is," and its four parts tackle traditional ontological assumptions and prejudices and traditional categories such as substance, thing, individual, whole, object, and phenomenon; a novel redefinition of existence and essence in terms of the ontological factors Dasein and Sosein and their interrelations; an analysis of modes of "givenness" and the ontological embeddedness of cognition in affective transcendent acts; and a discussion of the status of ideal being, including mathematical being, phenomenological essences, logical laws, values, and the interconnections between the ideal and real spheres. Hartmann's work offers rich resources for those interested in overcoming the human-centeredness of much 20th century philosophy. Hartmann's work offers rich resources for those interested in overcoming the human-centeredness of much 20th century philosophy.

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Hartmann’s Realist Ontology

Hartmann in Context

Despite an international upsurge of interest in the philosophy of Nicolai Hartmann (1882–1950) in recent years, his work is still almost completely unknown to the English-language philosophical audience. Widely respected during his lifetime, he was roughly the same age as positivists Moritz Schlick and Otto Neurath, the existentialist Karl Jaspers, Catholic philosopher Jacques Maritain, and the Spaniard Jose Ortega y Gasset. Neo-Kantian Ernst Cassirer and phenomenologist Max Scheler were eight years older than Hartmann, while the philosophic rock stars of the twentieth century, Ludwig Wittgenstein and Martin Heidegger, were seven years younger than him (Harich 2004, 6). In his own era, he was not unknown to those in the English-speaking philosophical landscape with some interest in Continental philosophy. In his 1930 survey of German philosophy, the young Deweyan-Marxist Sidney Hook claimed that Hartmann was “interesting without being oracular, instructive without pedantry, and profound without being obscure,” and predicted that he “will soon be greeted as Germany’s leading philosopher” (Hook 1930, 156–57). It is no doubt difficult for readers to imagine that someone so completely unknown today might have been considered by anyone to be a “leading philosopher” of the time.

Hartmann was of Baltic German descent and an independent thinker who decisively struck out on his own in his groundbreaking 1921 *Grundzüge einer Metaphysik der Erkenntnis* (Basic Features of the Metaphysics of Cognition) where he repudiated the Neo-Kantianism of his former teachers Hermann Cohen and Paul Natorp in Marburg. The fact that he wrote enormous systematic works with an analytical style and with a thorough familiarity with the history of philosophy made him not easily classifiable. While he appreciated and appropriated aspects of the phenomenological approach of the early Edmund Husserl and the Munich circle, phenomenology remained for him one important method for philosophy among others, and most definitely not a philosophy that was complete in itself. Although he admired Max Scheler’s development of a “material value ethics” and his metaphysical vision, he refused to accept any metaphysics that he saw as basically teleological in orientation, and he held controversially that ethics had to be atheistic. While he respected the techniques and findings of historicists like Wilhelm Dilthey, he refused to accept the relativism that they often did, and instead upheld the notion of the gradual historical growth of human knowledge. An actively conservative bourgeois intellectual of the Weimar republic in the period of his early output, like many of his generation he looked with dismay on the rapidly industrializing, culture-destroying capitalist society of the day. The fact that on the eve of WWII this well-known professor at the University of Berlin refused to begin his seminars with the mandated “Heil Hitler” is testimony to the fact that he did not think much of “the inner truth and greatness” of National Socialism as a solution to this cultural crisis.

One of the most prominent but poorly understood features of early twentieth century Continental philosophy was a renewal of interest in ontology and metaphysics following the decline of Neo-Kantianism. Hook’s prediction that Hartmann would become Germany’s leading philosopher was never realized, as Hartmann’s impressive work was soon eclipsed by that of his younger contemporary, Martin Heidegger. It is good reason to believe that Hartmann, however, was the most significant figure in this revival of ontology, or the “turn of contemporary philosophy to ontology and to realism.” One of the best interpreters of Hartmann’s philosophy and a former student, the late Wolfgang Harich, posed the question “who should be credited with the title ‘founder of the new ontology’ in the twentieth century?” On the basis of the chronology of their publications it looks like Heidegger should get credit for this, since *Being and Time* was published in Husserl’s *Jahrbuch* in 1927, while Hartmann’s first major ontological text, translated here as *Ontology: Laying the Foundations*, did not appear until 1935. Harich points out that this superficial chronology overlooks

the fact that the “fundamental ideas for his ontology” already make an appearance in Hartmann’s 1921 *Metaphysics of Cognition*, and are also “the central theme of his contribution to the *Festschrift* for Paul Natorp of 1923” (Harich2004, 163). The full title of the essay just referred to reads “How is Critical Ontology Possible? Toward the Foundation of the General Theory of the Categories, Part One,” and Harich notes that in the subtitle one can see that Hartmann is already dealing with the essential theme of his 1940 *Aufbau der realen Welt* (*The Structure of the Real World*), itself subtitled “Outline of General Category Theory.” While Harich does not mention it, we could also add that another essay called “Categorical Laws” and again subtitled “Toward the Foundation of a General Theory of Categories” is published in 1926 in the *Philosophischer Anzeiger*.⁴ Even more than the first essay, whose aim is the largely critical task of revealing and correcting errors, the second essay develops what becomes Hartmann’s most original contribution to the history of ontology, the description of second-order “categorical laws” or “laws of stratification” that display the overall “structure of the real world.” We therefore agree with Harich that Hartmann deserves the credit a “founder of the new ontology.” While Hartmann may have followed through on the project of developing a new ontology that could shed new light on problems in all of traditional disciplines more than anyone else at the time, there is no doubt whose so-called “fundamental ontology” became dominant.

We can look to Harich again to get some sense of why Hook might have believed Hartmann was destined for greater renown. Harich claimed that of all his better-known contemporaries listed above, Hartmann’s “lifelong achievements are greater and more universal.” This is because Hartmann “is the only one of all of them, for the last time in the twentieth century, to have carefully created a systematic philosophy that covered all of the traditional disciplines. If we compare him with historical figures, he comes closest to Aristotle in terms of systematic breadth and depth, or even Hegel in Modern times, and in the feud period, Aquinas” (Harich2004, 6). With regard to his writing and thinking, Hook asserted that “no one can read [Hartmann] without being filled with high excitement, for he develops with astonishing skill the dramatic conflict of principles involved in every genuine philosophical problem” (Hook 1930, 157). Harich described Hartmann as a philosopher “skilled at subtle analyses,” with “the capacity to organize an incredibly wide range of material meticulously,” as well as someone who “knows how to masterfully deal with traditional ideas and productively take them further.” He claimed that the “anxious longing for originality is foreign to him,” while “his writing is free of affectation and artificiality, and [...] is eminently clear, elegant, and nevertheless powerful. His books are easy to read despite the fact that they deal with highly complex problems of tremendous scope” (Harich2004, *Ibid.*). Such high praise should help to motivate readers to tackle Hartmann’s texts and reach their own conclusions about Hartmann’s place in the history of twentieth century philosophy.

This translation of *Ontology: Laying the Foundations* adds to the steadily growing body of translations that aim to introduce Hartmann’s writing and thinking to a broader audience. The contemporary relevance of this work to recent debates over realism, among other things, will be apparent to all upon reading the text, and I will address some specific aspects of this relevance in the third section of this introduction.⁶ In the next section, I place this work in the context of Hartmann’s voluminous output and summarize its main features. My hope is that the current century will know more of Hartmann’s work than the last.

Summary and Place of Laying the Foundations in Hartmann’s Oeuvre

While he wrote at length and with significant originality on epistemology, aesthetics, philosophy of history, natural science, and many other topics, Hartmann’s central preoccupation was with developing a new ontology adequate to the changed scientific and humanistic intellectual landscape of the early twentieth century. Hartmann deliberately called his approach a “critical ontology,” in

contrast with existing “critical realism,” phenomenological idealisms, inductive metaphysics, and logical or empirical positivism. As already mentioned, he began to develop his ontological approach as early as 1921 and in the subsequent essays of 1924 and 1926. He published his truly imposing, innovative and comprehensive work on Ethics in 1926 as well, which includes some extensive remarks on the ontology of values in some core chapters (Hartmann 2002). If we set aside his continued strong output of essay-length work, between 1926 and 1935 his major publications include Volume 2 of his *Die Philosophie des deutschen Idealismus* (Philosophy of German Idealism) in 1929 (Hartmann 1960), *Zum Problem der Realitätsgegebenheit* (On the Problem of the Givenness of Reality) in 1931 (Hartung and Wunsch 2014, 177–264), as well as *Das Problem des geistigen Seins: Untersuchungen zur Grundlegung der Geschichtsphilosophie und der Geisteswissenschaften* (The Problem of Spiritual Being: Investigations into the Foundations of the Philosophy of History and the Human Sciences) in 1933 (Hartmann 1962). *On the Problem of the Givenness of Reality* is especially significant not only because it gets folded into Part III of *Laying the Foundations*, but because it was originally presented to a meeting of the Kant-Gesellschaft in Halle dedicated to the “turn to ontology and realism in contemporary philosophy.” Both the discussion at the meeting and its publication in issue 32 of the *Philosophische Vorträge* of the Kant-Gesellschaft included responses by a range of noteworthy discussants, including Helmuth Plessner, Moritz Geiger, Heinz Heimsoeth, and Theodor Litt, as well as a closing statement by Hartmann (Hartung and Wunsch 2014, 177–264). After *Ontology: Laying the Foundations* he steadily churns out the remaining volumes of his ontological work, publishing *Possibility and Actuality* in 1938 (Hartmann 2013), *Aufbau* in 1940 (Hartmann 1940), and completing the fourth volume *Philosophy of Nature* in 1943 (Hartmann 1980), which was not published until all of the other volumes could be republished in 1948. The *Aesthetics*, under revision at the time of his death (1950), was later published in 1953 (Hartmann 2014).

Hartmann claims in the first Preface to *Laying the Foundations* that the book “form[s] the prelude to an ontology that I have been working on for two decades,” and he asserts that “[a] new critical ontology has become possible. The task is to make it a reality” (v). Before moving on, we should be clear about the meaning of the term “critique” employed in the phrase “critical ontology.” In *Laying the Foundations*, Hartmann insists on a point of departure “this side” of what he calls the explicit metaphysical “standpoints” of idealism and realism. The term “diesseits,” “this side,” virtually becomes a technical term for him. In his earlier text on Kant, “*Diesseits von Idealismus und Realismus*,” he claims that “whoever says ‘this side’ is just exercising the epoche [suspension of judgment] against questionable standpoints” and does not adopt either one of them (Hartmann 1924, 21). By “standpoint” he means, roughly, any philosophical approach that has become an “-ism,” or a system-building, perspective-fettered, dogmatic philosophy. “critical” philosophy is, in contrast, problem-oriented, principally interested in what is “transhistorical” in philosophical thought,

And reveals the arbitrary (metaphysical) assumptions and presuppositions in tificial standpoints in order to clear the way for productive theoretical work on philosophical problems. The “critical” principle is thus defined in terms of avoiding system-building and advocates following the problems themselves, revealing and rectifying arbitrary metaphysical assumptions wherever they arise (Hartmann 1924, 24–25). This is one way in which his ontology is “critical.” In its execution, the ontology aims to keep itself away from “standpoints,” but it will ultimately come down on the side of realism, as Hartmann explains in *Laying the Foundations*.

In an early English-language review of the book in 1935, the author says that Hartmann’s *Ontology* is a book that advances the discipline of ontology in many ways. No one interested in ontology can overlook it. I think, however, that the great value of the book lies not only in the novelty of its results, but in the method through which these numerous results are gained. [...] I know of no one in contemporary philosophy who has as conscientious an analytic as this of Hartmann’s in which every

fact is followed to its conclusion, even thematic form grows out of the exact analysis of the facts and the problems (G1935, 714).

“Problems” are in fact the focus of Hartmann’s careful “aporetic” methodology, which aims to provide a balanced characterization of the (potentially transhistorical) key philosophical problems in many domains, supported by a type of phenomenological description free of metaphysical prejudices, and supplemented by a constructive “theoretical” attempt to resolve these problems (or to acknowledge their irresolvability). These three methods are skillfully intertwined and enacted in this book as in others.

Hartmann’s conception of “transhistorical” problems owes something to his background in Neo-Kantianism, and it plays a central role in his justification for the project of a new ontology. In response to the question that opens the Introduction, “Why should we really return to ontology at all?”, he explains that we have to engage in ontology because there are unresolved (and irresolvable) “metaphysical problems” in every philosophically relevant domain of inquiry, including the physical sciences, life sciences, psychology, logic, epistemology, philosophy of history, ethics, and aesthetics, and it is the discipline of ontology that has to deal with the manageable ontological features of such problems. The introduction to the book is mostly dedicated to illuminating the unresolved metaphysical problematics in each of these domains of inquiry. Since there is no Conclusion to the book (Part IV simply ends abruptly), the Introduction has to serve to initially orient the reader to the landscape of issues as well as summarize some of the major features of Hartmann’s overall position. One issue that threatens to derail the approach from the start is the predominance of relativism. If, according to relativists, problems change in accord with the “spirit of the age,” then this also implies that the “world” in which these problems appear is relative to the “historical spiritual formation” that states and solves problems as well (8). This is not an unfamiliar point of view in our contemporary culture and theory. In Hartmann’s words, “we no longer believe in problems,” that is, problems that might be universal and transhistorical (3). If problems are relative, then the ontology that defines them is also relative. However, there is a tacit ontological assumption even in this relativist “standpoint,” which is that the reigning “historical spiritual formation,” or conceptual framework, is a real one that comes to be and passes away in time in a real world. Even extreme relativism presupposes an ontological foundation, and so is not, in its smug sophistication, somehow beyond the reach of basic ontological questions.

Hartmann explains that all domains of serious human inquiry are beset by metaphysical problems. The physical sciences do not inquire into the most basic ontological categories they use, such as space, time, matter, motion, and causality, and as a result frequently make category mistakes by attempting to reduce qualitative aspects of phenomena to quantitative mathematical relations (7). Organic life remains mysterious to us, and we always try to explain it either in terms of mechanism or of teleology, and neither set of categories is appropriate.

Only an ontological analysis informed by the latest science can determine the appropriate categories. For psychology, the “mode of being of the mental” remains a puzzle (10). Objective spirit or culture has a kind of existence that is both dependent on but also independent of individuals, and its mode of being (expressed in language, morality, art, religion, science, etc.) is also highly problematic (11). Even the sphere of logic is questionable, in the sense that it is often equivocal whether logical laws are strictly cognitive or whether they have a real ontological aspect (13). The struggle of epistemology with psychologism and logicism is also an example of the problematic status of cognitive categories, and the contested difference between the process of objectification and the thing objectified shows that cognition itself is a metaphysical problem (17). Ethics too is cumbered by problematic features, including the nature of freedom and of values; the values that are expressed in

moral principles have an ontological status that is both similar to and different from the ideal being of mathematical

entities or of other essences. Art works reveal a complex “layering” of both real and “irreal” factors; historical investigation is shaped by metaphysical materialist or idealist assumptions relating to the primary determining factors of historical events, while there seems to be no reason to privilege one set of factors over another (24–25). All of the problems that arise in these apparently separate domains are intertwined in a sticky web of metaphysical problems that both facilitates ontological cognition and frustrates it, given our limited cognitive capacities (26). Hartmann answers the original question “why ontology?” by noting that these problems can be characterized in terms of the problematic mode of being, types of determination, structural principles, and categorial forms that permeate these respective domains; these ontological features will remain unclear and stifle further research without much needed and disciplined ontological analysis (27). In the remainder of this section I touch on some highlights of the four major parts of the book.

The four thematic parts of the book—“being qua being,” Dasein and Sosein, the “givenness” of reality, and ideal being—are consolidated into a unity within which everything is reciprocally conditioned and conditioning. Each part is in its own way, the fundamental one, according to Hartmann. They clarify the preliminary questions of ontology, and “only when we are done with them can construction begin” (34). Before we can handle questions bearing on the modes of being, types of determination, structural principles, and category forms that these fields entail, we need to free ourselves from inadequate (historical and current) conceptions of ontology itself.

Part I introduces the concept of “being qua being” and defines the ontological stance as an extension of the “natural attitude.” Ontology is simply an extension of the natural attitude of everyday life and the sciences, and is to be contrasted with the reflective attitude of epistemology, logic, and psychology (45). This distinction is fundamental to his approach. Hartmann terms these the *intentio recta* and *intentio obliqua*, respectively, and defines them this way:

The natural attitude toward the object—the *intentio recta* as it were, the being-oriented toward that which the subject encounters, what comes to the fore or offers itself, in short, the orientation toward the world in which it lives and part of which it is—this basic attitude is familiar in our everyday lives, and remains so for our whole life long. By means of it we get our bearings in the world, by virtue of it we are cognitively adapted to the demands of everyday life. However, this is the attitude that is nullified in epistemology, logic, and psychology, and is bent back in a direction oblique to it—an *intentio obliqua*. This is the attitude of reflection. A philosophy that makes one of these disciplines into a basic science—as many have recently done, and as all nineteenth century philosophical theories did—will be driven of its own accord into such a reflective attitude and will have no way to escape from it. This means that it cannot find its way back to the natural relationship to the world; it results in a criticism, logicism, methodologism, or psychologism estranged from the world (46).

Ontology consists in a “return” to the natural attitude. Failure to adopt the right stance risks committing basic errors that stem from the reflective attitude. For instance, Heidegger’s flawed approach consists precisely in making “what is” relative to a subject by transforming the question of being into one concerning the “meaning of Being.” Since “meaning” is something that only exists for a subject, “being and the [mode of] givenness of being are virtually conflated” and “modes of givenness are presented as if they were ontological modalities” (40–41). The “being” of things is indifferent to whatever things might be “for someone” (42). Adopting a reflective stance in ontology perverts our perspective on “being qua being.” In contrast, “[t]he natural, scientific, and ontological relations to

the world are at bottom one and the same" (48). They all exhibit a shared stance toward the world that Hartmann calls "natural realism." "Natural realism is not a philosophical theory. It belongs to the phenomenon of cognition and [...] is identical with the captivating life-long conviction that the sum total of things, occurrences, and relations, in short, the world in which we live and which we make into our object by means of cognizing it, is not first created by our cognizing it, but exists independently of us" (49). If we make some form of reflective approach the basis of our stance, then we can only reach "objects" rather than "what is."

The subsequent discussions of Part I review and critique both traditional and reflective conceptions of "what is." Being as "thing," "givenness" (what is sensibly given), "world-ground" (what is hidden and nonsensible), "substance" (in its independence, unity, persistence), "matter and form" (indeterminacy and determinacy), "essence" (universal), "individuality," and "existence," among others, are considered and rejected for various reasons (53–66). Reflective conceptions, including the interpretation of being as "object," "phenomenon," and "ready-to-hand" are considered and also disqualified. The basic thesis of reflective views is to consider "what is" to be an "object" subject, and all similar conceptions "create a correlativistic prejudice from the relational character of cognition and attribute to it universal ontological validity." With many writers Hartmann agrees that cognition is a process of objectification, but they misinterpret this phenomenon and draw the mistaken conclusion "that everything that is, already purely as such, is for this reason an object for a subject" (78). In other words, the basic mistake is that an epistemological limit is transformed into an ontological principle. If we cannot know something in itself the story goes, then an "in-itself" must not exist. However, "[t]his relativity is the basic error." Not only does being qua being "without any relation to a subject and before all emergence of subjects in the world, but it encompasses the whole cognitive relation, including the subject and its limits" (75). The distinction between object, phenomenon, etc., and something transcending them has to be preserved (80).

Part II of the book is devoted to Hartmann's novel treatment of the traditional concepts of essence and existence. About it one early reviewer states that "Hartmann's treatment of the relation of existence and essence is [...] entirely new" and "original," and predicts that "his discussion will become decisive for all further investigation of the problem" (G1935, 713). While "what is" may be indifferent to the wide range of historical and current characterization of being discussed above, there are two pairs of terms to which it is not indifferent: the contrast between the "ontological factors" of *Sein* and *Dasein*, and the contrast between "ways of being," namely, ideal being and real being. Much of this second major part of the book involves discussion of the way that the classical opposition between essence and existence, thought to be fundamental for ontology, has been conceived. These terms have never provided an adequate ontology of the real, and a great deal of confusion has resulted from attempts to use them for this purpose. Hartmann proposes replacing these terms with two others, *Sein* and *Dasein*.

There is an aspect of *Dasein* in everything that is. By this is to be understood the bare fact "that it is at all." In everything that is there is an aspect of *Sein* as well. To *Sein* belongs everything that constitutes something's determinacy or particularity, everything it has in common with others, or by which it is distinguished from others, in short, every aspect of "what it is." In contrast to the "that," this "what" encompasses its whole content, and even its most individualized differentiation from others. It is the *essentia* expanded to include the *quidditas*, in which everything accidental is also included. We might also say that it is *essentia* "to a lower power," as it were, brought down from the height of its exclusive universality and ideality into life and the everyday. Its depotentiation implies the rejection of pretentious metaphysical ambitions (Hartmann 1965, 85).

This is no trivial substitution of terms, since it has profound implications for tology. The central problem is that essence and existence have been conceived to be utterly separated, and this separation has made it impossible to understand how “universal” aspects of determination play a role in the real world of particulars. The terms *Sosein* and *Dasein* allow us to reconceptualize their disjunction as a conjunction instead, at one stroke overcoming numerous problems concerning the relations between ideal and real entities, as well as between a priori and

a posteriori cognition. This distinction captures our colloquial distinction between the “that” and “what” of things, without smuggling in any traditional metaphysical assumptions about the ontological status of universals or particulars.

This distinction between these two “ontological factors” is usually regarded as an exclusive disjunction by the tradition. There have been ontological, modal, logical,gnoseological, and metaphysical arguments on behalf of conceiving of them as disjunctive. Many of these come down to a misinterpretation of the phenomenon of their “indifference” to one another (e. g., the idea that essence does not entail existence). Hartmann admits that there is something phenomenologically right about this, but when essence is identified with ideal being and existence with real being, things go very wrong. We can preserve their indifference without turning it into a disjunction, and we do so with the concept of “neutral *Sosein*” (110). To simplify a complex discussion, Hartmann claims that *Sosein* is neutral towards ideal and real being (“ways of being”). These ways of being are differentiated in terms of their *Dasein*, not their *Sosein*. This is “a complex kind of fundamental ontic relation,” obviously more complex than that of essence and existence (112). These two dimensions—ontological factors and ways of being—are perpendicular to each other. If we think about *Sosein* as the structural description or content of an entity, a triangle for example, we can see this content pertaining both to an ideal triangle or the diagram of a triangle on paper. The content is indifferent to whether it is ideal or real, outside of time or in time

and space. No metaphysical assumptions about ideal being or essence are involved here. Teasing these pairs of terms apart in this way and placing them into a wider ontological context allows us to redefine the relation between *Dasein* and *Sosein* as a relation of “progressively offset identity.”

The definition of “offset identity” is initially formulated in the proposition that “every *Sosein* of something ‘is’ itself also the *Dasein* of something, and every *Dasein* of something ‘is’ also the *Sosein* of something. It is just that the ‘something’ is here not one and the same thing” (122–123). An example will help here.

The *Dasein* of the tree in its place “is” itself a *Sosein* of the forest, and the forest would be different without it; the *Dasein* of the branch of the tree “is” a *Sosein* of the tree; the *Dasein* of the leaf on the branch “is” a *Sosein* of the branch; the *Dasein* of the vein in the leaf “is” a *Sosein* of the leaf. This series may be extended in both directions; *Dasein* of the one is always at the same time *Sosein* of another. The converse is also possible: the *Sosein* of the leaf “is” the *Dasein* of therein, the *Sosein* of the branch is the *Dasein* of the leaf, and so forth. [...] If we only look at an isolated piece of what is, then *Sosein* and *Dasein* are separated in it. If we keep the whole ontological context in view, then the *Sosein* of one is also already the *Dasein* of another—and in a definite serial order. In this way, the relation between *Sosein* and *Dasein* in the whole world approximates an identity. Since this identity deals with a progressive offsetting of the content, we may call it a progressively offset identity.

This “conjunctive” distinction of ontological factors is contrasted with the “disjunctive” opposition interpreted into the phenomena by the old ontology of essence and existence. The consequences of this discussion are far-reaching since they “set ontology on a new foundation.” For instance, the distinction between substance and relation immediately fades in significance for ontology since substances (essences) have no ontological privilege over relations (existence). They equally “are”

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(130–131). It also means that ontology can go to work considering the structural categories (Sosein) of the world the same way that any empirical science goes about investigating laws of nature—progressively, fallibly, and on the widest phenomenal basis.

Part III covers the ontological side of cognition, its structure and place in a network of “transcendent affective acts,” as well as in the wider context of everyday life. It is the longest part of the book, and arguably the most important for understanding Hartmann’s position. Its three sections tackle the topic of “givenness,” or the way that human beings perceive, cognize, and come to terms with the real world. The first section deals with the vexing topic of “being-in-itself” and its relation to cognition; section two covers a wide variety of “transcendent affective acts” in great detail, arguing that they form the context out of which the more limited and ontologically secondary capacity of cognition grows; the third section expands this insight to the whole life context, arguing that complex integrative acts ranging from value feeling and care to scientific investigation and political life in history form the vital context in which cognition takes place. All of these acts often provide better testimony to the reality of the world than does cognition itself.

Reality is “given” through varied and interlinked “transcendent acts.” “Transcendent acts are those which establish a relation between a subject and an entity that itself does not first arise through that act, or, they are acts that make something transobjective into an object” (146). Cognition is one transcendent act among others. Cognition is a “grasping” that is primarily receptive, where the subject is affected by something that is; there is also a spontaneity in the cognitive act, but this only consists in the creation of an image, concept, or representation of “what is” (148–149). This interpretation of cognition incorporates

the phenomenon of “natural realism” mentioned above. The Husserlian “law of intentionality” and Hartmann’s “law of transobjectivity” describe two sides of the phenomenon of cognition. The relation of intentionality exists between the act and the mental image, where consciousness “has” the “object” (but not necessarily “what is”); the relation of “grasping” exists between the act and the being-in-itself that is beyond the act. This distinction between the “object” and “being-in-itself,” however, is a product of the reflective epistemological stance itself, and is not decisive for “natural realism” or for ontology. Where cognition in the momentary, ahistorical individualist intuition of phenomenon can main in doubt about the being-in-itself of what appears, Hartmann believes that we can resolve any doubts about whether the object is or is not an appearance of something real provided we consider a broader range of phenomena that are part of the cognitive process, including “problem-consciousness” and historical “cognitive progress.” Both “problems” and “progress” on them imply the existence of something transobjective beyond the “object” that is objectified during the process of cognition. The transobjective and “trans intelligible” (or “nonrational”) can also be defined with reference to this social-historical conception of cognitive progress and the finitude of our cognitive apparatus in face of permanent insoluble problems. The finitude of our cognitive apparatus demonstrates that there are aspects of reality that we are not equipped to grasp, that there are limits to our ability to objectify, that it is limited by the categories we use to cognize, and that there is only a partial overlap between our cognitive categories and ontological principles (159–160).

In the natural attitude, cognition is integrated into a broader network of receptive, prospective, spontaneous, and reflexive transcendent affective acts that furnish us with a far more striking sense of reality than does cognition in isolation. Receptive affective acts include experiencing, living through, suffering, and enduring, where there is a clear reference to something that “befalls” the subject and reveals the “hardness of the real.” They also illuminate the way that cognition is ontologically secondary. “[O]bjects’ first of all are not something that we know, but something that

'concerns' us practically, something that we have to 'face' in life and 'grapple' with; something with which we have to deal, that we have to utilize, overcome, or endure. Cognition usually limps along behind" (172). Prospective acts include expectation, readiness, presentiment, and a stronger group of acts that includes hope and fear and everything in between as well as reckoning with chance and the feeling of dread. Spontaneous affective acts include willing, doing, and labor in the world. Labor includes aspects of the subject's self-cultivation, encounter with the resistance of things and learning from the encounter. These everyday interactions and interventions show that person and thing share the same "way of being." "The real phenomenon of labor is unequivocal evidence that the sphere of the real is homogeneous in itself, i.e., that everything actual in it is ontically at the same level, and constitutes a single unified world in terms of its way of being" (200). Furthermore, in the integrative life context of labor and relations with others where these acts occur, we have the strongest confirmation that we are participants in a real world that preexists us. If we regard ourselves and others as real persons, and our moral deal

and ethos presuppose the existence of real goods and means to accomplish our ends, then we have the strongest evidence of the existence of the real in this context. "With this outcome, the terrain for a realist ontological investigation is now secured".

Part IV complements the discussion of Sosein in Part II by further exploring the domain of ideal being and giving the reader a clearer conception of the way that the ideal "exists" and determines the real. The basic aporia of ideal being is that we never know in advance whether it even exists independently of our thinking it. The first section deals with this problem, and mathematical cognition provides the first testing ground. Various subjectivist arguments regarding the status of mathematics are considered and rejected, since they do not adequately explain the "phenomenon" of mathematical judgment, which assumes that mathematical objects exist in themselves. We cannot escape the subjectivist theories unless we consider the application of ideal relations in the real. He introduces the examples of the astronomer who predicts the paths of the planetary orbits, the artillery gunner who calculates trajectories according to a ballistic curve, air resistance, spin, rotation of the Earth, etc., and the engineer who calculates the load-bearing capacity of bridges, and he argues that their predictions could not possibly conform to reality if these were merely the regularities of mental acts or thoughts, since nature does not guide itself by our thought.

[W]e have to see in the mathematical element of natural relations, where we deal with mathematical entities whose laws lie at the basis of the calculability of the real, a rigorous proof for the fact that we are dealing with being-in-itself in the fullest sense of the word. Then we can say that mathematics as a science is not a mere chess game governed by mental laws, but genuine ontological cognition in the sense of transcendent grasp. The universal validity of its contents, its intersubjectivity and necessity for an individual thinkers, does not rest merely on immanent apriority, but on transcendent apriority. That which occurs in the latter is the actual self-showing of objects possessing being-in-itself, which is exhibited in every genuine vision into the thing itself. The possibility of mutual understanding, of persuasion and being convinced, does not rest on the necessity of thinking, but on the identity of the ideal object for every vision that directs itself to it. This object is the mathematical entity itself—number, magnitude, size, space, as well as their relations and lawfulness, in their ideality. These cannot originally be things of thought or of representation, because then they could not be all-pervasive relations and laws of the real (244)

The same reasoning holds for other domains of ideal being. Phenomenology's "essential interconnections," logical laws, and structural relations among values are all subsistent ideal entities, indifferent to whether we know them or not, not entities first created by our thought. The ontological significance of the ideal is revealed when its role in determination of the real becomes manifest. Certainty about whether some isolated structure is ideally existent requires a

“conspective” vision or intuition of the whole range of interconnections, as well as the different perspectives offered by various observers, in order to achieve it (273). Moreover, different perspectives teach us that we might be wrong about something, which presupposes that there is a “something” to be wrong about. “In the consciousness of disagreement is then the completely indisputable guarantee for the fact that the essences are themselves something independent of all opinion and all evidentiality, all intuition and cognition. This means that they possess being-in-themselves” (274). Ideal being “exists” unobtrusively, remains indifferent too objectification and to its instantiation in real cases, even as it remains open to different modes of givenness or access (271).

The distinction between *intentio recta* and *intentio obliqua* that opens the way to a perspective on being being qua “this side” of metaphysical standpoints; a revised conception of essence and existence in terms of *Sosein* and *Dasein* that decouples them from ideal and real being as well as a *priori* and a *posteriori* cognition; a conception of cognition that acknowledges its ontological embeddedness in a network of affective acts that structure and confirm its relation to a real world; and the careful specification of the way of being of ideal structures and their relation to the real world are the main features of Hartmann’s response to the “preliminary questions” of ontology in this book. “On this basis, the analysis can give itself safely over to the categorial specification of ‘what is’”(218). Hartmann’s subsequent three volumes of careful ontological labor carry over this categorial analysis.

Hartmann and Realism

Without doubt, one of the chief reasons for Hartmann’s contemporary relevance stems from his insistence on developing a critical ontology, one that can reveal inadequate metaphysical assumptions in order to carefully build a theory of categories on a realist foundation. As we have seen, Hartmann is highly critical of various post-Kantian attempts to blur or eliminate the distinction between thing-in-itself and phenomenon, putting him into conversation with recent critiques of “correlationism” and the “fallacy of being-knowledge” in speculative realism and “new realism.” Others have pointed out that aspects of his ethics, aesthetics, philosophy of history, philosophical anthropology, philosophy of nature, and epistemology all deserve closer attention. Since we are focusing on *Laying the Foundations* here, I want to make clear just what features make his position “realist.” Following that discussion, I will mention one conventional motivation for anti-realism that becomes moot as soon as we adopt a Hartmannian outlook.

As a former student of Marburg Neo-Kantianism, Hartmann is obliged to pass through anti-realism on his way to a more nuanced form of realism. To define it, it will be helpful to consider Hartmann’s stance in light of commonly accepted realist and anti-realist tenets. In *A Thing of This World: A History of Continental Anti-Realism*, Lee Braver has made a very important contribution to a more careful discussion of realism and anti-realism in contemporary Continental philosophy. He defines realism and anti-realism in terms of a limited set of theses common to realist and anti-realist thinkers. Hartmann frequently and directly confronts the central theses that Braver highlights in his “matrices” (groups of characteristic theses). Characterizing Hartmann’s position in terms of them will allow readers to situate his position in the context of recent Continental realisms and the still-dominant anti-realist stance in philosophy and the humanities more broadly.

The “realism matrix” will be familiar to most readers. On Braver’s account, it includes six distinct theses (five of which I include here): the first is the “independence” of the world from “the cognitive activities of the mind;” it is the claim that “the world exists independently of the mental.” The second is a definition of truth as “correspondence” between “thoughts, ideas, beliefs, words, propositions, sentences, or languages on the one hand, and thin objects, states of affairs,

configurations, reality, or experience on the other; that is, between something on the side of the mind or language and something on the side of the world". Next, it follows that "[in]reality has a determinate structure independently of us and truth consists in capturing that structure, then there will be one and only one way to do so accurately". This is the idea that there is "one true description of the way the world is," at least possible in principle. These three theses entail another that is not often explicitly recognized but is a necessary presupposition for the others; namely, that cognition is a passive process of reliably and humbly "mirroring" that pre-existing reality in order to be able to provide a description of the world that is as undistorted as possible (Braver2007, 23). I would add that this implies not just a vague "philosophy of mind," but a whole philosophical anthropology that includes substantive theses about the relation between mind and body, the "place of the human in nature," the nature of knowledge production in the social world, etc. Finally, realism about the world entails a realism about the subject who knows the world, and this subject is universally the same, a "fixed ahistorical human nature" (Braver2007, 49). Let me contrast the central tenets of anti realism with these before going on to articulate Hartmann's nuanced response to anti-realism.

The "anti-realism matrix" unsurprisingly consists of the opposites of these theses. In contrast to the mind-independence of the world, Kant and many thinkers influenced by him assert the mind-dependence of the world. Famously for Kant, since we can only talk about the "world" as it appears to us, i. e., in terms of our given sensory and cognitive apparatus, we cannot assume that our minds have a special intimate contact with reality as it is "in itself," which the dogmatic metaphysicians of all ages have believed. The phenomena are the objects of Newtonian science. Kant's conception of the phenomenon noumenon distinction significantly complicates this, but the general attitude of most post-Kantians has been that this distinction is simply unnecessary, and in Hegel's words, "appearance becomes identical with essence" (Hegel, cited in Braver2007, xx). (Recent Continental realists have identified a fallacy in this maneuver that they term "correlationism" or "the fallacy of being-knowledge" characteristic of "philosophies of access.") This means that a rejection of the correspondence theory of truth is also shared by anti-realists, since if there is nothing independent of the mind for judgments to correspond to, some other count of truth will have to be adopted (e.g., truth as intersubjective agreement,

coherence, or "enhancement of the feeling of power"). Additionally, if there is no independent reality and what we say about it does not correspond to anything "in itself," then there cannot be "one true description" of the way things are, but there maybe as many "true" descriptions as there are subjects who generate them. Braver calls this an "ontological pluralism" in contrast to the "uniqueness" thesis of realism, but this often simply amounts to relativism rather than pluralism. Kant himself did not fall prey to this slide into relativism because, despite the fact that he is the first to make the counter-thesis of the "active subject" the core feature of his entire approach, all active knowers have exactly the same set of cognitive faculties which lead them to make the same judgments about the phenomena they experience, and so they can arrive at the single true scientific account of the natural world (Braver2007, 49). Active knowers do not simply passively receive data from an independent world, but bring order and regularity into that world as soon as they open their eyes or utter judgment about their perceptions. According to Kant's Copernican Revolution the "ordering of experience is an autonomic process" that "constantly operates in the background". The importance of this "active knower" thesis for Kant and post-Kantianism cannot be overestimated and will receive separate discussion below. Finally, in contrast to Kant, many Continental anti-realists do not accept that knowing subjects are everywhere the same, but that perspectives vary across and even within the same subject ("plural subject"). It should be noted that although Kant may be regarded as the founder of anti-realism, his own position reflects a combination of realist and anti-realist theses (as Hartmann also recognized). As Braver summarizes

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it.” Instead of abandoning realism altogether [...] he retains two important aspects of it: the mind-independent noumenal realm and the realist subject. Although he makes the phenomenal world mind-dependent and changes the passive substantial knower to an active organizer of experience, he must keep the experience-organizing structures universal and unchanging in order to preserve the unique world.” In light of the overall features of the position developed in *Laying the Foundations*, we see that Hartmann’s stance also turns out to entail a subtle recombination of these.

First, although Hartmann frequently uses the term “independence” to speak about objects of cognition, he argues that this is actually not the right term to use in an ontological context. “Independence” only makes sense against the background of an already-assumed or potential “dependence” of objects on consciousness in light of skeptical arguments. Hartmann finds that what is usually implied here is that things in relations to subjects are somehow “less in being” than things independent of subjects. The dependence-independence opus thus already an ontologically charged evaluative opposition that misleads us about “what is as such.” Hartmann argues that both the independent and the dependent have the same mode of being; the antiquated idea of “degrees of being” secretly informs the dependence-independence distinction but simply does not apply to “what is.” The better term for designating the “independence” of “what is,” ontologically speaking, is simply “indifference.” “What is,” whether it is dependent or independent, is indifferent to being cognized or related to in any way by anything. This sense of indifference may already be implicit in many statements of the realist thesis, but the term “independence” can lead us astray.

This indifference thesis applies to cognition when Hartmann retains the realist distinction between thing and thought for epistemology: “objects” may be mind-dependent “images,” but the trans-objective “being-in-itself” remains indifferent to thought.

Hartmann believes he is being a true Kantian here, a belief supported by his contrarian reading of Kant’s “supreme principle.” Readers will recall Kant’s principle: “the conditions of the possibility of experience in general must at the same time be the conditions of the possibility of the objects of experience” (Kant, 1998, 283; A 158/B197). In his earlier essay on Kant, Hartmann argued that this expresses a “restricted identity thesis.” The principles or conditions of both are neither completely identical nor completely different. The principle itself is entirely “this side” of the distinction between idealism and realism, as Hartmann reads, and can be interpreted in the direction of placing the conditions of experience inside the subject (Kant’s solution) or both within and beyond the subject in the world. Hartmann claims that Kant’s idealistic answer to the question, which makes these conditions internal to the cognizing subject, results from his own “dogmatic prejudice.” He believes a solution that remains faithful to the phenomenon of cognition can be proposed that places the principles or conditions of experience not within the subject but within the wider reality of which both subject and object are parts. The at least partial identity between subject and object which conditions the possibility of knowledge results from the fact that both subject and object are determined by some shared ontological principles strictly superior to both. These principles are what Hartmann calls categories. Finally, in contrast to the stigmatic and individualist assumptions of Modernist epistemology.

Hartmann argues that problem-consciousness and cognitive progress take place in historical duration in a community of knowers, some of whom may have different perspectives, allowing a progressive correction of our views about the world. This position is substantially supported by showing how the indifference of things is firmly established by noncognitive affective transcendent acts (e.g., suffering and hoping) in the context of which we exercise our cognitive faculties, which do not give as vivid testimony to the “hardness of the real.”

Secondly, his take on “correspondence” is just as nuanced. There is “correspondence” between our models and the world in the restricted sense that there are referents for them, but this relation does not at all imply “mirroring,” resemblance, or similarity. We make models that approximate and somehow conform to the real but do not mirror it. An image, model, judgment, concept, or sentence referring to the food on your plate does not in any way “resemble” the food itself. The terms “fit” or “conformation” might be better to describe this relation, but Hartmann is not more specific about this relation in *Laying the Foundations*. Thirdly, given this “looser” conception of correspondence, in addition to the acceptance of the two Kantian principles that human finitude does shape the way that reality is “given” and that there are “perennial” metaphysical problems, there can never be a complete and unique description of the world for human knowers. There are things we will simply never know—the nonrational or trans-intelligible elements of reality, permanent problems—and cognition is a collective, but limited, historical process of the growth of knowledge. We could call this a form of realist ontological pluralism.

Fourthly, Hartmann moderates the Kantian “active knower” thesis by regarding knowers as both active and passive at once. They are active in the production of the image, concept, or object of cognition, but also passive in receiving more or less determinate input from the things themselves. There are various modes in which “what is” can be “given” to us, not some single bedrock mode, and it is the noncognitive modes more than cognition itself which guarantees our conviction that we are dealing with a world indifferent to our attempts to know it or to satisfy our desires in it. Finally, on the topic of “perspectivism” (the anti-realist response to the realist thesis of a “fixed ahistorical human nature”), Hartmann neither atomizes descriptions into as many perspectives on the world as we find nor insists on a “fixed ahistorical human nature” or knowing subject. Hartmann’s rejection of artificial standpoints in favor of foregrounding the “problems themselves” leads to the potentially dynamic and progressive conceptions of both subject and world that are open to change while remaining stable, or becoming increasingly “stabilized,” through their historical vicissitudes. We have to distinguish between “standpoints,” which are dogmatic metaphysical commitments, and more modest “perspectives,” which may vary in the sense of a “situated epistemology” but relate to the same real world. For Hartmann it is possible to achieve a standpoint-free (but not necessarily perspective-free) assessment of enduring problems and make informed attempts to resolve them.

There is nothing threatening or disturbing about this modest form of realism. There is a question as to why sophisticated thinkers continue to resist accepting some form of realist ontology and cling instead to the trite anti-realist “nature is nothing but our conception or description of nature.” as I see it, while the specific motivations for different authors may differ given their situated conditions, there has been a shared motivation for anti-realism from Kant to the present. It is humanistic anthropocentrism—the notion that human dignity is somehow insulted by a realist stance. I’ll say a few words about this before closing.

Braver remarked on Kant’s consistency in his emphasis on “autonomy” both in his ethics as well as in his epistemology. A “legislative” mind is at work both in ethics and in cognition. “Rather than humbly following after God’s creation or passively recording the intrinsic structure of the world, we boldly form the phenomena. Deleuze describes this colorfully: ‘The first thing that the Copernican Revolution teaches us is that it is we who are giving the orders’.” I suggest that this ethico-political metaphor should not merely be taken as metaphorical. Kant’s conception of freedom as self-legislation (agents “giving the orders” but also “taking orders” only from themselves) is obviously consistent with an epistemology founded on the concept of a real “active knower” who legislates for nature (as a domain of lawful regularity). We have to keep in mind the Enlightenment impulse behind Kant’s desire to free people from their “self-imposed tutelage:” no king or god tells the autonomous agent what to do, although we may very well freely decide that one or the other of them is right in

the end. The practical or ethical dimension of human experience is the larger context for the cognitive dimension. Realism (or dogmatism) in epistemology—regarding the world as something to which we must passively conform—has been considered to be dangerous because it may lead to determinism or authoritarianism in ethics and politics. The pervasiveness of a vague assumption like this allows us to make sense of much of the adherence to anti-realism in 20th century European philosophy. Taking the subject to be an active term in the constitution of “experience” makes it far less likely that determinism in ontology and authoritarianism in politics can take hold. Therefore, realism has to be opposed.

This “holistic” conception of human autonomy was one of the chief features of the Neo-Kantianism that Hartmann himself opposed. Neo-Kantianism was not exclusively dedicated to establishing a rational reconstruction of the sciences it sought “to root itself firmly in the total creative work of culture.” It not only reflects on the methods of the sciences, but also on practical forms of social order and the life of human dignity for the individual living within these, artistic creation and the aesthetic sculpting of life, and even the most intimate forms of religious life. For [...] it is the generative act which creates all manner of objects. Only humankind builds its own human essence and, by objectivating itself therein, imprint in the deepest and most completely unified manner the character of its spirit onto its world. There is indeed a whole world of such worlds, all of which humankind can call its own.

These creative acts are an expression of human “spontaneity,” and “‘spontaneity’ is both law on the one hand, and real fulfillment of spontaneous detection on the other, which receives nothing from the outside”. The emphasis on autonomy and creativity builds the humanistic bridge between cognition and action, and reaffirms the famous Kantian “primacy of the practical.”

The problem with this kind of approach is that, aside from the fact that it illegitimately identifies realism and determinism, it attempts to resolve ethical and political problems in an a priori fashion by building a specific conception of freedom into the very definition of the human being. Hartmann, for one, rejects this thesis of the Kantian “primacy of the practical” that leads to the precipitous assumption that apparently motivates much anti-realism. On Hartmann’s account of cognition and ethics, there is no reason to make this assumption and so there is no reason to attempt to solve political problems through epistemo-ontological means. This continued assumption is problematic not just because it begs the question, but because the social and political context has changed. Humanistic, anthropocentric anti-realism itself does not provide resources for a solution to real-world problems if it cannot even clearly articulate the structure of the life context in which it is embedded, a context that is often indifferent to whether or not human beings come to understand it.

Anti-realism itself has become dangerous for societies on the verge of environmental collapse, for instance—we cannot rightly research and try to resolve environmental problems and get people to act in response to them if nature is nothing but “our construction.” Anti-realism at its worst thus aids and abets anthropocentric humanism and its exploitation of both nature and human “Others” since it claims there is no “real” nature “out there” in the first place. Environmentalism requires some kind of realism even to get its project of social change off the ground. Capitalism and high technology have only apparently relieved humankind of its radical and asymmetrical dependence on nonhuman nature. Real relations of dependence are in evidence as we experience the effort of continuing to negligently pump carbon into the atmosphere, pollute the water supply, degrade the soil, and poison ourselves with synthetic chemicals. Liberation projects for nature and of oppressed human groups alike are at a minimum based on the idea of real, active subjects who recognize the existence of real natural structures and processes as well as real oppressors in a world not of their

own making. This minimal kind of realism says nothing about how we collectively choose to respond to real world problems. We can organize for social change in light of higher values, or we can continue to be duped by ideology and experience greater suffering in the long run.

Hartmann's philosophical anthropology and value theory make room for freedom not only in the relation of the subject to natural regularities, but also in relation to cultural and moral values. While ideal, such values do not govern ethical behavior the way that ideal logical laws structure (logical) thinking and nature's essential structures govern real relations. They motivate but do not determine agents to act or realize them. There is thus no threat of determinism in this form of realist ontology because Hartmann rejects the assumption that in order to guarantee political freedom we need a purely active and spontaneous subject somehow exempt from causal laws. These are simply two different issues. Carefully teasing apart the elements of recurring problems, providing more adequate phenomenological descriptions of them, and employ new and innovative categorial distinctions to resolve them are some of the things that Hartmann's works can teach us how to do. Laying the Foundations provides numerous examples of this kind of work, and it will hopefully draw the reader

Into a fresh, rich, and varied philosophical landscape within and beyond it that still remains largely unexplored. <>

NEW WAYS OF ONTOLOGY by Nicolai Hartmann, Translated by Reinhard C. Kuhn [Praeger, 9780837179896]

It goes without saying that in as summary a discussion as the present one we cannot do justice to medieval metaphysics. But here our concern is not with medieval metaphysics but with contemporary issues. For these, it is imperative that we achieve a clear view of certain fundamental traits of the onto logical views which were at the basis of that metaphysics. We must learn from the mistakes of these old ontological views, so that any and every attempt at a new ontology may dissociate itself unambiguously and consciously from all such errors.

The critical epistemology of the modern age from Descartes down to Kant did not succeed in completely replacing the old ontology with a new doctrine of equal value. But it had so thoroughly destroyed its presuppositions that a metaphysics erected on the old basis was no longer possible. The Critique of Pure Reason, in which the work of thorough housecleaning reached its end, marks a historical boundary beyond which ontological thinking all but vanishes. This is noteworthy, because the Kantian critique was actually not leveled against the foundations of the old ontology but rather against the speculative-rational metaphysics which had been built upon it.

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The End of the Old Ontology

Today more than ever before the serious-minded are convinced that philosophy has practical tasks. The life of both the individual and the community is not molded by their mere needs and fortunes but also at all times by the strength of dominant ideas. Ideas are spiritual powers. They belong to the realm of thought. But thought has its own discipline and its own critique—philosophy. Therefore philosophy is called upon to include within its scope the pressing problems of the contemporary world and to co-operate in the work that needs to be done.

Many who feel this make it a condition of their occupation with philosophical matters that they be led on as straight a way as possible to the solution of pressing problems of their own present situation; and if, instead of the straight way, manifold detours become necessary, they turn aside disillusioned, believing that philosophy is nothing more than an ivory-tower game of thought. The impatience of the desire for knowledge does not permit them to achieve that engrossment in the problems which is the beginning of insight. They want to start with the end. Thus with the very first step they unwittingly divorce themselves from philosophy.

It has always been the strength of the German mind that it knew how to master its impatience. By not shying away from the long and arduous approach, even when demands were pressing and the tasks urgent, it found the way of meditation. So it was with Cusanus, Leibniz, Kant, and Hegel. So, in all probability, it is basically still today, although we have behind us times of deviation from this line which brought with them all the dangers of shallowness and one-sidedness. Just when the task is most urgent, genuine philosophy must return to its foundations. There is no other way of conquering a new wealth of thought for a new world situation.

Philosophy cannot enter upon practical tasks without knowledge of being as such. For the tasks themselves grow out of a total datum of existing realities, and these must be understood and penetrated to the root before man can venture to shape them according to his goals. So all technical science builds upon the exact knowledge of the laws of nature, medicine upon biological laws, and politics upon historical knowledge. In philosophy it is no different, even though its object is a universal one embracing both the whole man and the world in which he lives. Therefore, it is less immediately evident at which level of being its basic concepts must be found, and philosophers, time and again, come to think they can go their way without an ontological foundation.

Actually, no philosophy can stand without a fundamental view of being. This holds true regardless of standpoint, tendency, or the general picture of the world which it adopts. The reason why not every philosophy begins with a discussion of being lies in the ease with which in this field ideas are accepted and laid down undiscussed. They are not even noticed, nor does one suspect to what degree they are decisive for all that follows. Even the natural world view, which regards all things as substantial bearers of changing qualities and relations, involves an ontological prejudgment. To a much higher degree, however, this applies to philosophical interpretations of the world, determined as they are by a specific point of view.

Among historically recorded systems of philosophy there is none for which the domain of the problems of being, taken in strict universality, is not essential. The more profound among them have at all times raised the question of being, each of them seeking to answer it in accordance with its particular outlook. According to whether this question is either posed and discussed or ignored, doctrinal systems can be classified as founded or unfounded ones, regardless of their respective points of view or doctrinal tendencies. The more significant accomplishments of all periods,

recognizable even to a superficial glance because of their far-reaching effect, are without exception "founded" systems.

In no way does this mean that founded systems are ontologically constructed systems or even realist ones. The great theoretical structures of German idealism illustrate this truth in the most characteristic fashion. When Fichte, in his early *Über den Begriff der Wissenschaftslehre*, derives the being of things from creative activities of the Ego, he furnishes an answer to the question as to what the being of things is. His is a basic ontological thesis, and, as such, it is a foundation for all that follows, even down to the truly burning questions with which his *Wissenschaftslehre* is concerned—questions about man, will, and freedom.

The same holds, *mutatis mutandis*, for Schelling and Hegel in all phases of their philosophies, no matter whether the ultimate foundation of being be sought in a subconscious intelligence, in the fusion of subject and object, or in Absolute Reason. In fact, the same holds true for Kant and even Berkeley. Fundamentally though the immaterialism of the latter may differ from transcendental idealism, the thesis "*esse est percipi*" is still as much an ontological proposition as Kant's finely balanced assertion that things in space and time are only phenomena.

By their fundamental theses the idealist systems are no less ontologically constructed than the realist ones. The distinctive mark of the former, as contrasted with the latter, is that their concept of being is a derived one. And therewith they find themselves irreconcilably opposed to the tradition of the Old Ontology. This opposition is a conscious one, deliberately chosen on epistemological and ethical grounds. Further, it is an opposition which, in view of the indifference of the later idealists of the nineteenth century toward fundamental questions, led to the dissolution of the old ontology.

This dissolution marks a decisive step in the history of philosophical theories. Indeed, the dissolution did not first begin with idealism. The way was prepared for it by the typically modern trend toward an epistemological-critical foundation of philosophy, and by the end of the seventeenth century it reached its first high point in Leibniz's philosophy. This philosophy is still, in its own way, the creation of a thoroughly ontological type of thought. Yet in the main Leibniz has already left the tracks of the old ontology.

The question then arises as to what the old ontology actually was. We mean by it that theory of being which was dominant from Aristotle down to the expiration of Scholasticism. Although it produced a multitude of divergent varieties of thought and finally ran out in an incurable division of tendencies, it was uniform in its fundamentals, and to the thinkers of the modern age, who from several sides drew up a concentrated attack upon it, it presented a unified hostile camp.

The old theory of being is based upon the thesis that the universal, crystallized in the *essentia* as substantial form and comprehensible as concept, is the determining and formative core of things. Besides the world of things, in which man, too, is encased, there is a world of essences which, timeless and immaterial, forms a kingdom of perfection and higher being. The extreme representatives of this doctrine even assigned true reality to the universal essences alone, thereby disparaging the world of time and things. Their successors in the nineteenth century, considering universals only under the form of concepts, called this trend "conceptual realism." The expression is misleading, because it was the point of that theory that universals were not just concepts. Instead, one may well speak of a "realism of universals."

Scholastic ontology, far from being limited to this extreme view, showed the theory of universals in richly varying gradations. It was not necessary to attribute to essences a being "prior to things" or "above" them. They could be conceived also in the Aristotelian manner as substantial forms subsisting "in the things." Thus the difficulties of a duplication of the world were avoided without a

surrender of the fundamental conception. Of course, medieval philosophers could not entirely rest content with this, because a speculative, theological interest prompted them to conceive universals as entities preexisting in the *intellectus divinus*.

Apart from this, the gist of this ontology does not lie in the gradations of the fundamental thesis. Nor does it lie in the speculative-metaphysical tendencies combining with it but solely in the basic view of the nature of the universal itself—in the conviction that the universal is the moving and teleologically determining principle of things. Here an ageold motif of mythical thinking enters: the teleological interpretation of temporal occurrence in analogy to human action. Aristotle gave this idea a philosophical form, linking it closely to a theory of *eidos* patterned chiefly on organic nature. According to this view, essence is a substantial form, and, as the end of an evolutionary process, it determines the growth of the organism. This scheme of interpretation was transferred from the organism to the whole world, and, in analogy to the organic, all processes of inorganic nature were considered teleological.

This scheme had the advantage of solving the riddle of the structure of the world in an amazingly simple manner. If only the observer succeeds in grasping the substantial form of a thing, he holds at once the key to all the changes which it suffers. The substantial form, however, is comprehensible by means of the concept, and the methodological tool for this comprehension is the definition. Definition again is a matter of the intellect whose whole business consists in gathering the essential elements of the form from the final stages of the natural processes of growth and in then putting these elements together in an orderly fashion.

This procedure, surely, must not be conceived in the manner of a crude empiricism. The most general traits of essence, that is, those that are shared by many kinds of *essentia*, cannot simply be gleaned from a survey of things. Here the Aristotelian epistemology did not offer the right lever, and soon Scholasticism espoused the Platonic idea of intuition (*intuitio*, *visio*). Philosophers became more and more used to subordinating the intellect to a superior faculty of insight to which they ascribed a direct contact with the highest ontologically determining formal elements.

Herewith the old ontology took on a deductive character. Once human reason feels itself to be in possession of the highest universals it is readily concluded that reason can actually "derive" from these universals all that which it does not know how to extract from experience. In this manner, there arose that neglect of empirical knowledge and that luxuriant growth of a metaphysics deducing its conclusions from pure concepts which was first challenged by the later nominalism and finally defeated by the beginnings of modern natural science.

It goes without saying that in as summary a discussion as the present one we cannot do justice to medieval metaphysics. But here our concern is not with medieval metaphysics but with contemporary issues. For these, it is imperative that we achieve a clear view of certain fundamental traits of the ontological views which were at the basis of that metaphysics. We must learn from the mistakes of these old ontological views, so that any and every attempt at a new ontology may dissociate itself unambiguously and consciously from all such errors.

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In Kant it is above all the deductive mode of procedure which is, done away with. Deductions can be made only from a priori certain principles, and apriorism is here subjected to a searching critique. The a priori is limited to two forms of intuition and a few categories. And even these are considered valid only for phenomena and not for things as they are in themselves. Thus substantial forms are excluded as a matter of course, and along with them the doctrine of essentia is obliterated. More important still is the fact that the Critique of Judgment attacks teleology even on its very home ground, that of organic nature, depriving it of all constitutive significance.

The latter point is perhaps the most important of all. At any rate, it hits the weakest side of the old ontology drifting in the wake of Aristotle. But surely it is the point least understood and valued by Kant's contemporaries and followers. The philosophies of nature of both Schelling and Hegel ignored the critique of teleological judgment and carried on once more in conformity with the Scholastic example. The Kantian critique had been a transcendental one, that is, an epistemological critique of the presuppositions of the theory of organic nature. Rationalist idealism, however, believed itself to be in possession of unassailable universal certainties on the strength of which the enigmatic purposive equipment of living beings—and actually of all nature from the bottom up—is supposed to become amenable to teleological interpretation. <>

ÉDOUARD GLISSANT, PHILOSOPHER: HERACLITUS AND HEGEL IN THE WHOLE-WORLD by Alexandre Leupin, translated by Andrew Brown [SUNY series in Contemporary French Thought, SUNY, 9781438483269]

Translation of Alexandre Leupin's award-winning study of Édouard Glissant's entire work in relation to philosophy.

One of the greatest writers of the late twentieth century, Édouard Glissant's body of work covers multiple genres and addresses many cogent contemporary problems, such as borders, multiculturalism, postcolonial and decolonial studies, and global humanities. *Édouard Glissant, Philosopher* is the first study that maps out this writer's entire work in relation to philosophy. Glissant is reputed to be a "difficult writer;" however, Alexandre Leupin demonstrates the clarity and coherence of his thinking. Glissant's rereading of Western philosophy entirely remaps its age-old questions and offers answers that have never been proposed. In doing so, Glissant offers a new way to think about questions that are at the forefront of Global Humanities today: identity, race, communities, diasporas, slavery, nation-states and nationalism, aesthetics, ethics, and the place and function of poetry and art in a globalized world. This book will elucidate Glissant's theoretical writings, not only in England and in America but also in the anglophone Caribbean, Africa, and India.

Alexandre Leupin is Professor Emeritus in French Studies at Louisiana State University. He is the Founder and Codirector (with Charles Forsdick) of the Glissant Translation Project, which has already published three translations, among them *The Baton Rouge Interviews*, coauthored by Glissant and Leupin. **Andrew Brown** previously taught French at the University of Cambridge and is currently a freelance translator of French philosophy and social thought, including works on or by Sartre, Barthes, and Derrida. His books include *A Brief History of Biographies: From Plutarch to Celebs*.

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Abbreviations

Acknowledgments

Translator's Note

Chapter 1 "The immense foliage of a Louisiana oak, like a flattened palaver tree"

Chapter 2 "Repetition is not an unnecessary duplication"

Chapter 3 "I do not reject, I establish correlation"

Chapter 4 "This need to go beyond one's own subjectivity"

Chapter 5 "Everything is in everything"

Chapter 6 "Universality has no language"

Chapter 7 "Bounds, breaks and sudden leaps"

Chapter 8 "Only the poets"

Chapter 9 "The beauty of beauty"

Chapter 10 "The dispute, one of the safest and oldest reinforcements of thought"

Chapter 11 "We do not name Relation"

Chapter 12 "Now there are only beings"

Chapter 13 "The slave is the one who does not know, but who desires with all his strength to know"

Chapter 14 "I change things, through exchanging with the other, and yet without destroying or distorting myself"

Chapter 15 "And so we bring down (as if literally) the letter of the world"

Chapter 16 "Imagine a thousand birds taking flight over an African lake"

Chapter 17 "The continuity of the living is a spiral that does not fear to be interrupted"

Chapter 18 "Yes, yes, everything is alive"

Notes

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Epigraphs

When a poet dies, his most beautiful images,
his most influential works,
as well as his most everyday words,
are immediately safeguarded
in imperceptible fissures of the improbable,

and in the mysterious cracks of time,
 where those bold enough can consult them.

—Glissant, *Philosophie de la Relation*

All philosophy is an art.

—Glissant, *Une nouvelle region du monde*

It is not the system that needs to be challenged.

What needs to be challenged

is any system that seeks to be systematic.

—Glissant, *L'Imaginaire des langues*

A living poetry must be part of life itself.

—Hegel, *Esthétique IV*

The death of poets also has a certain allure
 which much more overwhelming
 or terrifying sorrows do not possess. It is because we
 feel that a great poet,
 here among us, enters into a solitude
 that we cannot conquer.
 And once he has gone, we know
 that if we were to follow him that minute into the endless shadows,
 never could we see him or touch him.

—Glissant, *Philosophie de la Relation*

Embraces

Wholes and not-Wholes

An accordance, a discordance

Consonant and dissonant

And of all things one

And of the One all things

—Heraclitus, *Fragment X*

Excerpt: The Relation to come presupposes more than a will, more than a belief in its advent: it requires a true faith, one that runs across the whole of Glissant's thought. A path to subjective knowledge [connaissance] that passes through faith immediately raises the question of the sacred. The sacred is at first separation: in Latin, *sacer* means, on the one hand, the separate space dedicated to the divinity and, on the other hand, the propitiatory victim who is destined for it. Thus, *sacer* also refers to the abject person, the one cast out of the community to be offered as a sacrifice. Rene Girard has repeatedly alerted us, throughout his work, to the violence that is the backbone of the scapegoating process, a resolution that connects individuals succumbing to the process of atomization so as to bind them together in community. Glissant takes care to demarcate his notion of the sacred from the bloody, immemorial heritage still alive in the contemporary world: "In such a mesh, the ancient sacred force of filiation would no longer play its game of exclusion, the resolution of the dissolute would be relayed by the aggregation of those who have been scattered. [. . .] There would be no more need for the sacrifice of a propitiatory or victimized hero: for we can unravel this plot, meditate on it together, recognize ourselves in it at each other's side" (PR 68). Glissant's sacred is entirely purified of all transcendence, anthropomorphized through and through; it unfolds in this world, also distinguished from the chorus of Greek tragedy, which was the voice of the gods themselves—it is the very order of Chaos, fixing the nodal points of Relation without, however, determining its future: "We will fix the sacred, the order pre-supposed in the disorder of Relation, without being stupefied. We will discuss it without being imbued by the solemn melopoeia of the Greek chorus alone. We will imagine it without perforce becoming the hand of a god. To imagine the transparency of Relation is also to found the opacity of what animates it. The sacred comes from us, from this plot, from our wandering" (PR 68). The sacred comes not only from the past, but from the future, as an "unsuspected appetite for the unforeseeable" (TM 510). The writer (the unspeaker [déparleur]), is the one with the task of identifying those points where disorder hangs suspended, without any tremolos drenched in religiosity: "Any unspeaker [déparleur] is more gifted than anyone else for the search of the Sacred precisely because he unspeaks—in other words he is kidding, he is transported into exaggerations. Miseries confide in him without his seeing this as a priesthood. The unspeaker is the layman of the sacred" (TM 345).⁶ Therefore, the sacred is not a cause, but a consequence of Relation: "The sacred proceeds perhaps, for us, from this Relation, and no longer from a Revelation or a Law" (TTM 113). Relation puts Re(ve)lation in brackets. But it is mainly the opening of the Philosophie de la Relation that has attracted the attention of commentators' to this "secular sacred" (still an oxymoron and indeed a joke) that Glissant proposes: "There was that which arose, a sacred word. And the poem, then the poem, of itself begotten, started to be recognized" (PhR 11). Let us emphasize that this genesis is indeed a hypothesis, "this myth, or this legend or this dream" (PhR 12). "Thus should have been pronounced, in the prehistories of all the literatures of the world, this same beginning" (PhR 11), an original integration, one genesis that opposes and is appended to any digenesis, "the very sign of the fusion of the whole with the whole" (PhR 12). The primordial poem has no speaker—it arises from itself, it holds no commerce with anything else (sex, God the Creator): "It was before all else humanity" (PhR 11), a "sacred word, born already from all things in the world" (PhR 12): before the Enumah Elish, before Gilgamesh, before The Odyssey and Heraclitus. The poem is therefore without words, inarticulate, and inarticulable, a "song of the world" (as Bernadette Gainer puts it) that precedes the divisions and distinctions necessarily implied in any act of speaking, right from the very earliest times:

What did this word of the sacred seek (it is the entirety of the world I am talking about), if not to confirm so many unavoidable obscurities? It had supposed, first and foremost, that it

could forestall (or struggle against) the partitioning of differences, a partitioning which seemed inevitable, and then, when the paths and inspirations of the world were indeed divided, this word took care to gather these differences together again, panting in the same, ever-same way, so that the divergent sound emerging from it and echoing to the horizons would appear calm and reassuring. (PhR 14)

The sacred word is therefore an oxymoron, since it is outside of language: in this sense it is literally inconceivable, inextricable, unavoidable. Believing in its existence is a matter of faith: the primordial poem is the "*credo quia absurdum*" that Glissant takes from Tertullian, applied to a completely different object than the glorious Body, albeit with some striking analogies. The sacred word has been buried, lost, repressed, like Christ: "Let us remember well: the poem was buried in a collapse of the earth" (PhR 15). The primordial poem is the obscure object that poets seek, their original horizon: "and this poem comes back each time to what was an episode or a need of the prescience of the humanities, and it renews, with the most unexpected poets, in their need for speech, this journey that led from the original obscurity of the song to its trembling appearance" (PhR 12-13). The sacred word (of which Lascaux provides the buried image; PhR 12) is the horizon of all literature: "I think that in the history of all arts and all cultures there is a nostalgia for that primordial—and not primitive—moment when the same was related to the other. The same who was the cave dweller had, as his other, not another person; his other was the animal and his surroundings [. . .]. And I think that we have tried by dint of regulating the beautiful to forget this moment" (IL 93-94).

But the analogy with Christ does not stop there: the sacred word says that we must also resurrect, to build the future: "We can then understand that what distracts us from the 'essence' of a sacred, from the reading of the primordial poem, is not the banalization or the unstoppable technicization or the legislated secularism of our forms of objective knowledge [savoirs] and our current mode of life, but this fact: the poetics of Relation has projected before us this poem in extent that we deem to have been born from primordial lavas" (PhR 148). The sacred word is origin and goal; a circular fusion of everything, it is the One, even though Glissant rejects elsewhere the philosophers' obsession with it. For two reasons, the sacred word is Faith, past and future, a dual "*credo quia absurdum*" clearly opposed to the rationalization of the "*credo ut intelligam*" ("I believe in order to understand") of Saint Anselm, which is completed by Saint Albert the Great and Saint Thomas Aquinas in the systematization of the *Summae*. This "believe in order to understand" aims to block the "temptations of the thought of the Infinite and the Cosmos, a thought which will at the same time follow more obscure paths, byways that are usually prohibited" (TTM 95).

The new gods, recomposed from the old, are therefore secular, and the sacred word is a path to subjective knowledge (*connaissance*) that goes beyond the paths of rationality. Art is not reduced to the mere accumulation of the facts of its history and its achievements, true (subjective) knowledge (*connaissance*) is reducible neither to the aggregate of forms of (objective) knowledge (savoirs) or to subjective and impressionistic evaluation.

The language we speak has always been used to anchor identity and connection to a community (tribe, ethnic group, nation, empire); for the Hellenes, the one who speaks Greek badly is a barbaros, an allogeneic element that cannot be assimilated to the city. For the Romans, *latinitas* is what defines being part of the Republic, then the Empire. Among the Jews at the time of Jesus Christ, Biblical Hebrew, the sacred language entrusted to the custody of the Levites and the Kohanim, defines the very purity of belonging to the nation.

But here again, there is digenesis or multigenesis. Indeed, the Hebrew of the Torah is doubled by a vehicular Hebrew called Mishnaic (from the Mishna, "repetition," a compilation of rabbinical laws),⁹

and Ancient Palestine used another lingua franca, Aramaic, the language in which Jesus preached. Jesus himself was certainly bilingual, probably multilingual: he spoke Aramaic, knew the sacred Hebrew of the Torah (evidenced by his frequent quotations from the Old Testament in the Gospels and his polemics with rabbinical doctors), probably understood and could speak Mishnaic Hebrew, and may have conversed in Greek with Pontius Pilate. What a scumble of languages at the origins of Christianity! And this cultural exchange will become the rule with the second book of the Acts of the Apostles and Pentecost. If any speaker can understand preaching in any language, then there is no sacred language. The glossolalia of the book of Acts is "the sign that every tongue [or language, langue] will confess" (Rupert de Deutz, *Les OEuvres du Saint-Esprit*). At the same time, what a hubbub in the development of the New Testament! In the second century, Greek-speaking Jews living in the diaspora, in Alexandria, translated Aramaic and Hebrew and produced the first version of the New Testament together with the Old Testament, translated into Greek from Biblical Hebrew. This was the Septuagint: it was then translated into Latin by Saint Jerome, and triggered a boundless dynamic process: Testaments exist today in three hundred languages; one thousand eight hundred and forty-eight languages include the translation of at least one book of the Bible." This spirit of Pentecost is summed up by Saint Augustine in a pithy phrase: "The truth is neither Hebrew, nor Greek, nor Latin, nor barbaric" (*Confessions* XI, III, 5). It does not need to be articulated in a specific language: all the idioms of the world revolve around a truth without language: "[The truth] would say to me, without needing a mouth or a language, without making any syllables sound out: 'Moses speaks the truth!' " (Ibid.). <>

PRINCIPLES AND PERSONS THE LEGACY OF DEREK PARFIT edited by Jeff McMahan, Tim Campbell, James Goodrich, and Ketan Ramakrishnan

- A distinguished set of contributors engage with the work of Derek Parfit
- New work on some of the deepest issues in moral philosophy
- Includes a paper by the late John Taurek, published for the first time, which responds to Parfit's important work on moral aggregation
- To be followed by two further volumes on **PARFIT: ETHICS AND EXISTENCE** and **LIFE AND THOUGHT**

Derek Parfit, who died in 2017, is widely believed to have been the most significant moral philosopher in well over a century, is author of the 3-volume ethical discussion **ON WHAT MATTERS, 2 VOLUME SET** and **ON WHAT MATTERS VOLUME 3**. The twenty-one new essays in this book have all been inspired by his work. They address issues with which he was concerned in his writing, particularly in his seminal contribution to moral philosophy, **REASONS AND PERSONS** (OUP, 1984). Rather than simply commenting on his work, these essays attempt to make further progress with issues, both moral and prudential, that Parfit believed matter to our lives: issues concerned with how we ought to live, and what we have most reason to do. Topics covered in the book include the nature of personal identity, the basis of self-interested concern about the future, the rationality of our attitudes toward time, what it is for a life to go well or badly, how to evaluate moral theories, the nature of reasons for action, the aggregation of value, how benefits and harms should be distributed among people, and what degree of sacrifice morality requires us to make for the sake of others. These include some of the most important questions of normative ethical theory, as well as fundamental questions about the metaphysics of personhood and personal identity, and the ways in which the answers to these questions bear on what it is rational and moral for us to do.

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When Derek Parfit died early in January 2017, he had for years been widely regarded as the best living moral philosopher. Many regarded him as the best moral philosopher since Sidgwick (whom he described as 'my great, drab herd'), and I know several distinguished philosophers who believe him to be the best moral philosopher since Kant. He was also greatly beloved by his many former students and colleagues from his years at Oxford, Harvard, New York University (NYU), Princeton, and Rutgers. When he had to be hospitalized in New Jersey in 2014 after coming close to dying, the philosophers who appeared at his bedside were so numerous that a nurse was moved to exclaim, 'Jesus Christ had only twelve disciples, but look at you!'

He was also held in great affection by the many beneficiaries of his legendary generosity in commenting on unpublished philosophical manuscripts. Several philosophers have expressed amazement at having received comments from him that were lengthier than the manuscript itself, often only a day or two after sending it to him. In at least one instance, his comments on a book manuscript were nearly as long as the book itself--though I assume that on this occasion the comments took more than a day or two to prepare.

Although Parfit was well known, admired, and indeed revered in the world of academic philosophy, he was little known outside that small world. He worked obsessively but in comparative obscurity, seldom giving public lectures and almost never writing for popular media. He never sought celebrity; nor did it ever find him. While some philosophers have been awarded dozens of honorary doctorates, Parfit never received a single one. Near the end of his life, he was awarded the prestigious Rolf Schock Prize in Logic and Philosophy; but apart from that, his nominations for the

other major prizes for which moral and political philosophers are eligible (Kyoto, Templeton, Berggruen ...) were repeatedly passed over by the selection panels. Perhaps most surprisingly, there was never a *Festschrift*, or *liber amicorum*, published in his honour during his lifetime—not even on the occasion of his mandatory retirement from Oxford at the age of 67 in 2010. Nor were there even plans for such a volume when he died unexpectedly seven years later.

There have, of course, been various edited volumes, monographs, and special issues of journals devoted to examinations of Parfit's work.' Although many of these did not appear until after his death, he had, happily, seen the material in most of them. These many published discussions help to explain why his students and friends had not prepared a *Festschrift*. Because there was so much active discussion of his ideas, and because he remained intensely engaged and productive and seemed to everyone, including his doctors, to be in good health, his students and friends reasonably assumed that there was no urgency about publishing a volume of essays in his honour. But we were wrong.

In December 2017, the philosophy departments at New York University and Rutgers University jointly held a two-day conference in Parfit's memory at which eight papers were presented. In coordination with the organizers of that conference, and with the generous and able assistance of Joseph Carlsmith and Ketan Ramakrishnan, I organized a parallel conference in Oxford. This conference, which was held in May 2018, was larger in scale, spanning three days and featuring twenty-three speakers who all presented full-length papers. I planned the Oxford conference with the explicit aim of publishing revised versions of selected papers in an edited collection in Parfit's honour—the long overdue and sadly posthumous *Festschrift*.'

The project has, however, become more ambitious since then. The papers from the Oxford conference alone were almost too many for a single volume. And six of the eight speakers at the Rutgers-NYU conference wanted to submit papers for inclusion as well. There were, moreover, a number of other moral philosophers who were unable to present a paper at either conference but wanted to pay tribute to Parfit in some public way and have therefore written essays specifically for the *Festschrift*. Still others wanted to contribute a piece of a more biographical nature. The material I have gathered has thus increased well beyond the limits of the single volume I had initially envisaged. This book is therefore only the first of three volumes that will appear as memorials to Derek Parfit: two collections of philosophical essays and one volume of intellectual biography and memoir.

In inviting speakers to the Oxford conference, I explicitly urged them not to assume that they should restrict their presentations to commentaries on Parfit's work. While I did not discourage the writing of critical or exegetical work, which was also welcome, I did encourage invitees to address and attempt to advance our understanding of issues that Parfit believed really matter. The result is that, while many of the philosophical essays in this and the forthcoming second volume do in part analyse, criticize, or build on Parfit's ideas and arguments, all are directly engaged with issues in moral philosophy on which Parfit worked, and all seek to make progress with those issues. They are continuations of his efforts to understand the issues and they carry forward his legacy.

In recent years several edited collections have been published in English that contain essays that comment on the first two volumes of the major work of Parfit's later years, **ON WHAT MATTERS**. As these two volumes address issues primarily in metaethics and ethical theory, the essays in the edited collections naturally address the same issues. By contrast, the essays in this book and in the sequel are not much concerned with metaethics. There are various reasons for this, one being that the metaethical issues that were of most concern to Parfit have already been well and thoroughly discussed in the various other edited collections. Another is a matter of geography. Speakers for the larger conference in Oxford were drawn largely from friends and students of

Parfit's on this side of the Atlantic, who tended to be concentrated in Oxford and Scandinavia and who, for whatever reason, have in general worked more in normative ethics and population ethics than in metaethics. While some of these philosophers chose to write about issues raised by Parfit's discussions of Kantianism, contractualism, and consequentialism in volume I of **ON WHAT MATTERS**, most chose to write on issues that Parfit addressed in *Reasons and Persons* or in papers published before **ON WHAT MATTERS**.

Almost half of the contributors of philosophical essays chose to write on topics in population ethics, the area of ethics concerned with issues involving causing people to exist. Although the origin of population ethics as a distinct area of moral philosophy can be traced to a few seminal articles in the late 1960s and early 1970s, the locus classicus of the range of difficult problems and paradoxes in the area is part IV of *Reasons and Persons*, which remains the best and most important single work in the field.¹ The second of the three memorial volumes will be devoted entirely to essays in population ethics.

The essays in this first volume are more diverse. Most address issues that Parfit discussed in parts I, II, and III of **REASONS AND PERSONS**, such as personal identity, the basis of rational prudential concern about the future, self-interest and time, the nature of well-being, special relations and partiality, the aggregation of value, the nature of harm, and individual responsibility for causally overdetermined outcomes. Others, as I noted above, discuss the major ethical theories that Parfit argued, in volume I of *On What Matters*, substantially converge in their implications when they are understood in their most defensible forms. The remaining essays discuss principles and issues that Parfit discussed in essays or in various places in his writings, such as equality, prioritarianism, supererogation, and the nature of reasons. Rather than offer my own summaries of the essays, I have appended the authors' own abstracts below.

With one exception, the essays in this first volume were written either for one of the conferences or specifically for inclusion here. Also with one exception, all are published here for the first time. The one essay that has appeared elsewhere is that by de Lazari-Radek and Singer. Although it was written for the Rutgers-NYU conference, it has recently been published in a journal.² The essay that was not written as a tribute to Parfit is that by John Taurek. This was written several decades ago. In 1977, Taurek published a celebrated paper called 'Should the Numbers Count?'. This paper was perhaps the principal catalyst for discussions in contemporary moral philosophy of issues of aggregation and in particular of the relevance to the evaluation of an act of the number of people harmed or benefited by it. The position Taurek's paper defended is at one end of the spectrum of possible views and is thus quite controversial. In 1978 Parfit published an influential response.³ Taurek wrote and presented a reply but soon abandoned philosophy and, to the best of my knowledge, never sought to publish this reply. He died in 2003 and has subsequently become something of a cult figure in philosophy. Frances Kamm preserved a typescript of Taurek's reply and kindly offered to allow me to include it in this book. I have subsequently found a second copy of Taurek's typescript among Parfit's papers. I am most grateful to Taurek's daughter, Davida Taurek, for granting me her permission to publish it and also for securing the permission of her siblings. I am confident that the appearance, after so many years, of Taurek's response to Parfit's criticisms of his view will be a source of excitement and deep interest to many philosophers.

Most of the contributors to this book were once Parfit's students or friends. All have endeavoured to engage with issues that he believed matter and to produce work worthy of serving as a tribute to him, though in the knowledge that each of our pieces could have been better with the benefit of his comments, however hastily written.

Chapter Abstracts

David O. Brink: 'Special Concern and Personal Identity'

As discussed by John Locke, Joseph Butler, and Thomas Reid, prudence involves a concern for the agent's own personal good that she does not have for others. should be a concern for the agent's overall good that is temporally neutral and involves an equal concern for all parts of her life. In this way, prudence involves a combination of agent relativity and temporal neutrality. This asymmetrical treatment of matters of interpersonal and intertemporal distribution might seem arbitrary. Henry Sidgwick raised this worry, and Thomas Nagel and Derek Parfit have endorsed it as reflecting the instability of prudence and related doctrines such as egoism and the self-interest theory. However, Sidgwick thought that the worry was unanswerable only for skeptics about personal identity, such as David Hume. Sidgwick thought that one could defend prudence by appeal to realism about personal identity and a compensation principle. This is one way in which special concern and prudence presuppose personal identity. However, as Jennifer Whiting has argued, special concern displayed in positive affective regard for one's future and personal planning and investment is arguably partly constitutive of personal identity at least on a plausible psychological reductionist conception of personal identity. After explaining both conceptions of the relation between special concern and personal identity, the chapter concludes by exploring what might seem to be the paradoxical character of conjoining them, suggesting that there may be no explanatory priority between the concepts of special concern and personal identity.

James Goodrich: 'Separating Persons'

In *Reasons and Persons*, Derek Parfit argues for a reductionist view of persons and that our ethical thinking should become more impersonal. While doing so, he argues that we may need to give up some widely shared intuitions about the Separateness of Persons and all of those views which crucially hinge upon it. However, this chapter argues that Parfit was mistaken. His reductionist views of persons and his more general claim that our ethical thinking should become more impersonal are in fact compatible with several plausible interpretations of the Separateness of Persons. Parfit's project in *Reasons and Persons* should thus be understood not as undermining the Separateness of Persons, but as transforming our understanding of it. The chapter closes by considering the degree to which Parfit had reason by his own lights to accept some version of the Separateness of Persons.

Tim Campbell: 'Personal Identity and Impersonal Ethics'

On the Reductionist View, the fact of a person's existence and that of her identity over time just consist in the holding of certain more particular facts about physical and mental events and the relations between these events. These more particular facts are impersonal—they do not presuppose or entail the existence of any person or mental subject. In *Reasons and Persons*, Derek Parfit claims that if the Reductionist View is true, then 'it is . . . more plausible to focus, not on persons, but on experiences, and to claim that what matters morally is the nature of these experiences. But why think that the Reductionist View has this implication? As critics such as Robert Adams, David Brink, Mark Johnston, Christine Korsgaard, and Susan Wolf have suggested, it is not dear why the Reductionist View should have any implications regarding the moral importance of persons. This chapter argues that in contrast to Non-reductionist views, Psychological Reductionism, a version of the Reductionist View that assumes a psychological criterion of personal identity, supports the kind of impersonal moral outlook that Parfit describes.

Samuel Scheffler: 'Temporal Neutrality and the Bias Toward the Future'

Many philosophers have held that rationality requires one to have an equal concern for all parts of one's life. In the view of these philosophers, temporal neutrality is a requirement of rationality. Yet Derek Parfit has argued that most of us are not, in fact, temporally neutral. We exhibit a robust bias

toward the future. Parfit maintains that this future-bias is bad for us, and that our lives would go better if we were temporally neutral. Like other neutralists, he also believes that the bias is irrational, however widespread and robust it may be. This article assesses these criticisms and offers a qualified defense of the bias toward the future.

Shelly Kagan: 'What Is the Opposite of Well-Being?'

Typically, discussions of the nature of well-being focus only on the positive elements—those things that directly constitute someone's being well off or better off. But an adequate theory of well-being also needs to give an account of ill-being, the negative elements that directly constitute being badly off, or worse off. This chapter asks how to extend a particular nonstandard theory of well-being—according to which well-being consists in the enjoyment of objective goods—so as to cover ill-being as well. In effect, then, it tries to discover the opposite of well-being, according to this nonstandard theory. This chapter tries to answer the question: what is ill-being when well-being is enjoying the good? Graphs are used throughout to illustrate the alternative possibilities, and to help display the surprising complexity of the most plausible answers.

Roger Crisp: 'Parfit on Love and Partiality'

It is generally held that in his 1984 book *Reasons and Persons* Derek Parfit was advocating greater impartiality in ethics. In his later work, *On What Matters*, he seems more inclined to accept that we have partial reasons, for example, to give priority to those we love. This chapter raises some questions concerning Parfit's arguments for partiality, including whether affection is too contingent to be valuable in itself, and whether partial concern for others, shared histories, or commitments can plausibly be said to ground non-instrumental reasons or value. The paper ends with a discussion of gratitude and an argument based on Parfit's reductionist conception of personal identity.

Elizabeth Ashford: 'Individualist Utilitarianism and Converging Theories of Rights'

The paper develops two core themes of Derek Parfit's philosophy. The first is his goal of unifying the two main rival impartial moral theories, Kantian deontology and consequentialism, therefore reinforcing their claim to pertain to objective moral truths. The second is his focus on the moral significance of the combined effects of many agents' behaviour, and on the challenges this poses to ordinary moral thinking. This is a theme that runs throughout his work, that he returns to at the very end of volume III of *On What Matters*. Kantianism and consequentialism have been thought to fundamentally diverge on the issue of rights and tradeoffs. The chapter first outlines the version of consequentialism taken to be most plausible, calling it 'individualist utilitarianism, which differs from so-called 'classical utilitarianism' in taking the moral importance of well-being to be grounded on the moral importance of the persons whose well-being it is. This paves the way for a pluralist Kantian and utilitarian account of human rights, grounded on the moral significance both of persons' well-being and their dignity as rational autonomous agents. The chapter then turns to the topic of the threat to access to the means of subsistence, both for the current poor and future generations, posed by global as well as domestic socio-economic structures and anthropogenic climate change. This harm is the combined effect of the ongoing patterns of behaviour of a vast number of agents. The chapter argues that individualist utilitarianism and Kantianism converge on the conclusion that the duty to avoid harms of this kind should be analysed as a shared duty of basic justice, non-fulfilment of which constitutes a structural human rights violation.

Ingmar Persson: 'Parfit's Reorientation: From Revisionism to Conciliationism'

This paper aims to show that between *Reasons and Persons* and *On What Matters* the orientation of Derek Parfit's philosophy underwent a significant change. The approach of *Reasons and Persons* is largely revisionist, which is exemplified by his reductionist account of personal identity. This account is omitted in *On What Matters* apparently because it does not fit in with the conciliationist project

of this work. The aim of the first two volumes of that work is to show that, on the basis of a non-naturalist theory of normative reasons, three supposedly irreconcilable moral theories—rule-consequentialism, Kantian and Scanlonian contractualism—could converge to form a single Triple Theory. In the third volume, the conciliationist approach is carried further by Parfit's attempt to show both that his metaethical position is in essential agreement with rivals, such as Gibbard's expressivism, and to reconcile parts of common-sense morality and consequentialism in order to bring them together in the Triple Theory. This chapter argues that the failure of these attempts as well as the fact that the most controversial revisionist claims in *Reasons and Persons* are left out throw doubt on the feasibility of Parfit's conciliationist undertaking.

Brad Hooker: 'Parfit's Final Arguments in Normative Ethics'

This paper starts by juxtaposing the normative ethics in the final part of Parfit's final book, *On What Matters*, volume III (2017), with the normative ethics in his earlier books, *Reasons and Persons* (1984) and *On What Matters*, volume I (2011). The paper then addresses three questions. The first is, where does the reflective-equilibrium methodology that Parfit endorsed in the first volume of *On What Matters* lead? The second is, is the Act-involving Act Consequentialism that Parfit considers in the final volume of *On What Matters* as plausible as Rossian deontology? The third is, how is the new argument that Parfit puts forward for Rule Consequentialism supposed to work?

Katarzyna de Lazari-Radek and Peter Singer: 'Parfit on Act Consequentialism'

In the first two volumes of *On What Matters*, Derek Parfit argues that three major normative theories—Kantianism, Contractualism, and Consequentialism—are, in their most defensible forms, compatible, and can be reconciled as a 'Triple Theory'. The form of Consequentialism that Parfit argues is compatible with Kantianism and Contractualism is Rule Consequentialism. This has led many to assume that Parfit does not believe that Act Consequentialism is a defensible form of Consequentialism. We draw on personal correspondence to show that this assumption is incorrect. We then consider how, in *On What Matters*, volume iii, which Parfit completed shortly before his death, he seeks to narrow the differences between Act Consequentialism and the Triple Theory. One of the ways in which he does this is to suggest that Impartial Rationality may be an external rival to Morality, in much the same way as egoism is an external rival to morality. It is argued that this move undermines morality, as shown by Parfit's own example of the judgements that we may make in the case of terror bombing. We conclude that Parfit's attempts to bridge the gap between Act Consequentialism and Triple Theory meet with only limited success.

Liam Murphy: 'Nonlegislative Justification'

If moral theorists who otherwise disagree, all approach moral theorizing as a search for a set of desirable moral principles for the general regulation of behavior, then there is a sense in which they are all, as Parfit says, climbing the same mountain. But it is the wrong mountain. Morality should not be understood as hypothetical legislation; it is a mistake to set about constructing morality as if we were making law. Real legislators evaluate possible legal rules by considering the effects they would have. They can do this because enforcement and acceptance of law ensure a high level of compliance. Moral legislators have no reason to assume any particular level of acceptance; the effects of counterfactual acceptance of a principle are not morally relevant. The argument targets rule consequentialism and Scanlon's official version of contractualism. The paper begins in a positive mode by arguing that a nonlegislative version of Scanlon's approach, that seeks justification for conduct of such-and-such a kind in such-and-such circumstances by comparing the reasons in favor and the reasons others have to object, is a very attractive way to think about what we owe to each other.

Stephen Darwall: 'Doing Right by Wrong'

A striking contrast between *Reasons and Persons* and *On What Matters* is the vastly different attitude Parfit takes towards Act Consequentialism. Parfit's defense of Act Consequentialism against a battery of criticisms in *Reasons and Persons* was legendary. In *On What Matters*, however, Parfit remarks that Sidgwick's act-consequentialist principle of rational benevolence is best regarded, like egoism, as an 'external rival to morality'. What lies behind this remarkable change in attitude, if not in view, is Parfit's focus in *On What Matters* on deontic moral concepts, like wrongness, and their relation to accountability and reactive attitudes like moral blame. This essay explores the details of Parfit's later views, arguing that he did not go far enough in pursuing this line of thought and that doing so is necessary to bring out the distinctive normativity of deontic moral concepts. Parfit's claim that the 'ordinary' concept of wrongness is indefinable threatens to rob the concept of normativity in the 'reason-involving sense'. If, however, we understand wrongness in terms of there being reason to blame, lacking excuse, we can account for its distinctive normative contours.

John Broome: 'Giving Reasons and Given Reasons'

Derek Parfit, as a leader of the 'reasons first' movement, says that the concept of a reason is fundamental and indefinable. But his concept of a reason differs from most philosophers. Most philosophers take a reason to be a fact, whereas Parfit says that reasons are given by facts, not that they are facts. This paper distinguishes Parfit's concept of a reason, which it calls a 'given reason', from the more common one, which it calls a 'giving reason'. It argues that, whereas the concept of a giving reason is easily defined, the concept of a given reason is not. Parfit is therefore better placed than most philosophers to defend the claim that the concept of a reason is fundamental and indefinable.

John Taurek: 'Reply to Parfit's "Innumerate Ethics"'

This is the text of a presentation by Taurek that replies to Parfit's *Innumerate Ethics*, which is itself a reply to Taurek's 'Should the Numbers Count?': Jeff McMahan: 'Defence Against Parfit's Torturers'

In the literature on 'moral mathematics' prompted by the section with that title in *Reasons and Persons*, one issue is whether, and if so to what extent, it is wrong to cause a negligible harm to each of a large number of people, and in particular whether doing so could ever be as seriously wrong as causing a substantial harm to one person. The topic in this chapter will be the closely related issue of proportionality in defence against those who would inflict only such tiny harms, though on a large number of victims. For example, might a person who would otherwise inflict a tiny harm on each of a large number of people be liable to be killed in defence of those people? The chapter will suggest that such a person seems liable to be killed in some cases but not in others, depending on what other people might be doing or on other facts about the context in which the harms would occur. It will review a range of examples involving the infliction of tiny harms that reveal some surprising facts about the conditions and limits of liability to defensive harm.

Victor Tadros: 'Overdetermination and Obligation'

This chapter is concerned with circumstances where a person's act makes no difference to the occurrence of a negative outcome, but is a member of a group of acts that does make such a difference. In the light of an analysis of these circumstances, it argues against two familiar ideas. One is Derek Parfit's view that the wrongness of an act directly depends on the consequences of the group of acts of which it is a member. The other is the view that intentions are irrelevant to permissibility. The chapter suggests that wrongness and permissibility, in these cases, is distinguished by the intentions of those who act. It also argues that intentions make a difference to a person's liability to punitive, compensatory, and defensive harm. Finally, it briefly considers cases involving mixed motives.

Molly Gardner: 'What is Harming?'

A complete theory of harming must have both a substantive component and a formal component. The substantive component, which Victor Tadros calls the 'currency' of harm, tells us what I interfere with when I harm you. The formal component, which Tadros calls the 'measure' of harm, tells us how the harm to you is related to my action. This chapter surveys the literature on both the currency and the measure of harm. It argues that the currency of harm is well-being and that the measure of harming is best captured by a causal account on which harming is causing a harm. A harm for you is the presence of something intrinsically bad for you or the absence of something intrinsically good for you. Thus, although a counterfactual account of the measure of harm need not distinguish between a harm and a harmful event, the causal account reserves the term 'harm', not for a harmful event, but only for its effect. Finally, the chapter shows how a complete theory of harming can help us to answer questions about whether we can harm people with speech, whether we can harm the dead, and how it is possible to harm future generations.

Nils Holtug: 'Prioritarianism, Risk, and the Gap Between Prudence and Morality'

According to a prominent objection to prioritarianism, it inappropriately implies a gap between prudence and morality, even in single-person cases. Thus, according to prioritarianism, we should sometimes sacrifice an individual's expected welfare in order to protect her from the risk of a worse outcome. The present chapter presents a critical discussion of this objection. It first provides a more precise account of axiological prioritarianism and what it implies for the relation between prudence and morality. Then it provides an account of four prioritarian theories that (unlike axiological prioritarianism) have implications for risky choices, namely *ex ante* prioritarianism, *ex post* prioritarianism, pluralist prioritarianism, and factualist prioritarianism. It then presents the objection that prioritarianism implies a gap between prudence and morality in single-person cases in greater detail, which includes explaining the extent to which this objection applies to the four different versions of prioritarianism mentioned above. Finally, the chapter defends the view that the prioritarian gap between prudence and morality is unproblematic, even in single-person cases.

Kasper Lippert-Rasmussen: 'Relational Egalitarianism: Telic and Deontic'

Derek Parfit famously introduced a now commonly adopted distinction between telic and deontic distributive egalitarianism. This chapter argues that we can draw a similar distinction between telic and deontic relational egalitarianism. Interestingly, telic relational egalitarianism might be less vulnerable to the levelling-down objection than telic distributive egalitarianism. However, while some relational egalitarian concerns are best captured by telic relational egalitarianism, other concerns are better captured by deontic relational egalitarianism and yet others relating to intergenerational justice are better captured by telic distributive egalitarianism. Accordingly, insofar as we are egalitarians, we should be pluralist egalitarians in a more thoroughgoing way than Parfit entertained.

F. M. Kamm: 'Duties That Become Supererogatory or Forbidden?'

This chapter first examines certain of Derek Parfit's views in his *On What Matters*, volume iii on the relation between not harming, aiding, and making personal sacrifices to achieve each. It compares his views with those of the author on two different measures of the stringency of duties and the distinction between supererogation and obligation. The chapter goes on to consider implications of these views for cases in which an agent must choose whether to save many people by either (i) not saving or harming someone else or (ii) suffering some large personal loss himself. The chapter continues by arguing against one way in which Parfit thinks an agent-relative deontological conception of one's duty incorrectly bars our having common aims by requiring each person to minimize the harm he does.

Thomas Hurka and Evangeline Tsagarakis: 'More Supererogatory'

If acts can be supererogatory, presumably some can be more supererogatory than others, or further beyond the call of duty. This paper explains how this is possible within a general account of supererogation that sees it arising when a *prima facie* duty, for example to promote other people's good, is outweighed by a *prima facie* permission to promote one's own good. An act is then more supererogatory when the permission outweighs the duty by more, or when the gap between its strength and that of the duty's is larger. The paper contrasts its permission-based account of supererogation with a more common one typified by Parfit in *On What Matters*, which rests it on a conflict between two 'reasons' that, despite their differing contents, are of the same deontic type and have the same favouring force. Alongside several other weaknesses, Parfit's account doesn't allow differing degrees of supererogation but must treat all supererogatory acts as on a par. <>

LIFE IN THE COSMOS: FROM BIOSIGNATURES TO TECHNOSIGNATURES by Manasvi Lingam and Avi Loeb [Harvard University Press, 9780674987579]

A rigorous and scientific analysis of the myriad possibilities of life beyond our planet.

"Are we alone in the universe?" This tantalizing question has captivated humanity over millennia, but seldom has it been approached rigorously. Today the search for signatures of extraterrestrial life and intelligence has become a rapidly advancing scientific endeavor. Missions to Mars, Europa, and Titan seek evidence of life. Laboratory experiments have made great strides in creating synthetic life, deepening our understanding of conditions that give rise to living entities. And on the horizon are sophisticated telescopes to detect and characterize exoplanets most likely to harbor life.

LIFE IN THE COSMOS offers a thorough overview of the burgeoning field of astrobiology, including the salient methods and paradigms involved in the search for extraterrestrial life and intelligence. **Manasvi Lingam** and **Avi Loeb** tackle three areas of interest in hunting for life "out there": first, the pathways by which life originates and evolves; second, planetary and stellar factors that affect the habitability of worlds, with an eye on the biomarkers that may reveal the presence of microbial life; and finally, the detection of technological signals that could be indicative of intelligence. Drawing on empirical data from observations and experiments, as well as the latest theoretical and computational developments, the authors make a compelling scientific case for the search for life beyond what we can currently see.

Meticulous and comprehensive, **LIFE IN THE COSMOS** is a master class from top researchers in astrobiology, suggesting that the answer to our age-old question is closer than ever before.

Reviews

"The new go-to for astrobiology. *Life in the Cosmos* is a quantitative and encyclopedic *tour de force* for all topics related to the origin of life on Earth and life's existence beyond."—Sara Seager, author of *The Smallest Lights in the Universe*

"An instant classic. Lingam and Loeb's brilliant **LIFE IN THE COSMOS** is a momentous scientific achievement. To anyone looking to dig deep into the exciting prospect of discovering extraterrestrial life, I say: Make space on your bookshelf."—Michael J. Russell, University of Turin

"A book of sweeping vision. Lingam and Loeb offer detailed and insightful analysis of the challenges we face as we investigate the universal distribution of this unusual material we call life. A helpful and fascinating read."—Charles Cockell, author of *Astrobiology: Understanding Life in the Universe*

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“Are we alone in the universe? Lingam and Loeb provide expert guidance to the many dimensions of this fundamental question—and, just maybe, how to answer it.”—Andrew H. Knoll, author of *A Brief History of Earth: Four Billion Years in Eight Chapters*

“A remarkable and modern survey of how to search for life in the universe, from two of the boldest, most innovative thinkers in the field today. Impressively detailed, this book takes into account what we know about life on Earth to consider what we don’t know about life elsewhere.”—Jason Wright, Director, Penn State Extraterrestrial Intelligence Center

“This book discusses everything you ever wanted to know about life in the cosmos. Lingam and Loeb are the best guides for this truly breathtaking journey, providing masterful and comprehensive answers for everyone, from the scholar to the amateur stargazer.”—Dimitar Sassellov, author of *The Life of Super-Earths: How the Hunt for Alien Worlds and Artificial Cells Will Revolutionize Life on Our Planet*

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Over the span of human history, the prevailing dogma was that the Earth comprised the center of the physical Universe and that human beings occupied a privileged place within the Cosmos. The Copernican revolution, with its distinct antecedents in ancient Greece, India, and the Islamic Golden Age, inter alia, ushered in a new era that gradually displaced the Earth from its privileged position in space and thus engendered due recognition of a vast (conceivably infinite) Universe populated by innumerable galaxies, stars, planets, and moons. This paradigm shift was chiefly driven by the development of sophisticated instruments and observational techniques that facilitated the empirical validation of the heliocentric model. In contrast, however, the enigma surrounding our presumed location at the center of the biological Universe—namely, the presence of extraterrestrial life, colloquially exemplified by the archetypal cliché “Are we alone?”—has hitherto lacked a definitive

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Each exciting development has spawned fresh questions and quandaries, thereby opening up new vistas for exploration and contemplation. Scientists are currently grappling with major conundrums such as “Can (and should) we create synthetic life in the laboratory or simulate it on the computer?”, “What habitat(s) gave rise to the origin of life on Earth, and when (or where) did it first emerge here and elsewhere?”, and “Where and how do we look for signatures of life beyond Earth?” Remarkably, we find ourselves poised on the threshold of a unique era in human history when we might, under optimal circumstances, proceed to answer some of these profound mysteries in the upcoming decades by virtue of the rapid pace of advancements in the aforementioned fields. Ipso facto, humans are closer than ever before to determining whether we are alone or otherwise in the Universe.

With this backdrop in mind, we came to the conclusion that the time was truly felicitous to author this book on the life out there that constitutes the bedrock of the burgeoning domain of astrobiology. The definition of astrobiology espoused by the NASA Astrobiology Institute (NAI) warrants reproduction, inasmuch as our perspective of this discipline dovetails with the NAI:

Astrobiology is the study of the origins, evolution, distribution, and future of life in the universe. This interdisciplinary field requires a comprehensive, integrated understanding of biological, geological, planetary, and cosmic phenomena. Astrobiology encompasses the search for habitable environments in our Solar System and on planets around other stars; the search for evidence of prebiotic chemistry or life on Solar System bodies such as Mars, Jupiter’s moon Europa, and Saturn’s moon Titan; and research into the origin, early evolution, and diversity of life on Earth. A number of excellent books centered on astrobiology have been written, ranging from the 1950s to the current day. Why did we choose to write one more?

The year 1966 witnessed the publication of the pioneering treatise *Intelligent Life in the Universe* by Iosif Samuilovich Shklovskii and Carl Sagan, which itself built on an earlier (1962) monograph by Shklovskii. A number of first-rate textbooks and review papers have appeared in the ensuing decades, but the classic tome by Shklovskii and Sagan remains virtually unique in two different respects. Our goals therefore were to preserve those two facets, which are described hereafter, while concurrently embarking on a more comprehensive, quantitative, and modern exposition of astrobiology. First and foremost, as our title suggests, we have chosen to explicitly engage with the prospects for intelligent life in the Cosmos. In contrast, most books on astrobiology have opted to maintain a discrete or conspicuous silence, dismiss outright the prospects for extraterrestrial technological intelligences (ETIs), or restrict themselves to cursory renditions of this topic.

In our opinion, this approach is misguided for a number of reasons. It must, of course, be acknowledged at the very outset that the transition to ETIs cannot happen spontaneously from non-life—that is, technological entities should originate, at some point down the line, from non-technological species. Thus, we do not deny that the frequency of ETIs is much lower than that of non-technological extraterrestrial life in all likelihood. In spite of these caveats, however, several benefits accrue from envisaging and thence pursuing the Search for Extraterrestrial Technological Intelligence (SETI) as a legitimate scientific endeavor. Before enumerating them, Karl Popper’s (2002) apothegm from *The Logic of Scientific Discovery*, which is perceived by many scholars as his magnum opus, strikes us as being particularly apposite:

Bold ideas, unjustified anticipations, and speculative thought, are our only means for interpreting nature: our only organon, our only instrument ... Those among us who are unwilling to expose their ideas to the hazard of refutation do not take part in the scientific game.

First, SETI offers us an alternative avenue to search for life in the Cosmos by looking for signatures of extraterrestrial technology. These technosignatures are ostensibly less susceptible to misinterpretation compared to those generated by non-technological organisms (biosignatures) because the latter may readily arise from abiotic mechanisms; technosignatures are also potentially discernible over larger distances. Second, in the admittedly fortuitous event that we discover technosignatures, the impact on human societies is likely to be correspondingly larger, if for no other reason than sheer anthropocentrism—to wit, humans are likely to accord more weight to the discovery of an intelligent species in comparison to the detection of microbial life. Third, our current technologies for identifying ETIs encompass a much larger search volume than that associated with non-technological lifeforms, which might therefore partly compensate for the lower probability of occurrence of ETIs. Lastly, even if we fail to find evidence for ETIs, this pursuit could promote the development of new empirical and theoretical methods in the natural and social sciences, consequently enriching them.

A couple of general points are worth bearing in mind with regard to the SETI endeavor before moving ahead. The transition from an assorted collection of prebiotic chemicals to the smallest known bacterium (or virion) might conceivably entail a much steeper increase in chemical and physical complexity than the transition from bacteria to humans. Yet, this has not stopped us—and indeed it ought not deter us *prima facie*—from attempting to effectuate the transition from non life to life in the laboratory. Furthermore, much of the prejudice against SETI is attributable to a “giggle factor” that is being continually exacerbated by the jejune portrayal of ETIs in the media as well as the notoriety ensuing from the so-called unidentified flying objects (UFOs) and other subjects of the same ilk. It is a strategic mistake to self-impose blinders on our eyes (telescopes) and to avoid searching for ETIs because of the reasons adumbrated earlier. If astronomers refuse to seriously contemplate the existence of technosignatures, they will almost certainly never be discovered, even if they are writ large across the sky.

However, it would be a gross mistake to assume that this book, or Shklovskii and Sagan (1966) for that matter, is exclusively concerned with technosignatures. As noted earlier, all technological species (which encompasses post-biological intelligences) must have emerged at some stage, either directly or indirectly, from non-technological organisms. Thus, it is arguably of the utmost importance that we are cognizant of the major evolutionary events in Earth’s history such as the origins of life, multicellularity, eukaryotes, and intelligence among others. Likewise, it is crucial to categorize and quantify biological signatures that may result from extraterrestrial biospheres, mainly because the likelihood of detecting biosignatures is possibly orders of magnitude higher than finding technosignatures, as elucidated in Chapter 9. On account of these reasons, the majority of this monograph is devoted to examining and addressing the prospects for non-technological alien life.

The second major aspect in which our book differs from the majority of its predecessors pertains to the choice of writing style. We strove to arrive at the right balance between conveying a substantial amount of technical information and expressing ourselves in an engaging and insightful fashion. We are of the opinion that scientific writing these days tends to emphasize the former aspect at the latter’s expense, thus reducing many textbooks to dreary or intimidating compendiums of facts, figures, and equations. In our view, as one of the cornerstones underpinning humanity’s ongoing quest for knowledge and self-actualization, science is principally a framework for asking the right questions and gaining a deeper appreciation of the Cosmos during the process of seeking answers. Hence, we have opted to eschew an orthodox approach that is exclusively oriented toward the explication of technical details and endeavored instead to enkindle and inculcate a genuine passion for the subject by enhancing the readability of this tome; our perspective is akin to that espoused by the French writer Antoine de Saint-Exupéry (1948) in his posthumously published work *Citadelle*:

Building a boat isn't about weaving canvas, forging nails, or reading the sky. It's about giving a shared taste for the sea.

A number of quotations and epigraphs are consequently interwoven throughout the book to enliven the accompanying discussion while preserving didacticism. The book is organized into three major parts, each of which may be read independently of one another in the main. Charity, as the popular aphorism goes, begins at home. In a similar vein, we must first endeavor to gain an in-depth understanding of the origin and evolution of life on Earth before seeking to comprehend life elsewhere, albeit with the explicit proviso that extraterrestrial life is by no means guaranteed to follow the same biochemistry and evolutionary dynamics. In Chapter 1, we introduce some of the salient properties of life and sketch a few alternative biochemistries. In Part 1, composed of Chapters 2 and 3, we investigate the origin of life on Earth as well as the major evolutionary events that eventually led to the advent of technological intelligence (*Homo sapiens*) on our planet.

In Part 2, we cover some of the vital determinants underlying the search for non nontechnological life beyond Earth. In contradistinction to the widespread scheme of focusing on specific worlds (e.g., Mars and Europa), we opt to delve into a plethora of major generic phenomena presumably responsible for regulating habitability—that is, conditions conducive to the emergence and sustenance of life—in Chapters 4 and 5. Habitability is governed not only by obvious factors such as the temperature and the presence of liquid water but also by a number of stellar processes like stellar winds and flares. Equipped with an understanding of habitability, we tackle the central issue of detecting biological signatures of extraterrestrial life in Chapter 6. This part closes with the stand-alone Chapter 7, which deals with life in subsurface oceans underneath icy envelopes. We have opted to treat these worlds separately as they differ from Earth in many crucial respects, further motivated by the fact that several prominent astrobiological targets within our Solar system (e.g., Europa and Enceladus) are quintessential members of this category.

Part 3 deals almost wholly with ETIs. Two crucial unknowns that arise in this context are the total number of extant ETIs in the Milky Way and why we have not established any contact with them thus far. Hence, both of these topics are addressed in Chapter 8. We follow this discourse with an exploration of potential technosignatures that may originate from the activities of ETIs, irrespective of whether they are extinct or not, in Chapter 9. The terminal chapter of the book (Chapter 10) is rather heterodox in nature, since it investigates the likelihood of life spreading from one world to another, either via microbes hitchhiking in rocks or ETIs—and perhaps even the descendants of human beings in the distant future—undertaking interstellar travel by means of fast-moving spacecraft.

In writing a book of this magnitude, it is virtually inevitable that a substantial number of inaccuracies will have crept into it. All mistakes intrinsic to this book are solely products of our own cognitive biases and limitations, by reason of which we take this opportunity to solicit and welcome corrections from the readers. Moreover, due to the highly transdisciplinary nature of astrobiology, a comprehensive treatment of every germane subfield is well-nigh impossible. A veritable multitude of pertinent topics have been duly omitted despite their indubitable significance. For example, in grappling with habitability, we have largely set aside gravitational dynamics, although it is manifestly evident that variables such as the eccentricity and obliquity of a given world will influence its short- and long-term climate. This book primarily deals with astrobiological targets outside our Solar system, although the likes of Mars, Venus, and the icy moons of Jupiter and Saturn do make cameo appearances. Motivated by this decision, we focus almost exclusively on techniques for detecting signs of life via telescopes as opposed to in situ investigations. However, by no means whatsoever

are we positing that on-site methodologies and missions are rendered unimportant. To reiterate, our approach is calibrated so as to preserve thematic continuity with the rest of the book.

Yet another key facet of our monograph that calls for clarification is the bibliography. As most of the fields comprising astrobiology are witnessing unprecedented growth, the most recent literature as of today may well become obsolete in a couple of decades. Hence, in lieu of assembling a definitive bibliography, one that would invariably run into the thousands, we have chosen our references selectively, owing to which we apologize for the inadvertent exclusion of cardinal publications. Instead, we have furnished a number of pivotal papers, reviews, and books that ought to be consulted by the reader for additional information. The exceptions to our *modus operandi* are Chapters 9 and 10, primarily because comprehensive state-of-the-art reviews of these disciplines are surprisingly few in number.

Our expectation is that this work will be employed as a textbook by graduate and possibly advanced undergraduate students, while also functioning as a point of reference for professional scientists whose research interests overlap with astrobiology. On account of the monograph's size and scope, we recommend that the contents herein are best covered over a two- or three-semester sequence, although it is also well suited for specialized courses in SETI and space exploration (Chapters 8–10), the origin and evolution of life on Earth (Chapters 1–3), and the habitability and biosignatures of extrasolar planets and moons (Chapters 4–7).⁴ To all those readers who embark on this exhilarating voyage of discovery, we hope that they shall derive as much wonder, enthusiasm, and knowledge as we did while writing the book and that they will get to behold the momentous breakthrough of detecting unambiguous signatures of life on other worlds in their lifetimes.

SIC ITUR AD ASTRA

But it seems reasonable to believe—and I do believe—that the more clearly we can focus our attention on the wonders and realities of the Universe about us the less taste we shall have for the destruction of our race.... In one way or another all of us have been touched by an awareness of the world of nature.... If we have ever regarded our interest in natural history as an escape from the realities of our modern world, let us reverse this attitude. For the mysteries of living things, and the birth and death of continents and seas, are among the great realities.

—Rachel Carson, “Design for Nature Writing”

The ceaseless motion of the stars and planets across the night sky has proven to be a perennial source of fascination for human beings over aeons. As our ancestors gazed upon the night skies, they were, in all likelihood, transfixed by the multitude of celestial objects populating them and may have found themselves musing about whether these worlds harbored life, both like and unlike that on Earth. Modern archaeology has revealed that the fascination with astronomy was not restricted to the civilizations and peoples of ancient Egypt, Mesopotamia, India, China, Mesoamerica, Elam, and Crete, to name a few, but might have extended even further beyond in the mists of time. It has been hypothesized, albeit not removed from controversy, that striking examples included the erstwhile inhabitants of Göbekli Tepe and Catalhöyük in Turkey as well as those dwelling in the cave complexes of Altamira (Spain), Lascaux and Chauvet (France), and other places. It is therefore no wonder that astronomy, in one form or another, has occupied a place of prominence and reverence in human societies over millennia.

This decade carries with it the hopes, dreams, and promises of novel scientific developments in astrobiology via the medium of space exploration. In our Solar system, the Mars 2020 Perseverance Rover¹ and the ExoMars mission comprising the Rosalind Franklin rover have been outfitted to seek biological signatures of life on the Martian (sub)surface. Jupiter's moon, Europa, has a subsurface ocean of liquid water, whose volume is possibly higher than that of Earth's oceans. The primary purpose of the Europa Clipper mission,³ with the Jupiter Icy Moons Explorer (JUICE) also meriting mention, is to carry out flybys of Europa and search for biosignatures of putative lifeforms. Aside from these flagship robotic projects, a number of national and private (e.g., SpaceX) agencies have expressed interest in landing humans on Mars, although it is vital to recognize there are substantive ethical, technical, and logistical challenges that need to be overcome first.

Looking beyond the confines of our Solar system, the discovery and characterization of exoplanets is already proceeding apace. The launch of the oft-delayed James Webb Space Telescope (JWST) will enable us to study a few temperate exoplanets around M-dwarfs and search for atmospheric biosignatures such as molecular oxygen.⁶ In parallel, Extremely Large Telescopes (ELTs), with diameters of ~ 30 m, are under construction. These ground-based telescopes will, under optimal circumstances, facilitate the hunt for biosignatures on exoplanets orbiting low-mass stars. The long-term benefits of studying potentially habitable exoplanets arise from the fact they outnumber astrobiological targets in our Solar system by orders of magnitude and may therefore patently yield humanity a statistically significant number of samples in the quest for extraterrestrial life.

The organisms we alluded to heretofore are implicitly nontechnological, and thus most probably microbial, in nature. However, for reasons delineated throughout this book, there are numerous advantages to be gained from undertaking searches for signatures of extraterrestrial technology—that is, technosignatures. Historically, the pursuit of technosignatures witnessed a boom in the 1960s but subsequently underwent a decline and attained its nadir in the 1990s. There are, however, encouraging signs that the status quo is starting to change for the better. A combination of budding private enterprises, like the Breakthrough Listen initiative, and renewed interest shown by NASA bolsters the expectation that technosignatures constitute yet another compelling and viable avenue for finding signatures of life beyond our planet.

While seeking life in its “endless forms most beautiful and most wonderful,” to borrow Darwin's poetic phrase from the closing lines of *On the Origin of Species* (1859, p. 490), our horizons of discovery are inevitably curbed by the bounds of our knowledge and imagination. We will undoubtedly enhance the efficacy of our search strategies by striving to responsibly create synthetic life in laboratory experiments or computer simulations under geochemical conditions that are akin, as well as alien, to those found on Earth. Likewise, new pathways open up in discerning technosignatures generated by human-level species through the visualization and actualization of novel technologies. In other words, scientific and technical advances in other realms could not only exert a direct impact on surveys for alien life via the design and construction of innovative instruments and data mining techniques but also inform us about how and where we should conduct searches for biological and technological signatures.

Hitherto, we have deliberately chosen to paint an optimistic picture of monotonic human progress, a *weltanschauung* that is naive and rosy hued at first glimpse. Needless to say, the dynamics of the human condition in totality will be unfathomably more complex and chaotic in nature. By the same token, any candidate biosignatures or technosignatures that we may detect will most likely evince ambiguity, thus warranting careful analysis in order to determine whether these signals are truly indicative of extraterrestrial life. Far more worrisome is the fact that we are currently living in a turbulent epoch beset by swiftly accelerating anthropogenic climate change and social, political, and

economic schisms—perhaps, quite ironically, in the very same era when the first signatures of life beyond Earth might be perceptible by our instruments. The manifold challenges confronting humans in this day and age entail deepening cultural and socioeconomic inequities, global warming, ocean acidification, novel pandemics, massive biodiversity losses, artificial intelligence, potential biological and chemical weapons, solar superflares, asteroid impacts, and countless others. Hence, it is perfectly natural to wonder whether, in this unsettling and crisis-ridden “Age of Extremes”—à la Eric Hobsbawm’s magnum opus (1995)—the starry-eyed quest for life in the Cosmos offers us any (in)tangible benefits. Taking our cue from the inspiring words of Rachel Carson at the inception of this epilogue, we are moved to posit that the answer is provisionally in the affirmative.

To begin with, it is worth contemplating the impact of extraterrestrial life on subjects that have unmistakable practical applications for humanity. The identification and extraction of microbial life samples in our Solar system has the potential to revolutionize medicine and biotechnology. In the best-case scenario, where we establish contact with extraterrestrial technological intelligences (ETIs) much more advanced than our own, we might be able to acquire technological, social, and cultural knowledge that aids in the improvement of human society, as averred by several sanguine advocates of the Search for Extraterrestrial Technological Intelligence (SETI). If we “merely” stumble across relics of extinct ETIs, we may still have the capability to reverse-engineer those artifacts and garner valuable information from them. At the same time, one must acknowledge that there are possible downsides to encountering either microbial or technological life out there, with some of the most extreme examples arguably being contagion and invasion, respectively. Even in such worst-case scenarios, however, what cannot be denied is that finding life on other worlds would have a major tangible impact on human society.

In certain quarters, although it remains rarely admitted in the open, there appears to be a genuine anxiety that the discovery of extraterrestrial life, especially of the technological kind, could instigate an existential crisis by dethroning humankind from their perceived special position in the Universe. However, we opine that the putative detection of alien life ought not be construed as evidence either for or against the perception that we are exceptional—to wit, the smartest kid on the block. It seems more constructive, instead, to accept the humbling yet uplifting notion that each and every species is inherently special. Indeed, one may even contend that the human capacity to recognize and come to terms with our nonprivileged position in the cosmic order renders us unique, *inter alia*, as eloquently expressed by the Italian poet and philosopher Giacomo Leopardi in his monumental tome *Zibaldone* (2013, p. 1302):

When, in considering the multiplicity of worlds, he feels himself to be an infinitesimal part of a globe which itself is a negligible part of one of the infinite number of systems that go to make up the world ... with this single act of thought he gives the greatest possible proof of the nobility and immense capability of his own mind, which, enclosed in such a small and negligible being, has nonetheless managed to know and understand things so superior to his own nature, and to embrace and contain this same intensity of existence and things in his thought.

We commenced our discussion with examining the relevance of the search for extraterrestrial life in these embattled and tumultuous times. It is thus natural to circle back to this theme even as this book draws to an end. Let us suppose, for instance, that we find evidence of life beyond Earth, irrespective of whether it is “alive” or “dead” at the moment of discovery. The epochal knowledge that we are not alone could be ideally harnessed, in principle (although not necessarily in reality), to bring human beings together under a common umbrella. In particular, if we were to detect signatures of ETIs that went extinct through self-destruction (e.g., nuclear warfare), it might prompt

us to gain a deeper appreciation of the ephemeral nature of life and intelligence, consequently stimulating us to take better care of our planet and its billions and billions of biota.

In closing, however, we must confront the possibility that we will discern no evidence after decades more of searching.⁸ Does this scenario imply that the search for life elsewhere in the Cosmos was a fruitless endeavor, a quixotic quest, a monumental folly that culminated in the waste of billions of taxpayer dollars? On the basis of what we have chronicled, the answer is surely an unequivocal no. At the minimum, it permits us to set rough constraints on the frequency of life in the Universe. In addition, the technologies and models developed toward this end could be transferable to other domains, thereby enriching the corpus of human knowledge. Last, but not least, if we fail to detect extraterrestrial life after a prolonged interval of time, it might suggest that Earthlike complex biospheres are rare in the Universe. This purported violation of the Copernican Principle should compel us to serve as mindful stewards of our planet and safeguard the wondrous biological diversity we often take for granted, in order to ensure that subsequent generations are accorded the opportunity to experience Earth's myriad biomes firsthand.

Hence, broadly construed, we can identify a number of ineffable and profound connections that entwine astrobiology—specifically, the search for life in the boundless reaches of space—on the one hand with the current and future fates of human beings and societies on the other. If we perceive astrobiology through the prism of exploring our origins, evolution, and future, this voyage of discovery—one that will be indubitably laden with innumerable cul-de-sacs, fruitless byways, and erroneous conclusions—might, for the first time, enable us to know ourselves and our place in the Cosmos at the end of all our wanderings. In the same vein, it behooves us to recall the perspicacious musings of Carl Sagan in his book *Broca's Brain: Reflections on the Romance of Science* (1980, pp. 314-315):

Through all of our history we have pondered the stars and mused whether mankind is unique or if, somewhere else in the dark of the night sky, there are other beings who contemplate and wonder as we do, fellow thinkers in the cosmos.... Somewhere else there might be very exotic biologies and technologies and societies. In a cosmic setting vast and old beyond ordinary human understanding, we are a little lonely; and we ponder the ultimate significance, if any, of our tiny but exquisite blue planet.... In the deepest sense, the search for extraterrestrial intelligence is a search for ourselves.

Thus, the quest for life's beginnings, its current distribution in the Cosmos, and its enigmatic future is imbued with the promise of uniting humanity, revolutionizing numerous spheres of human knowledge, and navigating the uncharted and hazardous waters of the Anthropocene. Furthermore, we find ourselves poised at a unique moment in space and time to carry out this endeavor. Let us, therefore, muster our courage, initiate the search in earnest and strive to commune with the stars in the spirit of Virgil's famous phrase from the *Aeneid*, "Macte nova virtute, puer; sic itur ad astra" (1875, p. 210), which may be loosely translated into English as "Blessings on your fresh courage, child; thus one journeys to the stars."

TREES OF LIFE by Max Adams [Princeton University Press, 9780691212739]

An informative, richly illustrated book about eighty of the world's most important and remarkable trees

Our planet is home to some three trillion trees—roughly four hundred for every person on Earth. In **TREES OF LIFE**, Max Adams selects, from sixty thousand extant species, eighty remarkable trees through which to celebrate the richness of humanity's relationship with trees, woods, and forests.

In a sequence of informative and beautifully illustrated portraits, divided between six thematic sections, Adams investigates the trees that human cultures have found most useful across the world and ages: trees that yield timber and other materials of immense practical value, trees that bear edible fruits and nuts, trees that deliver special culinary ingredients and traditions, and trees that give us dyes, essences, and medicines. In a section titled "Supertrees," Adams considers trees that have played a pivotal role in maintaining natural and social communities, while a final section, "Trees for the Planet," looks at a group of trees so valuable to humanity that they must be protected at all costs from loss.

From the apple to the oak, the logwood to the breadfruit, and the paper mulberry to the Dahurian larch, these are trees that offer not merely shelter, timber, and fuel but also drugs, foods, and fibers. **TREES OF LIFE** presents a plethora of fascinating stories about them.

Reviews

"[A] richly illustrated tome. It has the classic look of a coffee table book, but it will arouse your curiosity when you open it at random — to the point where you will want to read it cover to cover for its lively descriptions of 80 trees."—Joshua Siskin, *The Orange County Register*

"**TREES OF LIFE** can turn any reader into a tree expert."—Nicole Noechel, *Washington Gardener*

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The trees in your Life

What is a tree of life? What makes a tree useful? The short answer is that all trees are life-giving; all are useful. Trees, like the oceans, drive the earth's climate and its incomparable biodiversity, absorbing carbon dioxide, pollutants and the energy of sunlight and giving out oxygen. Trees cycle water and gaseous nitrogen, act as air conditioners and provide habitats for millions of species of other plants, insects, birds, mammals and amphibians. They stabilize and enrich soils, slow down floods.

A single veteran tree standing in a field may host more than 300 species of birds and insects. Exploiting it for food, they also use it as a place to nest and reproduce, take refuge from predators in the cracks and fissures of its bark, or as a perch from which to advertise their wares to potential mates. Trees forming a continuous canopy — as woods or forests — create biomes on a grander scale, sometimes spanning nations and continents as a huge living organism of almost infinite interlocking and interdependent biological and behavioural relationships. When trees die their materials are recycled or act as carbon sinks.

For early humans, an intelligent species foraging in the savannah forests of East Africa and highly dependent on trees, they have been partners in a great cultural adventure. Trees provide shelter and shade as well as materials for constructing the most elemental and elegant tools and building shelters. We eat their fruit, use their leaves, bark and roots for medicines; their wood fuelled the fires that liberated us as a thinking, creative species. Trees have colonized every continent that supports permanent human communities; they, like us, are adaptable and resourceful. At least 60,000 species have evolved during the last 300 million years, brilliantly responding to every opportunity and threat that nature offers.

Trees' beauty, adaptability and resilience, their longevity and apparent stoicism have also inspired humans. The role of trees in connecting the heavens and the earth, life and death in ever-renewing cycles can seem almost magical. Mythology makes much of their supposed wisdom, their supernatural abilities and their propensity to host living spirits. Artists and writers have eulogized, anthropomorphized, satirized and observed trees over millennia. As botanists and biologists study the miraculous workings of trees they seem to become more, not less, marvellous and complex. We know that trees can communicate with each other above and below ground; that they can draw up water from the soil to improbable heights; that they effortlessly and routinely create solid matter from light, gas and water; that they have found all manner of means to reproduce at a distance with immovable potential partners.

Humans are restless, curious, empirical experimenters with nature. From the first use of a sharp tool to split a log or peel bark, communities have explored and exploited trees over the best part of a million years. In every habitable region of the planet intimate practical knowledge of their uses, materials, propagation and behaviour has been accumulated and passed on to new generations. In the Caribbean young children and visitors are warned not to shelter from rain beneath the poisonous manchineel tree (*Hippomane mancinella*) for fear of horrible blisters, and never to eat its promising-looking fruit. The herders of the Altai mountains in Kazakhstan long since learned to trust their pigs and horses to find the sweetest varieties of wild apples. In Southeast Asia the knowledge that certain trees, when damaged, exude a mouldable and waterproof milky-white substance was acquired thousands of years ago. The memory of the genius who first dried and roasted the bean of the cacao tree of the Andes to taste the food of the gods is lost in the mists of time.

In this book I celebrate the richness of our relationship with trees, woods and forests in a series of portraits of those trees that have spawned particularly interesting relations with human communities. In many cases these are stories of deep local knowledge followed by global discovery,

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exploitation, environmental fallout and social oppression. In others, obscure and unprepossessing trees have turned out to hold potential solutions to the challenges of modern life through their medicinal properties or their status as keystones in subsistence strategies for some of the world's poorest communities. Where possible, I have illustrated the stories with fine photography or with paintings by great artists or botanical illustrators.

Individual species have, quite naturally, found themselves fitting into a number of themes. In the first chapter I look at those trees that have yielded materials of great practical value — from timber with a huge range of handy characteristics to bark for paper and rope, nuts for lighting and seed cases for percussion instruments. I devote a chapter to the edible fruits and nuts, some better known than others; another to trees that have given us special culinary ingredients and traditions. Dyes, essences and medicines are the focus of a dozen or so tree profiles, while a whole section is devoted to what I call trees for the planet — species so valuable to all humanity that they must be protected from loss by neglect or ignorance. I have also chosen a select few species for a chapter called 'Supertrees' — a baker's dozen of arboreal A-listers that punch far above their weight. Some trees might have sat comfortably in other chapters but I hope that, as a whole, my choices — a very small selection out of thousands of 'useful' species — will encourage readers to learn more about these givers of life on which we rely so much and about the communities who value and protect these natural riches under our care.

In a world of plastics, concrete, steel, creeping deserts and dwindling mineral resources, it is worth reminding ourselves of these ever-giving biological, chemical and engineering marvels that can and will sustain so many of our material and aesthetic needs, if only we allow them space, and time.

The Earth supports about sixty thousand tree species. I wonder, how many of them would you come across in an average day? If you live in the countryside, or walk regularly through a public park on your way to or from work, you might recognise twenty or thirty: species native to your local climate, or exotic ornamentals collected by botanists or enthusiasts. And then, you could look around your home and wonder if there is any sign at all of the trees that keep the planet breathing and sustain local communities globally. You might be surprised.

And then there's your diet—starting with breakfast: coffee, juice, cereal? If you drink coffee, the beans used to grind it came from one of two species of this small, red-berried drought-resistant tree: *Coffea arabica* and *Coffea robusta*—both native to the Horn of Africa and SW Asia. Why those two specifically? It's hard to say. There are more than 120 species of coffee tree, some of them dangerously vulnerable to extinction. A few are naturally low in caffeine; others have distinctly interesting genes. Many coffee growers use the trees both as a source of valuable income and as interplanted shade to protect other food crops.



A RIPE COFFEE ARABICA CHERRY

As for your juice, it's probably one of the citrus fruits, all cultigens—species modified and selected by humans so long ago that their wild ancestors have disappeared. They supply much of our winter vitamin C—essential for life. Like many others I like to eat muesli. I especially value the vitamins and minerals I get from a favourite mix of nut-bearing trees: hazelnuts (*Corylus avellana*), walnuts (*Juglans regia*), Brazil nuts (*Bertholetia excelsa*) and almonds (*Prunus dulcis*).



Hazelnuts

At the weekend, why not indulge in pancakes with syrup (*Acer saccharum*) or even chocolate sauce (*Cacao theobroma*). You might be resting your cereal bowl on a mat made of cork (*Quercus suber*)—the remarkably self-replenishing bark of an evergreen Mediterranean oak.



CORK OAKS FROM NORTHERN SPAIN

Over-indulgence might have you reaching for your medicine cupboard: for aspirin (originally synthesised from the bark of the white willow, *Salix alba*). Many, much more complex medicines also derive from trees: anti-cancer drugs from the Pacific yew (*Taxus brevifolia*), quinine (*Cinchona officinalis*) for reducing malarial fever. If you've had root canal work, the chances are you have an implant of gutta serena (*Palaquium gutta*), a latex that first revolutionised transatlantic telegraph communication in the 29th century.



CACAO (THEOBROMA CACAO)

Trees are everywhere in our lives: in food, medicine, construction, play; in arts; in industrial materials; in the newsprint and books you read. Many rural communities around the world have special relations with trees that offer them all sorts of resources: spices, treatments for ailments; wood for fuel, building, carving, tools and weapons; with writing materials and fencing; with leaves for shade, fodder and roofing; twigs for basketry and small devices or tools. Others, like the marvellous Gao tree (*Faidherbia albida*) of Africa, are legumes, fixing nitrogen in the soil to improve fertility for other crops. Many trees that we take for granted have been overexploited, with devastating consequences for both indigenous communities who are sustained by their life-giving materials. The widespread destruction of a very precious coastal biome called mangal, consisting primarily of mangrove (*Rhizophora* spp.) exacerbated the devastating effects of the December 2005 tsunami. Where did all those mangrove trees go? Primarily to make charcoal for your garden barbecue; and to allow for fish farms. Deforestation, climate change and indigenous cultures are umbilically linked.



PICHAVARAM MANGROVE FORESTS IN INDIA

But trees are not just essential for life; they underpin civilisation in all its richness. They do not just form flood-preventing, timber rich forests, but are keystones in both natural and human ecologies. Much that is removed in processing precious foods, medicines and materials destined for the markets of the Developed World provides vital resources for the communities, sometimes living on the margins of subsistence, who nurture and harvest those trees. We depend on their knowledge and skills to sustain them and enrich our lives.

In **TREES OF LIFE** I have collected together stories and profiles of some 80 of the world's most useful trees—a very small sample. The book is illustrated with both sumptuous photographs and with some of the fine art that trees have inspired. It is both a celebration of their richness and a warning not to take them, and their human partners in survival, for granted. <>

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