JOHN HEIL

appearance in reality

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1
Metaphysics

> Metaphysics is the most scientific of the sciences because it tries the hardest to explain every kind of fact by one simple principle or simple set of principles. It is the most empirical of sciences because, by the same token, a metaphysics is directly relevant to and confirmable or falsifiable by every item of every experience, whereas every other science is explicitly concerned with only a few select and abstract aspects of some experiences.
>
> D. C. Williams 1944: 431; 1966: 227

1.0 What Is Metaphysics?

Although metaphysics has been on the scene since the dawn of philosophical inquiry, informative characterizations of what metaphysics is remain elusive. This is not because metaphysics is a vague or shapeless endeavor. The difficulty is perfectly general. You can see what I mean by attempting an informative characterization—a characterization that would reveal the nature of a subject matter to someone not already familiar with it—of the calculus, or analytical chemistry, or poetry.

You learn what these things are by taking them up, engaging with them, and thereby acquiring a sense of what they are about. So it is with metaphysics. I could tell you that metaphysics attempts to limn the nature of being or that it seeks a completely general description of reality, but, even if apt, such characterizations are little more than conversation-killers.

Most readers with the courage to pick up this book will already have some sense of what metaphysics encompasses and may perhaps be favorably disposed toward the subject. Other readers will be skeptics. Still other readers will simply be curious as to what metaphysics could possibly have to offer that is not already covered by the sciences, the arts, or religion.

To the skeptics, I have little to say in this chapter that would allay their concerns. For readers unfamiliar with metaphysics, the ensuing chapters are

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designed to put metaphysics to work in a way that exemplifies its potential for illumination.

Although much of the material I will be discussing is aimed at philosophers already working on topics in metaphysics, I have put a premium on clarity and simplicity and tried to avoid gratuitous technicalities. Too often we philosophers disguise the insignificance of our thoughts by cloaking them in jargon and formalisms that subsequently take on a life of their own and become ends in themselves. Metaphysics is not easy, but it is not hard in the way quantum physics or bioinformatics are, for some of us anyway, hard. The pursuit of metaphysics requires a visceral feeling for the subject. Bloodless technicalities are largely distractions.

The downside of being clear is that you risk being understood. Philosophy is an inherently risky endeavor. My ambition is to convince you that metaphysics, far from being an effete pastime of interest only to a minority of specialists with PhDs, is an inevitable product of our engagement with the universe. I begin setting the stage in the next section by posing the question, how are the appearances related to reality? By the appearances, I have in mind not simply the way things unreflectively strike us, but our considered impressions of how things stand that guide us in everyday life and in our pursuit of the various sciences.

In succeeding chapters I turn to metaphysics proper. I have sought to make chapters self-standing to the extent that this is possible without undue repetition. The relation of appearance to reality provides a unifying theme, one that I believe runs as a continuous thread through the fabric of philosophy. The account I offer is not new. What changes over time is not the account, but the audience for it and, accordingly, its mode of presentation.

Before settling in, a word is in order concerning 'metametaphysics', a topic much discussed by academic philosophers in recent years. Metaphysics abstracts from concrete features of the universe, thereby running the risk of floating free of the usual external constraints on serious inquiry. Metametaphysics abstracts from the abstractions and so, as Byron observed 200 years ago, is doubly at risk.

> And Coleridge, too, has lately taken wing,
> But like a hawk encumber'd with his hood,
> Explaining Metaphysics to the nation—
> I wish he would explain his Explanation.
>
> (George Gordon Lord Byron, *Don Juan*)

Even if metametaphysics were a useful and productive enterprise, however, it would be unrevealing to anyone not already acquainted with the subject. Under the circumstances, the only option is to dive in and let metaphysics speak for itself.

1.1 The Inevitability of Metaphysics

You can begin to get a feel for the inevitability of metaphysics by considering the aforementioned problem of the relation appearance bears to reality. This is a problem that confronts each of us as soon as we begin reflecting on ourselves, on others like us, and on the universe as we find it. We start with the appearances and turn to the sciences to reveal the nature of what appears. As it happens, the nature of things as revealed by the sciences is often at odds—in some cases, deeply so—with ways they present themselves to us in lived experience.

To appreciate the difficulty, it is not necessary to invoke quantum physics or general relativity. Think of the colorful appearances of familiar objects, tomatoes, for instance. Ripe tomatoes are red. Who, outside the philosophy seminar room, would doubt it? But physics and chemistry tell us that tomatoes are made up of colorless particles. How could colorless somethings add up to something colored?

Perhaps a tomato's red appearance is not in the tomato. In that case, where is it? Where do you locate colors in a colorless universe?

One family of answers to this question situates colors in the minds of observers. Philosophers speak of 'phenomenal redness', distinguishing this from features of the tomato that produce colorful experiences in observers. Colors—or 'phenomenal colors'—are in this way excised from the universe as encompassed by the physical sciences.

This is all well and good for the physical sciences, but it saddles any moderately reflective agent with a location problem. If experienced colors reside, not in the material universe, but in the minds of observers, this would seem to locate minds outside the physical realm. More generally, if appearances of things are distinguished from the things, the result is a bifurcated universe comprising, on the one hand, minds and their contents, and, on the other hand, physical reality.

Although this kind of dualism enjoys a measure of respectability in the philosophical community (always a low bar), you might regard it as hopelessly naive. Psychology and neuroscience encourage the thought that old-fashioned

appeals to nonphysical minds should be replaced by talk of brains, or maybe neural mechanisms, or networks, or neurological software. The idea that minds subsist apart from brains belongs, it would seem, to a bygone era in which spirits were invoked to explain disease and the weather.

These comforting thoughts fail to address the original problem, however. How can you locate the appearances of things within a universe the scientific description of which systematically excludes them? Consigning appearances to minds, and then identifying minds with brains looks hopeless. If a tomato's redness is separated from the tomato because the tomato is made up of colorless particles, how could redness reside in the brains of observers when brains are themselves made up of colorless particles?

These questions will be addressed head-on in subsequent chapters. For the moment, I mean only to illustrate one way in which philosophy, and in particular metaphysics, forces itself on us. If we are honest, we will admit the questions' legitimacy, even if we then leave it to others to provide answers. To brush them aside as 'merely philosophical' is to betray a lack of candor unbecoming reflective agents.

1.2 The Manifest and Scientific Images

Perhaps I have said enough to convince you that metaphysical reflection might not after all be a wholly pointless philosophical exercise aimed at establishing by means of tedious arguments either something incredible or something everyone already knows. The question of how appearance is related to reality becomes pressing the moment you accept that you are not a detached spectator on the universe, but very much *in* the universe.

I have sought to bring you on board by asking you to consider a troubling disparity between characteristics of experienced objects on the one hand and, on the other hand, characteristics we take those objects to have when we regard them as a physicist might. The disparity I have in mind, however, has a much broader scope. The point was made salient more than a half century ago by Wilfred Sellars in the course of distinguishing what Sellars called the manifest and scientific images.

> The philosopher is confronted not by one complex many-dimensional picture, the unity of which, such as it is, he must come to appreciate; but by *two* pictures of essentially the same order of complexity, each of which purports to be a complete picture of man-in-the-world, and which, after

> separate scrutiny, he must fuse into one vision. Let me refer to these two perspectives, respectively, as the *manifest* and the *scientific* images of man-in-the-world. (Sellars 1963: 5)

Sellars is echoing physicist A. S. Eddington, who had, three decades earlier, set out to write his 1927 Gifford Lectures by drawing up, as he put it, 'my chairs to my two tables'.

> Two tables! Yes; there are duplicates of every object about me—two tables, two chairs, two pens.
>
> One of them has been familiar to me from earliest years. It is a commonplace object of that environment which I call the world. How shall I describe it? It has extension; it is comparatively permanent; it is coloured; above all it is substantial.
>
> Table No. 2 is my scientific table. It is a more recent acquaintance and I do not feel so familiar with it. It does not belong to the world previously mentioned—that world which spontaneously appears around me when I open my eyes, though how much of it is objective and how much subjective I do not here consider. It is part of a world which in more devious ways has forced itself on my attention. My scientific table is mostly emptiness. Sparsely scattered in that emptiness are numerous electric charges rushing about with great speed; but their combined bulk amounts to less than a billionth of the bulk of the table itself. (Eddington 1928: ix–x)

Eddington's first table is an unexceptionable fixture of Sellars' manifest image, the picture of the universe that guides everyday interactions with our surroundings, including the interactions of scientists wielding instruments in their laboratories. The second table belongs to the image of the universe issuing from those laboratories. The difficulty, remarked by both Eddington and Sellers, is to understand how the two tables, the two images, are related.

One possibility is that the manifest image is an illusion, a serviceable fiction perhaps, but at bottom a *mere* appearance; only the scientific image is credible. As Eddington puts it: 'modern physics has by delicate test and remorseless logic assured me that my second scientific table is the only one which is really there' (1928: xxi).

Another, rather less respectable, possibility is that the scientific image affords only an instrumentally useful framework for negotiating reality as revealed by the manifest image, not something to be taken literally.

A third possibility—suggested by the quoted passage, but not in fact embraced by Eddington—is that reality is hierarchical: the scientific image depicts a kind of ground-floor reality, while the manifest image is peopled by 'higher-level' items grounded in successively more fundamental levels. Eddington's 'familiar' Table No. 1 is not reducible to his 'scientific' Table No. 2. Both are real. The reality of Table No. 1 is somewhat attenuated, however. Table No. 1 is asymmetrically dependent on Table No. 2. Table No. 1 'supervenes' on, or is 'realized by', Table No. 2. Table No. 1, the everyday table, is, in this regard, real but 'less fundamental' than Table No. 2, the scientific table.

I hope to persuade you to consider a fourth option: the scientific image, the picture of the universe we extract from physics, constitutes our best guess as to what could be called the deep story about what the manifest image is an image *of*, the nature of occupants of the manifest image.

This might be what Eddington has in mind when he asks rhetorically: 'You speak paradoxically of two worlds. Are they not really two aspects or two interpretations of one and the same world?' His answer: 'Yes, no doubt they are ultimately to be identified after some fashion. But the process by which the external world of physics is transformed into a world of familiar acquaintance in human consciousness is outside the scope of physics' (1928: xiv).

The idea, roughly, is that when you point to a table, what you point to could be exhaustively characterized in fundamental physical terms. This way of putting it is potentially misleading in at least two respects, however.

First, in speaking of fundamental physics I am not thinking of physics as providing an account of a special category of fundamental things, everything else being in some regard less fundamental. I am thinking rather of the kind of physics bent on characterizing whatever ultimately makes up what there is, fundamental physics as distinguished from astrophysics or solid state physics, for instance.

Second, in speaking of what can be characterized in fundamental physical terms I mean only to speak of the subject matter of fundamental physics, not something in any way dependent on the language used to characterize it. Nor am I suggesting that truths about ordinary objects—tomatoes, tables—are analyzable into, replaceable by, or derivable from truths expressed in the vocabulary deployed by physicists.

I consider this conception of the relation between the manifest and scientific images to be unremarkable, although it is currently out of favor among philosophers. You can find philosophers who embrace the first conception mentioned above, regarding the manifest image as perpetuating a kind of illusion. And you can find philosophers (including physicists wearing their

philosophical hats) who take the opposite view, regarding physics as instrumentally valuable, but not as providing a vehicle for literal truths. Each of these conceptions seems, in its own way, implausible. Only a philosopher could imagine that tables and tomatoes are unreal or illusory or any less real than electrons and fields. And only a philosopher would stoop to regarding physics as nothing more than an instrument useful in negotiating the appearances.

Philosophers are not the only philosophers. If, as I contend, metaphysics is inescapable, there will be pressure on any tolerably serious thinker to reflect from time to time on metaphysical issues. Here, the chief advantage of being a philosopher is its affording you the opportunity to engage self-consciously in such reflections. It goes without saying that training in philosophy brings with it no guarantee of success. What philosophical training can do is make you aware of options and the extent to which they are genuinely optional.

1.3 Reality as Hierarchical

What of the third conception of the relation between the manifest and scientific images? Both images are veridical, both can correctly describe aspects of the universe, but they do so by describing distinct 'orders' or 'levels' of reality. Higher-level features of the universe are dependent on, but not reducible to, lower-level features.

A conception of this kind typically posits a hierarchy of levels, each dependent on, without being reducible to, the next lower level. The psychological level could be taken to depend on, without being reducible to, the biological level, which in turn depends on, without being reducible to, the biochemical level, which itself depends on the level of fundamental physics without being reducible to physics.

The original motivation for a hierarchical conception of this kind was the failure of reductionist programs in the philosophy of science, where these amounted to attempts to derive higher-level truths from those at lower levels—to derive distinctively psychological or biological truths from truths expressed in the vocabulary of fundamental physics, for instance.

From the thought that you cannot extract truths about tables or tomatoes from truths about quarks and leptons, however, it does not follow that every table and every tomato is not, at bottom, an organized, interactive collection of quarks and leptons that is as it is and is capable of doing what it does owing to the nature of, and interactions among, its constituent quarks and leptons. Not

only does this not follow, denying it and accepting a hierarchical conception of the universe leads to embarrassing questions about relations among levels.

Suppose that tables and tomatoes are higher-level items, dependent on but in some manner distinct from entities posited by physics, quarks and leptons, maybe, or fields. Tables and tomatoes evidently have properties not possessed by quarks and leptons, or fields. A table might be rectangular and white, a tomato red and spherical, but particles and fields are not rectangular, or white, or red, or spherical.

Could these properties be just what you get when you put together vast numbers of quarks and leptons or configure a field in the right way? That seems right. We know that were a table or tomato dismantled, it would turn out to be made up of the very things that make up everything else, whatever these might ultimately prove to be. The trouble is, it appears impossible to derive or anticipate truths about tables and tomatoes and their various properties from truths of physics: we confront an 'explanatory gap' between physics and occupants of the manifest image.

Perhaps tables, tomatoes, and their properties 'arise' or 'emerge' from particle configurations or fields. Whatever the story, it appears that there is much more to tables and tomatoes than what you have in physics. In coming to grips with how tables and tomatoes affect and are affected by their surroundings, we are obliged to appeal to their distinctive properties.

The tomato rolls across the tabletop because the tomato is spherical and firm and the tabletop is flat and solid. We are adept at predicting the behavior of everyday objects by invoking principles that have no counterparts in physics. Spherical things roll, wooden surfaces are solid. Sphericality and solidity seem to contribute to objects' capacities or powers. But how could they? Physics tells us that the particles or fields are governed by laws. These laws might be strictly deterministic or they might be statistical in character. But whatever their nature, the laws fully explain the behavior of whatever they govern. If that is so, however, how could properties of tables and tomatoes contribute to the behavior of tables and tomatoes?

Philosophers call this the problem of 'causal relevance'. We are happy to explain and predict the behavior of higher-level things by reference to their properties. But if the higher-level things—the tables and tomatoes—are dependent on, perhaps because they are made up of, lower-level things, characteristics of these lower-level things would seem to undercut or preempt any causal contribution properties of the higher-level things might be thought to make. The behavior of the lower-level things is governed by their own distinctive laws.

Return to the thought that the tomato and table are made up of particles. If the tomato rolls across the table's surface, particles would move in definite ways. These ways reflect laws governing particle motions and interactions, and these would seem to have nothing to do with familiar properties of tables and tomatoes. Properties of higher-level things, indeed the things themselves, would appear to be epiphenomenal.

Is this just another hokey philosophical problem, a case of philosophers' mystery mongering? Well, consider: do you accept that tables, tomatoes, along with other occupants of Sellars' manifest image, are real? Do you accept that tables and tomatoes are not illusions? If you do, what relation do you think they bear to the quarks, leptons, and fields? Perhaps tables and tomatoes are nothing 'over and above', nothing 'in addition to', 'nothing but' configurations of quarks, leptons, fields. Perhaps tables and tomatoes are nothing more than configurations of quarks and leptons.

This amounts to the idea that the manifest image is reducible to the scientific image. Reduction, however, 'nothing but-ism', appears to be a nonstarter. If you confine yourself to physics, you lose information. Imagine deciding how to bake a cake, or throw a changeup, or lower unemployment, or set a broken limb, or, for that matter, to explain the nature and evolution of organisms, while confining yourself to physics. It looks as though the manifest image encompasses an endless array of objects, possessing properties, standing in myriad relations, and interacting in all sorts of ways that utterly elude physics. Unless you want to say that these things are illusory or *mere* appearances, a palpably desperate move, it would seem we need to find a place for them in the universe.

Given that reduction is not an option and that relegating the manifest image to the status of an illusion is equally unattractive, what else is there but the idea that reality comprises a hierarchy of levels? On the ground floor you have whatever physics tells us there is. But this is not all there is. Relations among levels remain to be spelled out, perhaps, but those are metaphysical details concerning which there is no shortage of theories. In philosophy there is rarely a shortage of theories, only a lack of consensus.

1.4 The Three Options

Notice that, whether you are sympathetic to the idea that reality comprises a hierarchy of levels, or you think the idea is ridiculous, you are, like it or not, engaged in metaphysical reflection and pulled in one direction or another.

Returning to Sellars' manifest and scientific images and Eddington's two tables, we seem compelled to choose from among three expressly metaphysical options:

(1) The manifest image is mere appearance, reality is as the scientific image says it is. (Table No. 1, the everyday table, is an illusion, only the scientific table, Table No. 2, is real.)
(2) The manifest image is non-negotiable, the scientific image is instrumentally useful, but not meant to be literally true. (Table No. 2, the scientific table, is a 'construct', something invented to enable us to find our way around in a universe comprising familiar everyday objects including Table No. 1.)
(3) The manifest image describes higher-level, less-than-fundamental realities rooted in a fundamental, or relatively fundamental, reality addressed by the scientific image. (The scientific table is a fundamental constituent of the universe, everyday tables are higher-level entities, dependent on, but reducible to, the fundamental things.)

In the pages that follow I shall be offering reasons to think that each of these options is flawed and that another, more appealing option is available, an option hinted at earlier. For the time being I am purposely omitting mention of an alternative advanced by F. H. Bradley in *Appearance and Reality* (1893), a book this one is meant to call to mind, reserving discussion of Bradley for Chapter 14. Meanwhile, I propose to introduce a number of themes that will play out in the intervening chapters.

1.5 A Package Deal

One difficulty peculiar to metaphysics is worth mentioning before taking the plunge. Metaphysics, as I conceive it, is not something that could be pursued piecemeal. The common practice of embracing one or another metaphysical thesis because doing so enables the embracer to solve one or another philosophical problem, is what gives the enterprise a bad name. Metaphysics is what my philosophical godfather, C. B. Martin, liked to call a package deal. A metaphysical thesis earns its keep in concert with ordinary experience, with the sciences, and, inevitably, in concert with other metaphysical theses.

In setting out to write a book concerned with topics in metaphysics, it is hard to know where to begin. An idea introduced and explained in one place owes its plausibility in part to ideas not yet introduced and explained. The temptation is constantly to reorganize, to rearrange, and to want to blurt everything out at once. Under the circumstances, I shall have to enlist the support of you, the reader, asking your patience with my necessarily linear presentation of a manifestly nonlinear subject.

I have made an effort to mitigate potential sources of confusion or concern by foreshadowing material to be addressed later and by inserting reminders of points made earlier. One beneficial side effect of this way of proceeding is that chapters are more accessible individually than they might have been otherwise. To be sure, accessibility is a relative matter when it comes to philosophy. I have, at least, avoided formalisms and, wherever feasible, proprietary terminology. The enterprise will have been successful if its faults as well as its virtues are patent.

Speaking of terminology, philosophically attuned readers might find puzzling my preference for 'universe' over 'world'. The preference stems from a distaste for metaphysical discussions laced with talk of 'possible worlds'. I shall have much more to say about possible worlds in due course. At present I rest content with the observation that philosophers today find talk of possible worlds irresistible whenever questions arise about what is possible, or impossible, or necessary, or in explaining what it could mean to say that something that did not happen might have happened. Something is possible if it occurs at some world, impossible if it occurs at none. The vase would have shattered had you dropped it if, at worlds closely resembling ours, you, or someone very like you, drops the vase, or a vase closely resembling this one, and it shatters.

By my lights, the extreme difficulty of understanding what makes it the case that something is possible or impossible, what makes it true that the vase would have shattered, is obscured by easy talk of possible worlds. As philosophers reckon them, possible worlds are there for the having. But to declare that something is possible because it occurs at some world is really just to assert in a pointlessly indirect way that it is possible. If the question is, what is the source of possibility and necessity, what makes claims about possibilities, impossibilities, and necessities true, appeals to possible worlds simply reiterate what is at issue.

So I prefer 'universe' to 'world' because this helps to keep at bay the idea that ours is just one among many universes. Maybe it is, but that would need to be shown and its relevance to what is or is not possible here and now defended.

1.6 Truthmaking

Earlier I asked what makes it the case that something is possible, what makes it true that the vase would shatter. In so doing I was invoking the notion of truthmaking, a notion inextricably bound up with ontologically serious metaphysics. The idea is straightforward. When you express a judgment as to how things are—that the vase would have shattered had you dropped it, for instance—you owe yourself and your audience an account of what it is, or might be, about the universe in virtue of which this is true, or failing that, an argument as to why no such account is needed.

I deploy, but do not discuss in detail, the notion of truthmaking throughout this book. My views on the truthmaking relation are spelled out in Heil 2012: chapter 8, but anyone comfortable with truth already implicitly understands what it is for something to make a truth true. Truthmaking is not difficult, although philosophers can make it difficult. We philosophers can make anything difficult.

Accepting that true thoughts or assertions concerning the universe are made true by ways the universe is, commits you to no particular conception of how things are, but it does place a check on unbridled metaphysical enthusiasm. Appreciation of the need for truthmakers is what keeps us honest when we attempt to answer questions in any domain, but it is especially pressing in metaphysics, a domain in which truthmaking is too often marginalized.

1.7 Aristotelianism and Humeanism

Another theme running through the book concerns the relative attractions of 'Humeanism' and 'Aristotelianism'. These labels are not meant to denote the official views of either Hume or Aristotle, but merely to reflect two influential but very different attitudes toward the universe.

Aristotelians hold that things do what they do because they are as they are, because they are so disposed. Objects, including planets, rabbits, tomatoes, and electrons, possess qualities that empower them to behave as they do, affecting, and being affected by, their fellow objects. Tomatoes roll owing to their sphericality, electrons repel one another owing to their respective charges. Formulae and equations that express laws of nature capture the contribution objects' distinctive powers make to their behavior.

In contrast, the Humean picture is of a universe in which objects' interactions are nothing more than a reflection of patterns of regularities. Putting it

somewhat abstractly, what makes it true that *A* causes *B* is that (i) *A* and *B* are spatially and temporally contiguous, (ii) *A* precedes *B*, and (iii) by and large, whenever an *A*-type event occurs, it is followed by a *B*-type event. There is no sense in which individual *A*s bring about or produce particular *B*s. Laws of nature have the form 'whenever there is an *A*, there is a *B*'. So whether it is true that this *A* causes this *B* depends, not on *A*'s and *B*'s specific natures, but on all the other *A*s and *B*s.

For reasons that are not easy to understand, Humeanism became the default during the twentieth century. As the default, Humeanism was given a free pass, while Aristotelian deviations from Humeanism required defense. The thought was that, unless you can establish that Humeanism is false, it retains the crown.

I have suggested already—and not for the last time—that this is not how metaphysics works. In this instance you are faced with a pair of competing worldviews, and the question is, which is more attractive overall, which comports better with common experience and scientific practice? Thus regarded, it seems to me there is no contest: the Aristotelian picture of powerful particulars wins hands down.

Although this is a prominent refrain in chapters to come, I do not think it is the end of the story. In my view, Humeanism has been misjudged both by many of its advocates and by its critics. It could turn out that Aristotelianism is tailored to the manifest image and that a kind of Humeanism is in fact closer to what emerges in the scientific image, the 'could' here being an epistemological for-all-we-know could.

Think of the real Aristotle's physics, often lampooned as hopelessly naive. As physicist Carlo Rovelli has pointed out, however, Aristotelian physics in fact works well so long your interest is in terrestrial bodies moving through fluid media near the surface of the earth (Rovelli 2015). It is true, perhaps, that bodies behave as Aristotle says they do, but why exactly they behave as they do is something else altogether. At this time it is an open question whether the same could be said for what I have been calling Aristotelianism.

Exploring these issues promises to yield a more perspicacious understanding of the point and significance of metaphysics.

1.8 What You Can Expect

For anyone still with me, I am going to offer a brief, chapter-by-chapter summary of what lies ahead. A word of warning, however. It would be easy to read over this summary and lose heart, so you could be forgiven for


image
not
available

on the face of it, to provide ample truthmakers for modal judgments, unlike a Humean universe of the kind embraced by D. C. Williams and his student, David Lewis. This impression does not survive scrutiny, however. Humeans and Aristotelians alike are obliged to reconstrue modal discourse in a way that reflects pressures arising in the manifest image, but leaves the modal texture of reality untouched. Once you move below the surface, you recognize that contingency, the idea things could have been otherwise, is a metaphysically vexed concept.

Chapter 11, *Brute Fact*, extends this line of thought about contingency. Paths that start with Hume and Aristotle appear, surprisingly, to converge in Spinoza. Out of the gate this might strike you as implausible. A variety of independent considerations point toward convergence, however, and its implications are momentous.

Chapter 12, *Roots of Things*, and its companion, Chapter 13, *Reconciliation*, tie these themes together with the aim of depicting the manifest and scientific images as ultimately unified: the scientific image gives us an account of what the manifest image is an image of. The nature of the truthmakers for truths embedded in our Aristotelian manifest image could turn out to be Humean in the manner of Spinoza.

A sonnet must have 14 lines, and a book ought not to conclude with a Chapter 13. Chapter 14, *Agency*, comprises an attempt to illustrate how the reconciliatory line advanced in Chapters 12 and 13 might work in the case of free will, arguing that agency and responsibility belong to the manifest image and would survive unscathed even if physics turned out to be rigidly deterministic.

An *Epilogue* that includes a brief reflection on F. H. Bradley's *Appearance and Reality* brings down the curtain on the affair.

Best wishes for a safe journey.