Qualities as Truthmakers: A Quasi-Realist Account of Powers

George Stamets

Submitted in accordance with the requirements for the degree of Doctor of Philosophy

The University of Leeds

School of Philosophy, Religion and History of Science

October 2020

Acknowledgements

I owe significant gratitude to many people, beginning with my supervisory team, Helen Steward and Léa Salje. Their continuing guidance and encouragement has been invaluable, both to this project and to my development in philosophy more generally. Each has invested significant time and patience in helping me to gradually clarify and strengthen my views; and although I have not yet succeeded in doing justice to all of their good suggestions, this thesis has improved in countless respects because of their excellent feedback and advice.

Many of the ideas which appear in this thesis have also been improved through discussions with others, whether on my own campus, by email, or at the various conferences and workshops I have attended over the past several years. I am especially thankful to John Heil, Tim O'Connor, Stephen Mumford, Alex Carruth, Randy Clarke, Al Mele, David McNaughton, Lieke Asma, Sam Sims, and Brad Stockdale, among others.

Very special thanks go to my supportive family and friends, and to my patient and caring girlfriend, Kat.

Finally, I am grateful for the financial support I have received from the School of PRHS, which made this work possible, and for the many academic and support staff who have made my time as a postgraduate at Leeds extremely enjoyable.

Abstract

In this thesis, I set out and defend what I call the *Qualities as Truthmakers (QT) Account of Powers*. On this novel view, reference to powers is a 'shorthand' for a very important truthmaking relation between (i) objects' qualities, their *ways of being*, and (ii) what I call 'maximally specific' propositions about how those objects either could or would behave in relevant circumstances.

After starting with some ontological preliminaries – including setting out the crucial assumption of basic elements of a neo-Aristotelian substance ontology – I offer an initial characterization of the concept *power (to act or to be acted upon)*, before examining the terms in which the contemporary debate about powers is framed. I argue that both proponents and opponents of powers-based metaphysics err in apparently supposing, with little reflection, that *if* powers can be truly predicated of things, then those powers must themselves be properties or features of the relevant things. My 'quasi-realist' *QT Account* avoids the realist's mistake of reifying powers, but still aims to achieve what the realist is after: an explanation of modal truths about objects' behavior wholly in terms of the genuine properties of those objects, with implications 'downstream' in metaphysics and elsewhere for causality, modality, laws of nature, and perhaps much more.

I then marry my *QT Account of Powers* to the idea that causation – understood as consisting in the production or bringing-about of effects rather than mere 'difference-making' – is, at root, a matter of specific varieties of causal action, i.e. causings understood as particular types of *doings*. This leads to what I call the *Substances as Producers (SP) Account of Causation* – an approach that, I contend, succeeds where other powers-based accounts fail, including by finding a real place for genuine *production*.

Table of Contents

Introduction

Reference to the *powers*, *dispositions*, *capacities*, *abilities*, *tendencies*, and so on of things, including persons as well as inanimate objects, is commonplace if not ubiquitous throughout much of everyday and scientific discourse. This fact is recognized in the recent literature by both proponents and opponents of those approaches in metaphysics which, in some way or other, take powers 'seriously'. Thus Kadri Vihvelin writes that:

> We believe that objects have dispositions (causal powers, capacities, liabilities). A lump of sugar is soluble. Coffee has the power to dissolve sugar. A rubber band is elastic. … We have empirical knowledge of the dispositions of objects, and we rely on this knowledge in our dealings with things. … In relying on this knowledge, we assume that dispositions are relatively stable characteristics of things that, ceteris paribus, continue to exist when they are not manifested. We also believe that there is a sense in which something with the disposition to X *can* X even during times that it is not Xing, and even if it never X's.[1]

Philosophers, Vihvelin says, "don't dispute these commonsense claims": the debates in metaphysics are not about "whether we speak truly when we say that objects and persons have dispositions", but rather "concern the proper analysis of dispositions".[2] Jonathan Jacobs, who unlike Vihvelin opts for a variety of realism about powers (Chapter 3)[3], likewise observes that we "use concepts of causal powers and their relatives – dispositions, capacities, abilities, and so on – to describe the world around us, both in everyday life and in scientific practice"; the question, he says, is what it is "about the world that makes such descriptions apt".[4]

i. The main claim of this thesis and its motivations

In this thesis, I argue that the best approach to the metaphysics of powers (as opposed merely to, say, the meaning of power-ascriptions) is one which regards reference to such as 'shorthand' for a very important kind of *truthmaking* relation: that between (i) individual objects' qualities, i.e. their genuine intrinsic properties, and (ii) a range of special propositions about how those objects either could or would behave in relevant circumstances. What I call the *Qualities as Truthmakers (QT) Account of Powers*,

---

[1] Vihvelin (2013), pp. 170-171.
[2] Vihvelin (2013), p. 171.
[3] Jacobs, like other realists, thus takes literally the way Vihvelin puts things when she says in the above quotation that we "assume that dispositions are relatively stable *characteristics of things* that … *continue to exist* when they are not manifested". The realist about powers is someone who regards powers as genuine existents, namely as properties or features of the things which can truly be said to 'have' them.
[4] Jacobs (2017), p. 1.

presented in Chapter 4, is not quite 'realist' about powers, as it explicitly rejects understanding powers themselves as genuine existents, namely as properties or features of the things to which they can be truly ascribed. It may, however, be termed 'quasi-realist', in that it holds that there really *are* genuine truthmakers, fully *intrinsic to objects*, for relevant kinds of propositions about how those objects either could or would behave in appropriate circumstances. I therefore defend a novel position which lies between the wide variety of 'realist' (or what is often called 'dispositionalist') and 'anti-realist' (or so-called 'categoricalist') views of powers defended in the recent literature (see section 2.2).

One main motivation for pursuing a satisfactory account of powers is to try to make the best possible sense of the slogan, adopted from John Heil, that "objects do what they do *because they are as they are*" – where *ways objects are*, as I explain, are precisely their qualities, their genuine intrinsic properties (see section 1.3).[5] My *QT Account of Powers* aims to achieve this without recourse to either the Humean's brute contingency – since truthmaking involves an important sort of necessity – or else to laws of nature (or perhaps a supernatural being) which somehow 'govern' the behavior of objects. In this respect, my account is closely allied with realist views of powers. But it also is intended to avoid a range of conceptual difficulties introduced by the realist's (often implicit and unexamined) assumption that *if* there are true predications of powers, then powers themselves must be existents of some kind, namely properties or features of the things which can be said to 'have' them. To reify powers, I argue, is to illicitly force together the concept *power* and the concept of a specific *way an object is*, i.e. the concept of a genuine property. Rather than reify, we should take seriously the notion of truthmaking – asking, as Jacobs suggests above, what it is *about the world* that makes predications of powers true, when they are.

Like many proponents of realism about powers, I believe that the overall motivation for seeking an adequate metaphysical account of powers involves much more than just making good sense of the meaning and ontological commitments of everyday and scientific talk about the possession and manifestation of powers, dispositions, abilities (etc.) – an important desideratum on its own. This is because it is plausible that the correct approach to powers may help to pave the way toward a satisfactory overall metaphysic, including adequate accounts of causality, modality, and laws of nature – underwriting and informing not only everyday and scientific discourse broadly but also philosophical theorizing about questions concerning mind, free will, and perhaps much more. After presenting my *QT Account of Powers*, I go on in this thesis to show how it may be used as a foundation for an account of causation which appears able to meet important desiderata.

There are several significant elements of the overall picture developed here which ought to be identified at the outset. In section 1.3, I sketch and briefly motivate a crucial

---

[5] Heil (2020), p. 19.

assumption which underlies everything that follows: the basic elements of what might be called a 'neo-Aristotelian' substance ontology. On this ontology, individual objects have an important kind of ontological priority over existents from any other ontological category – including properties, which are understood as specific *ways objects are* (e.g., specific ways of being shaped, electrically charged, etc.) and indeed as irreducible and ineliminable existents in their own right. In defending my *QT Account of Powers* as well as the approach to causation built upon it, I accommodate and rely upon two further commitments: first, that there is genuine *activity* or *doing* in the world; and second, that certain propositions – including in particular those of special interest to my accounts of powers and causation – must be 'made true' by, i.e. must be *true in virtue of*, certain kinds of existent. My positive account of causation also explicitly seeks to make clear sense of the conviction, shared by many proponents of powers-based approaches, that causation always involves a kind of *production* or *bringing-about* – where on my approach this is to be understood as a cause's literally being *active* in some specific way, i.e. *doing* something.

ii. Outline of thesis chapters

Aside from Chapter 1, which lays needed ontological groundwork, the thesis can be understood as dividing into two main parts: Chapters 2 and 3 look at the shape of the contemporary debate about powers, while Chapter 4 presents my own *QT Account of Powers* and notes some of its immediate implications. Chapters 5 through 7 then examine recent powers-based approaches to causation before going on to sketch a (partially) novel view built upon the *QT Account*.

In Chapter 1, I begin by offering an initial characterization of the concept *power* – what I regard as the bare minimum needed to begin working toward an account of the metaphysics of powers. I then set out three fundamental metaphysical questions which any such account must answer explicitly, before explicating the neo-Aristotelian substance ontology assumed as a foundation for the rest of the thesis.

In Chapter 2, I examine common ways of *conceiving* of powers in the first place – in effect, alternatives to the initial characterization I give in Chapter 1 – found throughout the literature, each of which takes powers to be what I call 'would-be' properties. The idea apparently embraced with little reflection by virtually all participants in the debate is that *if* we can truly ascribe powers to objects (or perhaps other items besides), then powers themselves must be (a) *properties* or *features* of those objects which (b) have a certain distinctive 'role' or special character. I argue that this assumption is a mistake – one that not only casts doubt on the very coherence of realist views but generates difficulties down the line, including those encountered in Chapters 3 and 5. I then attempt to get clear about the general view(s) which self-styled 'realists' about powers take themselves to be

opposed to – so-called 'categoricalism' or anti-realism about powers – before investigating the motivations for two approaches commonly embraced by 'categoricalists': the method of giving conditional analyses of power ascriptions and the Prior-Pargetter-Jackson view of powers. In Chapter 3, I examine the range of views offered by proponents of powers, arguing that while these views are all on the right track in attempting to find the *explanation* for powers in terms of some special connection to objects' properties, they go wrong insofar as they *identify* powers themselves with (some or all) properties.

Chapter 4 offers my 'quasi-realist' approach to powers. The core idea of the *QT Account* is that reference to powers is best regarded as a useful 'shorthand' for a very important kind of truthmaking relation: that between individual objects' intrinsic properties and a range of propositions about how those objects either could or would act, or be acted upon, in relevant circumstances. After discussing the notion of truthmaking itself, I turn to the two sides of the truthmaking 'relation': objects' qualities, on the one hand, and what I call 'maximally specific' propositions about behavior, on the other. Having presented my positive account, I go on to show how it answers the three fundamental metaphysical questions identified in Chapter 1. I then discuss several of its implications: its ability to resolve (or, rather, dissolve) the 'single-track' versus 'multi-track' debate; and the question of where, in terms of the behavior of objects, it is most natural to suppose that there might exist indeterminism in the world. I close the chapter by 'extending the shorthand': suggesting ways that we might classify powers into 'types' – without reifying powers – in ways that can be useful in certain everyday and scientific contexts.

In Chapters 5-7, I apply my *QT Account of Powers* to the project of seeking out an adequate account of the metaphysics of causation. Proponents of realism about powers typically go for some version of what is called the *mutual manifestation view*, according to which causation is said to consist in the 'mutual manifestation', by 'reciprocal partners' (either the bearers of powers or perhaps powers themselves), of certain powers in relevant circumstances. In Chapter 5, I criticize the standard version of the mutual manifestation view, according to which it is objects' properties-cum-powers which are the real causes of effects. I argue that despite claims to the contrary, such a view cannot ultimately account for the crucial idea that causation involves some sort of *production* or *bringing-about* (as opposed to mere difference-making or relevance). In Chapter 6, I examine several recent proposals which move us toward the idea that it is objects which are the real causes, embracing some parts of these but rejecting others (or else finding them wanting). I then offer my own strict substance causal view in Chapter 7 – what I call the *Substances as Producers (SP) Account of Causation*. This approach holds that a key to understanding causation in general is the recognition that it must always consist, in particular instances, in some or another specific variety of *productive activity* by one object upon another object.

In the Conclusion, I reiterate the cases for the *QT Account of Powers* and *SP Account of Causation*, respectively. The justification for both accounts comes in a stepwise manner, but is also 'holistic' in an important sense. I begin with the motivated assumption of a neo-Aristotelian substance ontology; given this foundation, plus argument that we have good reason to think there really are (irreducible) varieties of *activity* in the world, the idea is that the *QT Account* offers satisfactory answers to the three fundamental metaphysical questions about powers without any of the conceptual or other difficulties of its rivals, whether 'realist' or 'anti-realist' views about powers. The *SP Account*, in turn, follows from joining to the *QT Account* the idea that causation is itself, at root, a matter of *causings* (causal actions) – with the approach to causation sketched here appearing to meet important desiderata of its own.

Chapter 1 - Ontological Preliminaries

In this chapter, I begin by offering a needed starting-point for discussion of powers before posing three fundamental metaphysical questions which any account of powers, realist or not, must answer. I then present and briefly motivate a crucial assumption which underwrites everything that follows in this thesis: basic elements of a 'neo-Aristotelian' substance ontology.

1.1 The concept *power*: an initial characterization

On a natural understanding of the term "power" (or any of its aforementioned cognates, e.g. "disposition" or "ability"), to ascribe to something a *power to ϕ* is, at the very least, to say that, in appropriate circumstances, that thing *either could or would ϕ*, for some relevant type of activity or behavior ϕ-ing[6]. Put another way, if something has a power to ϕ, then it is either (merely) possible or else necessary, for that thing, that it should ϕ in circumstances of an appropriate sort. Thus, for some item *x* and type of activity ϕ-ing:

> **POWER₁**: *x* has a power to ϕ ≡ *x* either could or would ϕ, in appropriate circumstances.[7]

I regard this initial characterization as the bare minimum needed to begin working toward a comprehensive account of the metaphysics of powers. Some such starting-point is needed, and beginning from this 'barebones' concept helps in this case to avoid begging any questions in advance of assembling a detailed account (or, perhaps instead, a conceptual analysis) – a project which includes answering the three fundamental metaphysical questions named below.[8] But to understand even **POWER₁**, several clarificatory points are needed.

First, notice that **POWER₁** characterizes powers in terms of some kind of *activity* – a doing or behavior ϕ (or ϕ-ing). I regard the idea that there really is activity in the world as an important part of our commonsense understanding of ourselves and the world, and thus as a starting-point for metaphysical inquiry – one that, although defeasible, should only be jettisoned for very good reason. If activity of various sorts is at least possible in the

---

[6] Or for some *way of being acted upon* – a clarification that will come up momentarily.

[7] I name this characterization **POWER₁** rather than just **POWER** to indicate that it is intended only as a 'starting-point' in the pursuit of a satisfactory account or analysis of powers. (There is no **POWER₂**, etc.)

[8] To describe this starting-point as 'natural' is indeed to suggest that it is at least part of what most people typically have in mind when they think and speak of powers to act, and to be acted upon, in both non-technical and technical (everyday, scientific, and philosophical) contexts. I believe that attention to the way the debate about powers or dispositions is commonly introduced in the literature, including the kinds of examples of powers cited (e.g. Vihvelin's examples at the start of the Introduction), helps to support this suggestion.

world, then we can speak usefully of 'powers' as they are characterized by **POWER₁**: a power (or disposition, ability, etc.) is precisely a power *to do something*, or in the case of what I will call 'liabilities' *to have something done to oneself*. This doing something, or having something done to oneself, may be called the 'manifestation' or 'exercise' of the relevant power.[9] Moreover, what does the activity, or has the activity done to it, is the thing which 'has' the power to ϕ, i.e. the thing to which the power to ϕ can be correctly ascribed: if *x* has and manifests at *t* a power *to ϕ*, then it is *x* itself which ϕ-s at *t*. I say more about our grounds for believing there is activity in the world, and about what (if anything) manifestations are, in section 4.2.

Although I believe that **POWER₁**, thus understood, matches closely with what we typically have in mind when speaking of the "powers", "dispositions", "abilities" and so on of things in both everyday and scientific contexts, some proponents of powers disagree; in this respect I make no claim that **POWER₁** is *perfectly* neutral. In his (2019) Neil Williams, for instance, explicitly conceives of powers as powers *for states of affairs*, rather than as powers *to perform activities* (or to have activities performed upon oneself). (Complicating things, Williams also regards powers as 'sets of abilities', though he does not seem to explain what abilities themselves are supposed to *be*.) We will also see that proponents of realism about powers often speak as though it is powers themselves – rather than the things which can be said to 'have' or 'bear' powers – which 'do' things, including 'causal work'. I will object to these ways of putting matters by arguing that (i) there really is activity or doing in the world, including causal activity and (ii) it is only the 'bearers' of powers, rather than powers or properties, which can literally act. Williams' conception of powers (as being powers *for states of affairs*), I hold, is revisionary of our commonsense starting-point in a way that is not ultimately warranted.

Second, it is worth spending a moment on the 'either could or would' disjunction employed in **POWER₁**. This disjunction is of course intended to use an exclusive 'or', so that the disjunction is true, and the relevant thing 'has' a power to ϕ, if and only if exactly one of the two disjuncts is true. But why use a *disjunction* at all? The purpose of this is to allow for the possibility that powers – actual or possible – might be distinguishable into two varieties: (a) those which *would* be manifested in appropriate circumstances, and (b) those which at most merely *could* be manifested in relevant circumstances, no matter how fine-grained we might specify those same circumstances. The idea is that given some relevant fully-specified set of circumstances at a time *t*, there might be some powers which *must* be manifested at *t* (i.e. whose manifestations at *t* are *fully necessary*), and others which merely *might* or *can*, but need not, be manifested at *t* (i.e. whose manifestations at *t* are

---

9 For the sake of simplicity I use these two terms as synonyms, even though it is perhaps more natural to reserve "exercise" strictly for manifestations of powers *to act* (since "exercise" suggests *performing* activity rather than suffering it).

merely possible). (The phrase 'fully-specified' is intended to signify that there is nothing further that could be added to the circumstances to take the relevant manifestation from being merely possible in this sense to fully necessary.)

I continue to employ the 'either could or would' disjunction throughout this thesis, leaving open the questions of which kinds of powers either *might* or *do* exist in the world. (I regard it a metaphysical question what *might* or *must* exist, and a primarily empirical question what *does* exist.) **POWER$_1$** is therefore neutral with respect to the question of whether the world is fully deterministic (such that we could dispense with the 'could' disjunct), or else whether there might be indeterminism in at least some places in the world.

Third, my practice is to use "power" as the most general or 'catch-all' term, and "disposition", "capacity", "ability", "tendency", "inclination", "proclivity", and others as either synonyms or as referring to 'sub-types' of powers (see section 4.7.3 on useful ways of distinguishing powers into 'types'). Many theorists use "disposition" as their preferred term, others "potentiality" or something else; choice of terminology by itself makes no difference to the account being advanced.

For the sake of simplicity, I also use the general term "power" to refer to both powers *to act* and powers *to be acted upon* – though I will sometimes use the term "liability" in place of "power to be acted upon". Unlike manifestations of powers *to act*, the 'manifestation' of a liability to be acted upon is not itself an activity of the thing which 'has' that liability; rather, talk of the manifestation of an object's liability is to be understood as referring to that object's being acted upon by some other object (see section 4.2 on activity and manifestations). As we will see in Chapter 6, however, many proponents of powers-based accounts of causation reject the idea that there is ever any sort of 'agent-patient' distinction in causation – and with that reject any distinction between powers *to act* (*causally*) and liabilities *to be acted upon*.

1.2 Three fundamental metaphysical questions about powers

Standard examples of (supposed) powers cited in the literature – e.g., fragility, solubility, irascibility, the power to dissolve sugar, the power to repel electrons – are, at least at face value, powers of individual objects. That is, we typically ascribe powers to act, and liabilities to be acted upon, to things like vases, cubes of salt, electrons, and persons.

Talk of "abilities" and "proclivities" is perhaps most naturally applied to human beings and other living creatures. Thus humans have, among other things, a variety of perceptual and other mental "abilities" or "faculties", exercises of which are essential for acquiring the kinds of sophisticated knowledge of the world around us – including understanding and predicting the behavior (activity) of both animate and inanimate objects

in our environment – which permits not only survival but also scientific and technological advances.

It seems, then, that we at least sometimes say things which are true, even if only vaguely or approximately so, when we ascribe powers to act, or to be acted upon, to objects of various sorts. But as the quotations in the Introduction from Vihvelin and Jacobs make clear, recognition of this fact still leaves open what the proper account of powers might be – including the question of what it is, ultimately, *in virtue of which* power-ascriptions are true, when they are.

Taking **POWER₁** as a neutral starting-point, any account of powers (or 'analysis' of the concept *power*), realist or otherwise, must go on to provide clear answers to the following three fundamental metaphysical questions:

1. *Ontological Question*: What, if anything, *are* powers – i.e., what is the ontological status of powers? (Relatedly: what are we ascribing to a thing, or otherwise saying about it, when we correctly ascribe to it a power to act, or to be acted upon, in some way?)

2. *Scope Question*: What kinds of things can 'bear' or 'possess' powers – i.e., to what kinds of things can we truly and appropriately ascribe powers?

3. *Explanatory Question*: Why do things which bear powers have those powers – i.e., in virtue of what, if anything, do things have the powers they have?

On the *Qualities as Truthmakers (QT) Account of Powers* offered in Chapter 4, powers are not themselves existents at all; rather, reference to powers is to be understood as a convenient 'shorthand' for an important truthmaking relation between (i) objects' intrinsic properties and (ii) a certain range of propositions about how those objects either could or would behave in relevant circumstances. I defend the 'commonsense' answer to the *Scope Question*, arguing from my assumption of a substance ontology (see next section) to the conclusion that it is only individual objects which can literally act or be acted upon, and hence only individual objects which can really be said to 'have' powers. And, given the aforementioned truthmaking relation, it is objects' intrinsic properties – their 'qualities' or 'ways of being' (see below) – which *explain* why they can be said to 'have' (as a 'shorthand') the powers they have (and these qualities, plus the circumstances in which objects find themselves, which together *explain* why objects actually behave, or are acted upon causally, as they do).

As we see in Chapters 2 and 3, however, participants in the debate appear almost universally to regard powers as what I will call 'would-be' properties: that is, they assume that if powers are in some sense 'real', then they must be properties or otherwise features

of the things which can truly be said to 'have' them.[10] A primary purpose in Chapters 2 and 3 is to show how this assumption leads to problems, before rejecting it in Chapter 4 as altogether unnecessary. The important insights achieved by 'realists' about powers (or 'dispositionalists') – namely, those concerning the explanation of objects' behavior in terms of their intrinsic properties rather than by appeal to (e.g.) so-called 'governing' laws of nature or brute contingency – are better accommodated by my 'quasi-realist' *QT Account*. Along the way I will also reject occasional talk by some proponents of powers of the 'powerful' nature of properties. This manner of speaking makes it sound as though it is properties themselves, rather than the objects which bear those properties, which 'have' powers – an idea reinforced by the tendency of many powers theorists to speak of properties-cum-powers as 'doing' the real 'work', including the 'productive' work in causation. I maintain instead that it is only objects which can literally *act* or *be acted upon* (in various specific ways), and hence only objects which can truly be said to 'have' powers.

1.3 A neo-Aristotelian substance ontology

I have just mentioned that I regard objects' intrinsic properties as *qualities* or *ways of being*. This conception of properties is not ontologically neutral – but neither do I intend it to be. Although this point is not always explicitly acknowledged in the powers literature, any account of the metaphysics of powers must be built upon *some* basic ontology: one cannot, for instance, discuss the relationship between powers and properties without having some idea of what properties are, how they relate to objects, and so on.[11] I construct my *QT Account of Powers* upon the assumption of several basic elements of a 'neo-Aristotelian' substance ontology. In what follows I outline this assumption and try to give a sense of why I make it instead of adopting some other basic ontology. Although I have no space here to give anything approaching a real defense of the basic ontology, I do regard elements of it as motivated by our everyday, 'commonsense' ways of thinking about ourselves and about reality more generally. Like the conviction that there really is

---

[10] I say "or otherwise features" to accommodate, e.g., views according to which all genuine properties are 'clusters' of powers.

[11] Why think this is so? Very arguably, *any* form of discourse – be it philosophical, scientific, or everyday – is underwritten, and unavoidably so, by at least a rudimentary stance on what types or categories of things exist and how entities in these categories, *qua* members of those categories, stand with respect to one another. See, e.g., Chapter 1 of Lowe (2006). I take it that when it comes to doing metaphysics in particular, the significance of these ontological commitments, and the need to make them *explicit*, is at its clearest. One cannot, for instance, even begin to answer any of the three fundamental questions about powers named above without some stance on what types of entities do or might exist in the world. Making one's ontological presuppositions or commitments explicit is required not only for constructing and evaluating competing accounts of powers, but for understanding what implications those accounts have for any questions that may lie 'further downstream' – say, implications for theories of causation, modality, laws of nature, and more.

genuine *activity* or *doing* in the world, the idea that there are substances or objects in the world, and that these substances *are certain ways* (i.e. have various qualities), seems to me a metaphysical starting-point that should only be abandoned for quite decisive reasons.

To have the 'basic elements' of an ontology is to have a set of ostensibly fundamental (i.e. irreducible and ineliminable) ontological categories along with some idea of the 'relationships' between these categories (that is, between items in each of these categories, whether actual or merely possible, *qua* members of those particular categories). What does it mean, then, to adopt the basic elements of a 'neo-Aristotelian' substance ontology? At a minimum, this means being ontologically serious about the category of *substance* (where for my purposes the terms "substance" and "individual object" may be used interchangeably[12]): regarding the category of substance as "neither eliminable nor reducible to any other category of being", and perhaps also taking substances to be "in some way ontologically fundamental, basic, or primary".[13]

While there are many ways of filling in the details from here, the brand of neo-Aristotelian substance ontology I embrace is strongly influenced by E.J. Lowe, who sees the fundamental ontological categories (or 'categories of being') as being hierarchically organized in various ways and as distinguished from one another by the existence and/or identity conditions of the items which comprise them. At the heart of Lowe's ontology – having a special kind of *priority* identified in section 1.3.3 below – is the category of substance, which is comprised of individual substances, i.e. particular objects.

1.3.1 Objects and 'ways of being'

What, exactly, *is* an object? Whether or not an adequate 'analysis' of the concept object is possible, we do seem to be familiar in different ways with an endless range of examples at both the 'macro' and the 'micro' level: such things as trees, molecules of water, hammers, comets, squirrels, electrons, human persons, and so on all answer to our concept *object* or *substance*, in at least a crude version of the conception to be sketched here. Whether some or all of these particular examples are somehow ontologically reducible to more fundamental objects (say, the so-called 'elementary particles' or perhaps physical simples of some other kind) is a further question on which I will remain neutral; the belief of the proponent of a substance ontology is just that there are *some* genuine and fundamental

---

[12] One might, however, wonder whether there could be Aristotelian substances which are not naturally understandable as 'individual objects' – e.g., perhaps electrical or magnetic fields, or spacetime itself, meet(s) the conditions required to be classified as individual substances despite not being 'object-like'. I will set this complication aside, as it is not my purpose here to determine *what* the fundamental (irreducible) substances really are.

[13] Hoffman (2012), pp. 145-147. I have removed Hoffman's italics.

substances, even if we never have grounds for supposing we have reached the fundamental level. The various metaphysical accounts explicitly built upon a substance ontology – of powers, causation, modality, whatever – are intended to apply at the very least to these fundamental substances, whatever they might be. These include, of course, the accounts of powers and causation sketched in this thesis.

Before considering why objects should be thought to have a kind of ontological priority, it is worth briefly noting one way of attempting to *reduce* objects to something else: adopting a pure trope theory, a view according to which objects just *are* bundles or mereological sums of compresent tropes, i.e., particular properties.

One challenge to such a view should immediately spring to mind: if objects just are sums of compresent tropes, perhaps 'organized' or 'arranged' in some appropriate fashion, then how can a given object survive a *change* in respect of one or more of its properties? It certainly appears that at least some objects *can* endure through changes in at least some of their properties: e.g., if a person undergoes a change in mental state, or gets a haircut between t_1 and t_2, it would seem deeply counterintuitive to suggest that one and the same person does not persist between t_1 and t_2 (inclusive). Presumably what does the enduring cannot be a bundle of tropes, however, if that bundle changes in respect of its 'members': different bundle of tropes, different 'object'. I set the challenge aside.

The pure trope theorist might pose the following question intended to help motivate her position: what *more* could there be to (e.g.) an electron, or a human person, than the group of particular properties that 'thing' can be said to 'have'? But as Lowe points out, to engage the pure trope theorist by attempting to answer this question head-on – trying to identify the additional 'ingredient' missing in the pure trope theorist's picture – is to "make the mistake of conceding in the first place that an object's properties are 'constituents' of the object".[14] Instead we might reverse the question and pose it to the pure trope theorist: What does a trope, a particular property, *itself* amount to, if objects *just are* sums of compresent tropes? It is of course not open to the pure trope theorist to say that a trope is a *way an object is*: this would amount to saying that a particular trope is a way a bundle of tropes is.

It is worth noticing further that the pure trope theory of objects seems to make particular properties sound rather object-like after all. Why, we might ask, should it not be possible on this picture for a given trope, e.g. a particular redness or sphericity, to 'detach' from its 'bundle' and then join another bundle – or even just 'float' freely by itself? If tropes are not object-like, then talk of 'detaching', 'bundles' and 'floating' is purely metaphorical; but it is far from clear how we might move beyond these metaphors to understand the underlying ontology. If there is no satisfactory, non-ad hoc way of ruling out these

---

[14] Lowe (2006), pp. 14-15.

possibilities, then the pure trope theorist would seem committed to saying that properties can be properties of different objects at different times, as well as to regarding even 'bundles of one', e.g. a particular redness, as objects. Neither of these outcomes is acceptable.

Rather than trying to reduce objects to something else, we should recognize that properties are specific *ways objects are*, or what I will call *qualities* of objects: being (some specific shade of) red is a way of being colored, being spherical a way of being shaped, and so forth. That is, what a given property *is* is precisely a specific *way some object is*. The significance of the word "specific" here must not be missed: to understand what it means to say that properties are ways objects are, we must reflect upon examples – specific ways of being colored, shaped, electrically charged, massed (i.e., having a certain quantity of mass), and so forth. (As I noted above, this elucidation of the concept *property* is not available to the pure trope theorist, for whom objects are nothing more than sums of compresent tropes. But then it is hard to see what properties or tropes are supposed to be, if they are not 'object-like'.) Although we commonly speak of objects 'having' or 'bearing' properties, it is crucial that we not be misled by language into thinking either that objects are constituted by or composed of properties, or that properties are somehow 'constituents' or 'parts' of objects. After all, what is a *proper part* of an object – for those fundamental (irreducible) objects, if any, which are composed of proper parts – if not some further object, something which can *itself* 'bear' properties?

I regard objects' various specific *ways of being*, their qualities, as fundamental (irreducible and ineliminable) existents in their own right. This is, in part, because if there really are true propositions about how objects *are* in and of themselves (e.g., red, spherical, negatively charged, etc.), then qualities – the objects' literally *being* those specific ways – seem to be needed as *truthmakers* for such propositions. (I discuss and embrace the idea of truthmaking in Chapter 4.) Thus as D.M. Armstrong points out: "[t]o have nothing but the ball itself being a truthmaker for both 'the ball is red' and 'the ball is spherical', and so on, seems rather implausible. It is certainly very undiscriminating."[15] The ball itself cannot be the truthmaker for "the ball is red" at t_1, since this would entail that, after a fresh coat of paint, the ball itself must be the truthmaker for "the ball is yellow" at t_2. Rather, the truthmakers for these propositions, the first of which is true at t_1 (but false at t_2) and the second at $t2$ (but false at t_1), is the specific *way the ball is colored* at the relevant times: its redness at t_1 and its yellowness at t_2.

---

[15] Armstrong (2010), p. 11.

1.3.2 Getting clearer about properties

To make better sense of the idea of properties as *ways of being* – including how properties
thus understood fit into the substance ontology I am assuming as a foundation in this
thesis – a number of further questions about properties ought to be addressed.

1.3.2.1 Universals and particulars

First, if I am right that qualities are fundamental existents, then are these items particulars
or universals? (A universal would be something which is 'repeatable' – that is, some *single*
thing which can somehow exist, or else be instantiated, in different places at the same
time; a particular would be a 'one-off', something not repeatable in this sense.) As Lowe
observes, the term "way of being" is ambiguous:

> The thought, then, is that properties are *ways things are*. That being so, however, it
> is natural to try to distinguish between a 'way' two or more *different* things may be
> and a 'way' just one thing is – a 'way' that is necessarily unique to just one thing.
> And this would correspond, it seems, to the distinction between properties
> conceived as universals and properties conceived as particulars.[16]

Lowe's own answer here is to accept *both*. He adopts a four-category ontology consisting
of fundamental categories of (i) objects, (ii) modes, i.e. particular properties (and perhaps
relations), (iii) kinds, and (iv) attributes, i.e. property and relation universals.[17] (He does not
consider events to comprise fundamental categories of their own, believing that these can
be accounted for reductively as changes in objects' properties and relations.) Kinds and
attributes are universals, while objects and modes are concrete (spatiotemporal[18])
particulars and *instances of* kinds and attributes, respectively. On Lowe's immanent
realism about universals, a given universal (kind or attribute) exists only insofar as it is

---

[16] Lowe (2006), p. 90.

[17] Lowe speaks throughout his (2006) as though he regards the categories *mode* and *attribute* as
comprised of both properties (ways objects are) *and* relations (between objects). But he is, I
believe, sympathetic to the idea that all relations might be what are called 'internal' relations –
that is, relations the holding of which do not involve any 'addition of being' beyond just the
items said to stand in the relevant relation. The truthmakers for truths about such internal
relations are non-relational features of the world – i.e., there is no need for relations
themselves as truthmakers, so relations are not regarded as fundamental existents in their
own right. I too am sympathetic to this view; although I will remain officially neutral on the
question here, I will mostly relegate mention of relations, when discussing fundamental
ontological categories, to the occasional parenthetical "and perhaps relations", as above. For
discussion, see Chapter 7 of Heil (2012).

[18] That is, existing in space and time. We might suppose that objects exist in space and time most
'directly', while modes (objects' ways of being, i.e. qualities or intrinsic properties) exist in
space and time in a 'derivative' sense – namely, in virtue of being the modes of those
particular objects.

instantiated somewhere in the world – where its being instantiated is a matter of there existing a literal *instance* of it, i.e. the relevant particular object or mode.

Why, with respect to substances as well as properties, should we accept *both* particulars and universals, for a total of four fundamental ontological categories? Lowe believes – correctly, it seems to me – that concrete particulars are needed because only such items can act or participate in causation in some way: e.g., it makes little sense to say that a property *universal* (or perhaps an event which is the *onset* of this property universal) is literally produced as an effect in some causal exchange. Meanwhile both kinds and attributes are needed, he thinks, for two main reasons. First, because they help to deliver laws of nature: Lowe regards laws of nature as 'facts' (states of affairs which are actual), and which consist in some *kind* being 'characterized by' one or more *attributes*, i.e. by certain property or relation universals. (For Lowe, 'characterization' is a formal ontological relationship, alongside 'instantiation' and 'exemplification'.[19]) Thus, for instance, it might be a law of nature that water dissolves salt: this would be, at a minimum, to say that the kind *water* is characterized by the universal *dissolves salt* ("dissolves" here being used in its transitive sense). Second, Lowe thinks that having these four categories makes possible a distinction which he takes to be essential to making good sense of powers – that between what he calls 'dispositional' and 'occurrent' predication, to individual objects, of attributes (property and perhaps relation universals). For Lowe, to say that an object *x* is disposed, or has a power, to ϕ in relevant circumstances is to say that *x* is an instance of a kind which is characterized by the attribute ϕ-ing (where an instance of ϕ-ing by *x*, a particular activity or doing, is apparently to be understood as a property, a way *x* is).

Although I want to remain officially neutral in this thesis with respect to question of whether universals exist, I will go on to offer some suggestions that cast doubt on their serving any useful purpose. In the Conclusion, I make a few very brief remarks about apparent implications of my *QT Account of Powers* for a 'from-the-ground-up' account of laws of nature (as opposed to, e.g., a 'top-down' or 'governing' account, according to which objects do what they do at least in part *because of* the laws of nature). Since qualities serve as truthmakers for relevant propositions about objects' behavior *as a matter of necessity*, so-called 'laws' about such behavior take the form of generalizations, at varying degrees of specificity, of these propositions. There is no need here, I believe, to posit the existence of universals of any kind; all that is required is being able to 'abstract away' from the particularity of properties and objects in order to consider what makes two or more (real or imaginary) objects *similar* separate from each's various other qualities. Meanwhile, I am doubtful that Lowe's distinction between dispositional and occurrent predication can adequately account for ascriptions of powers. For one thing, I believe

[19] See Lowe (2006), Chapter 3.

there are strong grounds for drawing an ontological distinction between *doings* and *ways of being*; see section 1.3.2.5, including discussion of so-called 'dynamic' properties, below. For another, to say that objects of the kind *water* are 'characterized by' the attribute *dissolves salt* hardly seems to explain anything on its own. Although there are various – and not always consistent – details to consider in order to fairly judge Lowe's view of powers, I set the matter aside here.

In discussing the role of objects' qualities (ways of being) as the needed truthmakers in Chapter 4, I hold that while the acceptance of universals is at least compatible with my account of powers, this is only so if we also accept modes – particular properties – as *instances* of these universals. This is because the relevant truthmakers must be *intrinsic to* objects, and the only clear way of making sense of the idea of 'instantiations' or 'exemplifications' of universals is by admitting particulars as the literal *instances* of these universals. For this reason, throughout this thesis when speaking of properties, qualities, or ways of being, I will mean precisely *modes*, i.e. *particular* properties, unless I specify otherwise.

1.3.2.2 'Genuine' properties

In addition to using the term "property" to refer to *particular* properties, I also intend for it to refer only to *genuine* properties – by which I mean *ways objects are* which are not themselves reducible to anything else (e.g., to conjunctions or disjunctions of more fundamental properties; or to facts, conjunctions of properties and facts, and so on).

Why might we even think to draw a distinction between 'genuine' and 'non-genuine' properties in the first place? The reason is because it seems that not everything that can be meaningfully predicated of something else can really be a *property* of that thing – a *way that thing is*. As Lowe observes:

> Assuming that properties, if they exist, are items that are predicable of other items, it seems that we must suppose the predicate 'is not predicable of itself' … to be meaningful. But if this predicate denotes a property, it presumably denotes the property of being non-self-predicable. And hence, since 'is non-self-predicable' is a meaningful predicate, it must either be true or else be false that the property of being non-self-predicable is non-self-predicable. However, if it is true, then it turns out that that property is, after all, predicable of itself; and if it is false, then it turns out that that property is, after all, not predicable of itself. So we apparently have a contradiction on our hands.[20]

---

[20] Lowe (2006), p. 87.

One solution to this might be to draw a distinction between so-called 'abundant' or 'non-natural' properties, on the one hand, and 'sparse' or 'natural' properties on the other. The abundant properties would be, say, those denoted by *any* meaningful predicate which does not yield a contradiction. Thus we might invent a new term "blerical" to refer to something's being both blue in color and spherical in shape at the same time, and then understand the predicate "is blerical" to denote a *single* (abundant) property of *being-blue-and-spherical*.

My preference, however, is simply to refuse to countenance abundant or non-natural properties in the first place; the only real properties are the 'genuine' (irreducible) ones. There is, e.g., the property of *being blue* (or, rather, properties of being the various specific shades of blue), and the property of *being spherical*, and the property of *being negatively charged*; each of these is, prima facie, a genuine quality, a *way an object might be*, which is not itself reducible to anything else. But there is no genuine property of *being-blue-and-spherical*, nor any property of *being-blue-and-spherical-and-negatively-charged* (nor, for that matter, a property of *being-blue-and-spherical-and-John's-favorite-ball*, or a property of *being-blue-and-spherical-and-such-that-today-is-Monday*, etc.). Although inventing new terms to refer to such conjunctions – or to refer to disjunctions like *being-blue-or-being-spherical* – might prove useful in certain special contexts, such predicates should not be thought of as referring to genuine properties, i.e. to irreducible ways objects are. Some object's being, say, blue and spherical is not itself a way that object is, but rather a *fact* constituted by the object, its particular blueness, and its particular sphericity. (By a 'fact' I mean a state of affairs which is actual at the relevant time.) The same goes for an object's being, say, blue-or-negatively-charged: this is a fact constituted either by the object and either its particular blueness (if this exists), its particular negative electrical charge (if this exists), or by both of these (if both exist). And an object's being blue and such that today is Monday is a fact constituted by the object, its particular blueness, and something which is not a property of the object at all – the set of conventional (or historical, sociological, whatever) circumstances which taken together amount to today's being Monday.

On what grounds do we determine *when* a meaningful predicate denotes a genuine property? The question is notoriously difficult to answer. David Lewis characterizes the so-called 'sparse' or 'natural' properties in the following way before going on to suggest that 'naturalness' might come in *degrees*:

> Sharing of them makes for qualitative similarity, they carve at the joints, they are intrinsic, they are highly specific, the sets of their instances are ipso facto not

entirely miscellaneous, there are only just enough of them to characterize things completely and without redundancy.[21]

Lewis suggests we not worry very much about whether there are abundant properties in addition to sparse properties – for, as he sees it, an "adequate account of what there is" should accommodate both conceptions.[22]

But as I hinted above, I think that we can do better once we take seriously the idea that properties are *ways objects are*. We can say that a meaningful and non-contradictory predicate refers to a genuine property (of an object) if and only if that predicate refers to (a) a specific *way an object is* which is (b) *not itself reducible to anything else*, such as a conjunction or disjunction of ways an object is or might be. The point of the italics here is to remind us what we should be looking for – what the relevant grounds are for determining whether a predicate actually refers to a genuine property. The predicate *is-blue-and-spherical* does not so refer, because being-blue-and-spherical is reducible, at the very least, to being blue and being spherical. Neither does the predicate *is-John's-favorite-ball* refer to a genuine property, since what this really refers to, upon inspection, is not a *way the ball is* but a fact concerning John and the ball – a state of affairs which consists of John, certain properties of John (say, certain of his mental and/or brain states), and perhaps the ball as well. The predicate *is-negatively-charged*, on the other hand, plausibly does so refer – though it is an empirical rather than a priori question whether *being negatively charged* really is irreducible to, say, more fundamental ways of being (perhaps even in a way which makes negative charge 'multiply realizable').

In the light of my claim, in Chapter 4, that *all* genuine properties of objects serve as truthmakers for various special kinds of propositions, we get a further criterion for identifying genuine properties: they are all and only those specific *ways objects are* which serve as fundamental truthmakers for the relevant propositions.

In Chapters 2-4, I follow Lowe in holding that while expressions involving powers *sound like* predications or ascriptions of properties, we should not be misled by the syntax of language into automatically regarding such expressions as predications of genuine properties or features of objects. What sentences of the general form "x has a power to ϕ" 'refer' to or gesture at is, at a minimum, its being true that x either could or would ϕ in relevant circumstances (see discussion of **POWER₁** above); and *this* is not itself a way an object is. My *QT Account of Powers* holds that while 'powers' are not themselves existents of any kind, reference to powers can ultimately be understood as a 'shorthand' for the truthmaking relation which holds between objects' qualities and relevant propositions about how those objects would behave.

---

[21] Lewis (1986a), p. 60.
[22] Lewis (1986a), p. 60.

<u>1.3.2.3 Intrinsic versus extrinsic properties</u>

Another distinction some might think to make is between 'intrinsic' and 'extrinsic' properties. Following George Molnar, I understand intrinsic properties as those "the having of which by an object in no way depends on what other objects exist".[23] More specifically, an intrinsic property of object *x* is a property of *x*, a *way x is*, the existence of which does not depend for its existence upon the existence or not of any object or other sort of item which is wholly distinct from (neither identical with nor a proper part of) *x*. An 'extrinsic property', then, would be a property of an object the existence of which does so depend.

Are there any extrinsic properties which really are genuine properties – i.e., which are irreducible *ways objects are*? I am skeptical, and would urge again that we should not be misled here by language. Consider some examples of types of (would-be) extrinsic properties: *being a father*; *being John's favorite ball*; *being the current President of the United States*; *being born on a Tuesday*; *being the shortest living human being*. None of these, I submit, is an *irreducible way an object is* (or way an object could be); rather, what the relevant concepts refer to are *facts*, i.e. actual states of affairs which are themselves composed of more fundamental existents. Being a father, we might suppose, is a matter of (i) being male and (ii) having at least one child – where 'being male' is presumably reducible to some set of more fundamental intrinsic properties and 'having at least one child' is a fact consisting of numerous objects plus certain relevant complex biological and/or conventional facts including, perhaps, certain relations between objects. Similar analyses apply to the other examples. In any case, I can remain officially neutral with respect to the question of extrinsic properties, since the properties which matter for my *QT Account of Powers* are strictly the *intrinsic* properties of objects. Henceforth it will be exclusively these to which I intend to refer by the terms "quality" and "property".

<u>1.3.2.4 Can properties 'have' genuine properties of their own?</u>

Until now I have spoken exclusively of the properties of objects – of ways *objects* are. Might it be the case that fundamental (irreducible) existents other than objects – e.g. properties or events – can 'bear' genuine properties, i.e. *be certain ways*? We certainly appear to speak quite commonly as though such items can themselves be certain ways. Consider first whether there might be 'higher-order' properties, that is, properties of properties. Lowe considers the sentence "The property of being red is a color-property":

> Even if we assume that there is such a property as *the property of being red* and
> that 'The property of being red is a color-property' is a true sentence, it is another

---

[23] Molnar (2003), p. 39.

matter to conclude that *the property of being red* possesses *the property of being a color-property*, because we have no automatic right to assume that the noun phrase 'the property of being a color-property' refers to anything [or at least, any *irreducible existent*] at all.[24]

The point here is that although the sentence "The property of being red is a color-property" is uncontentiously true, we should not simply allow syntax to automatically guide our ontological conclusions, in this case the conclusion that there is some 'higher-order' property borne by *the property of being red*. As Lowe urges, the syntax of natural language "has no doubt evolved in a way that is sensitive to ontological distinctions", but it is nevertheless "influenced by many other factors which make it an unreliable guide to ontology".[25]

To help us determine whether a given predication refers to a genuine property of something besides an object, we can generalize my 'reminder' above in the following way: a meaningful and non-contradictory predicate refers to a genuine property if and only if that predicate refers to (a) a specific *way something* [object, property, relation, event, etc.] *is* which is (b) not itself reducible to anything else. Does it make sense, then, to regard *being a color-property* as a way that *the property of being red* is or could be – let alone a way of being which is *irreducible* to anything else?

What we have here is an instance of the determinable-determinate distinction: being red, or rather being some *very specific shade of red*, is a specific way that *an object* might be colored. An object which is colored some very specific shade of red can truly be said to (i) be that specific shade of red *and* (ii) be red *and* (iii) be colored; but the only genuine property, way of being, on the scene here is the object's *particular redness* – and it is this singular, fully specific *way of being* which serves as the truthmaker for propositions of forms (i), (ii), and (iii). Thinking in terms of 'determinables', it seems, involves a kind of abstraction away from the specific characters of 'determinates' in order to consider grounds upon which we might classify or taxonomize (real or possible) determinates.

Once we refuse to let syntax direct ontology, there appears to be no good reason to suppose either that the object has three distinct but related properties – *being that specific shade of red*, *being red*, and *being colored* – or else that the object's particular redness, its intrinsic property, itself bears some 'higher-order property' of being a color-property, or being a redness-color-property, etc. The upshot, if this conclusion can be generalized to other proposed examples of 'higher-order' properties, is that while we can certainly *taxonomize* objects' properties (e.g., by means of the determinable-determinate

---

[24] Lowe (2006), p. 71. My italics.
[25] Lowe (2006), p. 71. My italics.

distinction), we seem to have no reason for supposing that *ways of being* can themselves literally *be certain ways*, whether essentially or accidentally so.

1.3.2.5 Can events 'have' genuine properties of their own?

What, then, of *events* – might these items bear genuine properties, i.e. *be certain ways*? How this question is to be answered might well vary depending upon how we conceive of events in the first place; and there are, of course, a variety of conceptions on offer in the literature. My suggestion, as part of the ontology being assumed here, is that events are irreducible existents in their own right, and come in at least one but perhaps two main sub-types. There are, first, *actions* performed by individuals objects: various things objects literally *do*. The idea that there really is activity or behavior in the world, by objects, is essential to both my *QT Account of Powers* and to the account of causation which I build upon it – and prima facie supported, I will claim, by our own first-person experiences as both 'agents' and 'patients' in the world. Second, there are *changes* in the properties (and perhaps relations, if any relations are fundamental existents[26]) of objects, which might occur either spontaneously (and thus be uncaused) or else when objects are acted upon causally by one another (and thus be effects). Actions and changes are occurrences, happenings: things objects *do*, or else which they have *happen to them*.

In section 4.2, I offer prima facie compelling reasons for thinking that *activities – doings* – are genuine occurrences and indeed fundamental existents. We are familiar with our own performance of various types of action, as well as the performance of actions upon us by other objects. These doings cannot be either eliminated or reduced to something else – for there is nothing suitable which can serve as the *truthmaker* for a proposition of the form *x* is φ-ing other than *x*'s *activity* of doing φ (or, in the case of liabilities, some activity which is another object's causing a relevant change to *x*).

But even if this is right, is it really correct to suppose that *changes* in objects' properties (and perhaps relations) are likewise ontologically irreducible, and constitute their own sub-category of events? Although I lean toward reifying change-events, the accounts of powers and causation I offer in this thesis can perhaps remain neutral. Maybe there can be changes in objects' properties which are, say, purely stochastic (random); set these aside. In Chapter 7, though, I will suggest that what is *produced* in instances of causation are precisely changes in objects' properties: what is produced or brought is not a property of a relevant patient-object (e.g., that object's particular sphericity), but rather an *occurrence* which is the patient-object's going from having one property, i.e. one way of being, to another, distinct property (e.g., going from having one shape to another). Must effects, part of the causal 'relata', be existents in their own right? This is not clear.

---

[26] See fn. 17 above.

To say that from t_1 to t_2 x changed in respect of, say, its way of being shaped is to say that x had one shape at t_1 and a different shape at t_2. What could be the truthmaker(s) for this truth? Perhaps we can make do with just x's particular shape at t_1 *plus* its particular shape at t_2: this is to say that the proposition is true *in virtue of* x's really having one shape at t_1 and a different shape at t_2 (where the 'fact' of x's really have one shape at a given time *just is* that particular way of being shaped of x at the relevant time, i.e. x's shape mode). In that case, there would be no need to reify changes themselves; change-events would not be needed as truthmakers.

Whether or not change-events are ontologically irreducible, can either objects' actions or changes in objects' properties be things which themselves have properties, i.e. be things which *are certain ways*? We can of course speak meaningfully of 'ways of acting', but this is just to distinguish different varieties of action, for purposes of classification, rather than to suggest that actions can themselves have *ways of being*. We might say, for example, that "yesterday's tutorial was boring" or that "the Battle of Gettysburg was the bloodiest battle of the Civil War" – thereby appearing to predicate of yesterday's tutorial the property of *being boring*, and of the Battle of Gettysburg the property of *being the bloodiest battle of the Civil War*. But one problem with such examples is that neither yesterday's tutorial nor the Battle of Gettysburg counts under either of my two main types of event: neither is itself an instance of action by an object or else a particular change in an object's properties or relations. Rather, these two items are better understood, I believe, as *composites* or *sums* of, among other things, a very large number of such events. Indeed it is plausible that the majority of the 'events' or 'happenings' we are interested in – with the possible exception of individual human actions (e.g., a choice to raise my right arm) and perhaps changes in certain mental properties (e.g., the onset of a desire to ask a question) – are really such complex composites or sums rather than individual events in their own rights.

Are there any compelling examples of sentences which *do* take individual events as their subjects and then predicate of those events (a) ways of being which are (b) not reducible to anything else? Consider the sentences "Steve's walking up the stairs is very slow" and "Joe's talking was loud", where walking and talking are understood as both events (or processes[27]) and actions, things Steve and Joe *are doing* (or *have done*). Could someone's activity of walking bear the property of being *very slow*, or someone's activity of talking bear the property of *being loud*? It seems not: to say that Steve is walking slowly while Mary walking quickly is to say that Steve and Mary are performing different kinds of action – not that they are performing one and the same kind of action but where each's

---

[27] I have no committed view here about *what* processes are, as distinguished from events. Perhaps processes are sequences of events; or perhaps events are occurrences which happen *at* instants in time (i.e. have no duration) while processes happen *over* instants (i.e. have a duration).

action itself has a different property. Walking slowly or walking quickly is a thing a *person* does; but walking simpliciter is not something which can bear properties (being slow, being quick) of its own.

There are of course many things we can say *about* individual events; but once we bear in mind Lowe's caution against simply letting syntax dictate ontology, it is not clear what a plausible example of a *way some event is* might be. There certainly seem to be complex taxonomies of *varieties* or *types* of actions and changes in objects; but we can distinguish events from one another based on *what* they are, rather than *how* they are. The emission of an alpha particle by a radium atom is an action-event which perhaps has a certain character or nature that might distinguish that event from other ways the atom might act; but having such a character or nature is not, it would seem, a matter of that emission's literally having properties (specific ways of being) of its own.

1.3.2.6 Static versus dynamic properties

One final distinction to consider here is that between what might be called 'static' and 'dynamic' properties. A number of theorists in the powers literature seem to rely upon something like this distinction without ever explicitly mentioning or explicating it. To complicate things further, there are a variety of different ways of drawing a distinction here.

For instance, Lowe variously describes manifestations of powers as actions – or as having actions performed upon oneself, in the case of liabilities – *and* as properties. Although he is not explicit about the point, we might take this to suggest two irreducible sub-types of properties: states, which are simply *ways objects are* (e.g., being spherical) that do not themselves necessarily involve any kind of *doing*; and actions or doings, *things objects do* or *ways objects behave* (e.g., creating a concave impression in some other object). On this picture, we might call states 'static properties' and actions 'dynamic properties'. The problem is that this way of organizing our fundamental ontological categories runs things too closely together: objects' actions, their *doings*, are too unlike *ways objects are* to assimilate the two under the genus *properties* – especially since our initial basis for getting our heads around the concept *property* (section 1.3.1) was understanding properties in general as *ways objects are*. On this way of making a distinction between static and dynamic properties, then, only the former are genuine properties; so-called dynamic properties are really just actions, which comprise (at least part of) a different fundamental ontological category altogether (namely, the category of *events*).

Lawrence Lombard offers a somewhat different version of the distinction which marks out three types of property: what he calls static, instantaneous dynamic, and dynamic. A 'static' property is one whose "being possessed at some particular time by an object does *not* imply that that object has changed, is changing, or will change"; examples

might include the properties of *being blue*, or *being spherical*, or (perhaps) *being negatively charged*.[28] Any sort of change to an object, Lombard suggests, must involve that object having and then lacking some such static property (or, as he later clarifies, having one static property and then having another).[29] An 'instantaneous dynamic' property, meanwhile, is a property "such that, if an object has [that property] at some time, that object is changing at that instant"; his examples include *being a presently shrinking thing*, *being a thing having instantaneous velocity v*, and *being a thing that is turning green*.[30] Suppose, then, that object *x* has some instantaneous dynamic property at time *t*. Because having such a property at *t* means that *x* is *changing* at that same time, this entails that there must be some *duration* of time, which includes the instant *t*, during which that object has and then lacks a relevant static property. This, he says, is because change takes time:

> … while an object can be *changing* at an instant, an object cannot *change* at an instant. At no *instant* can an object have and then lack a property. But at an instant an object can be changing, can be *in the process of* having and lacking a property, by having an instantaneous dynamic property.[31]

Finally, if object *x* has an instantaneous dynamic property at *t*, then it must also have, during some interval which includes the instant *t*, what Lombard calls a 'dynamic' property – a property "the possession of which at that interval by the object implies that *at that interval* the object is changing from having to lacking a static property".[32] In fact, Lombard says, such a dynamic property:

> … just is the property of first having and then lacking a (or having another) static property. It is a property such that at instants, in the interval during which the object has that dynamic property, the object has some instantaneous dynamic property (or properties).[33]

Lombard illustrates this picture with the example of the dynamic property of *reading a book from cover to cover* – a property which the relevant person has during some interval of time (includes at least the moment he begins to read as well as the moment he finishes reading the book). There is no *instant* during this interval, or *proper part* of it, at which the person has the dynamic property of *reading a book from cover to cover*; though at every instant, and collection of instants, during that interval the person has the

---

[28] Lombard (1986), p. 104. Italics in original.
[29] It is unclear whether by "change to an object" here Lombard means intrinsic changes in particular, or else intends to count relations – or supposed relational or extrinsic properties – as static properties.
[30] Lombard (1986), p. 104. Italics in original.
[31] Lombard (1986), pp. 104-105. My italics.
[32] Lombard (1986), p. 105. My italics.
[33] Lombard (1986), p. 105.

instantaneous dynamic property of *being in the process of reading the book from cover to cover*.[34]

One main question for Lombard's distinction concerns whether it really sets out three types of *genuine* properties of objects, i.e. irreducible *ways objects are*. Static properties are straightforward enough: when I speak of properties in general as being *ways objects are*, what comes most immediately to mind are states like *being blue*, *being spherical*, *being negatively charged*, and so on – ways of being which do not themselves somehow *involve* the object's *doing* anything or *undergoing change* of some sort (though they may *entail* either or both of these). But what exactly does it mean to be (i) a property such that, if an object has that property at some instant, that object is changing at that instant; or (ii) a property the possession of which at that interval by the object implies that at that interval the object is changing from having to lacking a static property? Is there really a genuine property of, as Lombard puts it above, "first having and then lacking a (or having another) static property"?

Consider two of the examples offered by Lombard: *being in the process of reading a book cover to cover* is supposed to be an 'instantaneous dynamic property' which an object can have at both specific *instants* and 'collections of instants'; while *reading a book cover to cover* is understood as a 'dynamic property' which an object can have only over some relevant *duration*. But do the phrases "being in the process of reading a book cover to cover" and "reading a book cover to cover" really refer to irreducible *ways a person is* at some moment or over some duration, respectively?

It seems not. To say that Fred is, at some instant *t*, 'in the process of reading a book cover to cover' is not to describe some specific *way Fred is* at *t*, but is instead to describe a *complex fact* involving Fred – one comprised, we might suppose, of the simpler facts (a) that Fred began the activity of reading the book at some moment prior to *t* and did not stop reading at any time up to *t*, (b) that Fred is engaged in the activity of reading the book at *t*; and (c) that Fred has, at *t*, an intention to continue the activity of reading the book, without stopping, until the end.[35] Similarly, to say that Fred is (or was), over some duration, 'reading a book cover to cover' is not to describe some specific *way Fred is (or was)* during that duration, but is instead to describe a *complex fact* involving Fred – namely, that he began the activity of reading the book at some moment during that duration, and then continued the activity of reading the book without stopping until he reached the end of the book at some later moment during that same duration.

---

[34] Lombard (1986), p. 105.
[35] Note that "reading a book" does not actually seem to refer to a single activity, but rather to a sum of individual activities: to reading and understanding the printed words, flipping the pages, and perhaps more besides.

The same sort of conclusion can be drawn regarding Lombard's other examples of instantaneous dynamic properties: namely, that these are not genuine *ways objects are* at some moment. Rather, what the relevant terms refer to are facts about those objects – facts which include as constituents certain *events*, namely the relevant object's *acting* or *changing* in some way (or perhaps both). The lesson here is the same as before: we must not let syntax guide our ontological conclusions. The upshot is then that Lombard's distinction involves only one type of *genuine* property – what he calls the 'static' properties.

The true loci of 'dynamism' in the world, I suggest, are events and processes: the various *actions* performed by objects as well as the *changes* (caused or uncaused) which they undergo. All properties, ways of being, are 'static'; but all events and processes, happenings, are 'dynamic', insofar as these things involve doings or movements of some sort.

1.3.3 The ontological priority of individual substances

Having examined in some detail the nature of objects' properties, we can now return to the idea that objects have a kind of ontological priority over existents of any other sort – even other fundamental (i.e. ineliminable and irreducible) items. I have proposed in this section a basic ontology which includes at least three fundamental categories: those of (i) substance, (ii) property (and perhaps relation), and (iii) event. I take these categories to be comprised of particulars rather than universals, though I can remain officially neutral here about the existence of universals in addition to particulars (subject to the caveat given at the end of section 1.3.2.1).

I have suggested that we should regard all genuine properties, irreducible *ways of being*, as 'intrinsic' and 'static'; I have also proposed that only individual objects can literally be regarded as 'bearers' of genuine properties. I therefore use the term "quality" to refer to the genuine, intrinsic, static properties of objects – the various specific *ways objects are*.

The basic ontology assumed here is a 'neo-Aristotelian substance ontology' primarily because it regards individual substances as (a) irreducible to items from any other ontological category *and* as (b) having a kind of ontological priority over items from other categories. What does this 'priority' amount to? Consider the 'relationship' between objects and their genuine properties. Being *ways objects are*, such properties depend both for their existence and for their identity on the objects which 'have' them. This is precisely to say that a particular property, a mode, thus cannot somehow 'break away' from the object whose way of being it is, going on to either 'float freely' or else 'joining' or 'attaching to' some further object; that is, modes can neither exist 'by themselves' nor be transferred from one object to another. Rather, as Lowe puts it, a mode "can only exist as the property

34

of *that very* individual substance".[36] The kind of existential dependence of modes upon their 'bearers' (the objects they characterize) is what Lowe calls *rigid existential dependence*: a particular mode depends for its existence not on there being *just any object at all*, but on the *specific* individual object whose way of being it is. And this mode is individuated, at least in part, in terms of that very same object: e.g., *x*'s particular *way of being shaped* not only could not exist without *x*, but is distinguished ontologically from other objects' particular ways of being shaped precisely by being the way that *x* is shaped.

The same is true of events: insofar as there are no 'objectless' events – that is, insofar as everything which literally happens or occurs in the world is either the activity of an object or else a change in the properties or relations of an object – events depend for both their existence and their identity on the objects whose actions or changes they *are*. (We might name examples of occurrences with respect to which we have no idea of the objects involved; but a lack of knowledge of any objects involved does not by itself entail that no objects at all are involved in the relevant occurrence.)

But these sorts of dependence relations do not run in the opposite direction; indeed they *could not* run in both directions simultaneously, since this would entail nothing ever having its existence or identity *fixed* or *grounded*. The existence and identity of at least some items must be brute, i.e. not depend upon the existence of any other things besides those items. These items are precisely individual objects – which, though they cannot exist without having *some* properties (ways of being) or other, are not plausibly regarded as depending for either their *existence* or their *identity* on items from any other ontological category.

1.4 Summary

I began this chapter by offering **POWER₁**, a starting-point for discussion of powers *to act* and *to be acted upon* which is neutral with respect to the three fundamental metaphysical questions which any account or analysis of powers must answer: the *Ontological*, *Scope*, and *Explanatory Questions*. I then made explicit a crucial assumption underlying the two accounts on offer in this thesis: basic elements of a 'neo-Aristotelian' substance ontology. This ontology includes fundamental categories comprised of individual objects, properties (conceived as *ways objects are*), and events (understood as either things objects do or else as changes in objects' properties) – with objects themselves having a special kind of priority over properties and events.

---

[36] Lowe (2006), p. 27.

Chapter 2 - Properties and Powers: The Contemporary Debate

My aim in this chapter is to provide a concise general overview of the recent debate about the metaphysics of powers, focusing on the terms in which that debate is typically cast and on the variety of competing positions on offer. (By "the debate" I mean, of course, to capture a range of metaphysical and other questions about powers, including in particular the three fundamental questions named in section 1.2.) Having identified some of the main motivations and commitments of participants in the debate, I can then situate within it my own approach to powers – the *Qualities as Truthmakers (QT) Account* (Chapter 4).

In Chapter 1, I offered what I take to be a neutral, barebones initial characterization of powers *to act* or *to be acted upon*:

> **POWER$_1$**: x has a power to $\phi \equiv x$ either could or would ϕ, in appropriate circumstances.

I begin in this chapter by identifying and criticizing several quite standard ways of characterizing powers, generally offered as starting-points at the outset of discussion, which go well beyond **POWER$_1$** in several respects (and thus fail to achieve the requisite initial neutrality with respect to the *Ontological*, *Scope*, and *Explanatory Questions*). One main theme here is my rejection of an assumption that appears widely shared, yet is very rarely examined in any explicit detail: the idea that *if* powers can be truly predicated of things (at least in a way where no 'reduction' is possible[37]), then we must understand powers themselves as *properties* or *features* of those same things. Another way to put the idea is to say that powers are '*would-be*' properties or features – that if we can truly say that something 'has' a power to ϕ, then we should understand that power to ϕ itself as a property or feature of that thing. Across this chapter and the next two, I will argue that this sort of answer to the *Ontological Question* is problematic and unwarranted.

Following this, I attempt to set out, as neatly as possible, some of the main positions open to those who might be regarded as skeptics or anti-realists about powers and powers-language. Chapter 3, in turn, is focused on examining a range of views offered by those who ostensibly take powers more 'seriously' – those who accord powers, or at least reference to powers, some central role in an overall metaphysics.

---

[37] That is, at least, predicated of things in such a way that it is not possible to understand reference to powers in a reductive fashion; see discussion of the method of conditional analysis in section 2.3 below.

2.1 Common conceptions of powers

My initial characterization **POWER₁** says that some item x 'has' a power to ϕ if and only if x either could or would ϕ in appropriate circumstances. Put another way, to say that some x 'has' a power to ϕ is (in part) to say that x itself is *able* or *disposed* or *empowered* to ϕ in appropriate circumstances. What makes **POWER₁** 'barebones' is the fact that it contains no content the inclusion of which depends upon any correct answers to the *Ontological*, *Scope*, and *Explanatory* questions. It says nothing, for instance, about what exactly powers *are* – nor for that matter does it suggest, even implicitly, that powers themselves are to be understood as *existents* in the first place. **POWER₁** is therefore a useful starting-point for the discussion of the existence and explanation of powers *to act* or *to be acted upon* – one which does not beg any questions against particular accounts or theories of powers prior to careful consideration of the *Ontological*, *Scope*, and *Explanatory* questions.[38]

But recent discussions of powers often see the notion of power initially introduced – when indeed there is any explicit effort to do so – by means of one or another much stronger characterization than this. My aim in what follows is to examine three of the most common conceptions of powers that can be found in the literature. Each of these three, at least understood in its most general sense, appears compatible with the other two – and it may well be that many theorists incorporate more than one of them into their understanding of powers, even if not explicitly.

2.1.1 The Directed Conception of Powers

George Molnar suggests that powers are properties which "have an object towards which they are oriented or directed", namely their (types of) 'manifestations'; powers, he says, are thus "properties *for* some behavior".[39] Others sometimes follow suit; e.g., Erasmus Mayr describes powers as "properties of substances, or of other stuff, that are by definition

---

[38] Though note, again, that while understanding powers as powers *to act* or *to be acted upon* is both the natural approach and consistent with commonly cited examples of powers, there are some – e.g. Neil Williams – who instead conceive of powers as powers *for states of affairs*. As I said in Chapter 1, I will ultimately regard this as an unjustified departure from the natural starting-point expressed in **POWER₁** – because, I claim, we can and should make good sense of the idea of powers *to act* and *to be acted upon* (namely, because we have reason to think there really is *activity* in the world).

[39] Molnar (2003), p. 60. It is worth noting that while Molnar describes properties-cum-powers here as powers *for*, this seems to be different from the way Neil Williams does it: Molnar's powers are powers *for behavior*, which appears to be equivalent to describing them as powers *to behave*, whereas Williams' powers are powers *for states of affairs* (with no explicit mention of, or commitment to, the idea that there is any real behavior or activity). See discussion of Molnar and Williams on powers and causation in Chapters 3 and 5.

directed at certain changes called (effects of) 'manifestations' of those powers".[40] We might call this general way of characterizing powers the *Directed Conception of Powers*:

> ***Directed Conception of Powers***: Powers are properties (or otherwise features) of the things to which they can be truly ascribed, which have something toward which they are (necessarily or 'by definition') directed or oriented – namely their (types of) manifestations (or perhaps effects of their manifestations).

Notice that the *Directed Conception* says two things about powers: first, that they are *properties* of the things that 'have' them (i.e., the things to which they can be truly ascribed); and second, that they are properties which are *directed toward* something beyond themselves.

Now, on my initial characterization **POWER₁**, to ascribe to *x* a power to ϕ is, at a minimum, to say that, in appropriate circumstances, *x* either could or would ϕ, for some relevant type of activity ϕ-ing. A given power, in other words, is always by definition a power to do, or have done to oneself, a particular type of activity. But it is hard to see what, besides this, it could mean to say that a property – a *way something is* – can be 'oriented' or 'directed toward' something else. Talk of orientation or direction, or of pointing toward something, is best understood in geometric terms, as when we speak of a ship being oriented toward the bay or a person using her arm and hand to point to some physical 'object'. Consider, then, the basic idea of something's having a power to ϕ: does it make any clear sense to say that the power to ϕ, whatever exactly it is, is literally oriented or directed toward ϕ-ing? If the talk of directedness is only meant to be metaphorical, then how does the metaphor help us work toward an account of the metaphysics of powers?

One might modify the *Directed Conception* by suggesting that, instead of powers being properties which are themselves 'directed toward' certain types of behavior, powers are properties which consist in *their bearer's* being so directed – either in general (so long as it has just those properties) or else only when that bearer finds itself in circumstances of an appropriate sort.

Either way, the worry remains the same: there seems to be nothing in the idea of 'directedness' which helps us to understand either *what* powers are or, if indeed they are existents of some kind, what their nature amounts to. Talk of certain *mental* states being 'directed toward' so-called 'intentional objects' might perhaps be explicated in terms of those mental states somehow *representing* those further items. But despite Molnar's reference to a supposed 'physical intentionality' meant to be an analog of mental intentionality, there seems to be no hope for saying that powers, or powers-cum-properties, in general (including, e.g., powers of inanimate objects) literally represent their manifestations (or anything else, for that matter).

---

[40] Mayr (2011), p. 161.

Molnar, Mayr, and others who speak in terms of directedness do not give us much more to work with here. The upshot is that the *Directed Conception* appears to add only unclarity to the effort to understand the metaphysics of powers. Whether or not we suppose that powers are properties of the things which can be said to 'have' them, we can do without this way of characterizing powers. (It is worth noting that my *QT Account of Powers* could perhaps explicate 'directedness' or 'orientation' in terms of the truthmaking role that genuine properties play: a property might be described as 'directed' toward – or perhaps even described as being a property *for* – various kinds of activity by the bearer of that property in circumstances of appropriate types. But as there is nothing of value added by this metaphor, I think it best to avoid it altogether.)

2.1.2 The Enabling Conception of Powers

A second common way of characterizing powers has it that powers are properties which essentially or necessarily 'enable' or 'dispose' their bearers to act, or to be acted upon, in relevant ways in appropriate circumstances. Brian Ellis, for instance, understands powers (or 'propensities') as properties (namely, of objects) which "have identities that depend essentially on what they *dispose* their bearers to do".[41] Stephen Mumford and Rani Lill Anjum take a related line, suggesting that all properties are "clusters of powers" and that "the powerful properties of a thing, event or fact … enable it to participate in causation".[42] Elsewhere they say that powers "naturally dispose towards certain outcomes or manifestations".[43] (I examine the proposal that properties are 'clusters' of powers, and other elements of Mumford and Anjum's overall view of powers, in section 3.1.1.2.)

I call this general way of thinking about powers the *Enabling Conception*:

Enabling Conception of Powers: Powers are properties (or otherwise features) of the things to which they can be truly ascribed, which essentially or necessarily enable or dispose those things to act or be acted upon in some way(s) in appropriate circumstances.

Once the *Enabling Conception* is accepted as a starting-point (whether explicitly or implicitly), participants in the debate about powers go on to argue either that we do, or else that we do not, have good reason to believe in the existence of properties-cum-powers thus conceived – say, because of the 'work' that such items can or cannot do in a satisfactory overall metaphysics.

---

[41] Ellis (2010), p. 133. My italics.
[42] Mumford and Anjum (2011), p. 1.
[43] Mumford and Anjum (2012), p. 101.

But I want to urge that the idea that powers *themselves* are things which 'enable' (or 'dispose', 'empower', etc.) their bearers to act or be acted upon, whether or not their doing so is essential or necessary, does not make good conceptual sense – and that, like the worry about the *Directed Conception*, this result is not innocuous.

A power to φ cannot itself be something which enables or disposes its bearer to φ in appropriate circumstances, for one and the same type of activity φ-ing, because something's having a power to φ *just is* (at a minimum) that thing's being enabled or disposed to φ in those circumstances. Put another way, something's (having a) power to φ is not in any sense *prior to* that thing's being able or disposed to φ, as it would have to be for the *Enabling Conception* to work. Rather, to ask what it is that enables or disposes something toward some type of activity φ-ing is to ask *in virtue of what*, if anything, that thing 'has' a power to φ. (This, of course, is precisely the *Explanatory Question* about powers.) It would be trivial and uninformative to say that something has a power to φ in virtue of having a power to φ.

An example might help to illustrate the point. Suppose we want to say that a particular electron has a property(s) *Q* which (essentially or necessarily) enables or disposes that electron to repel other electrons. The most natural and perspicuous way to understand this claim is as saying that *Q* 'bestows' or 'gives rise to' a power to repel other electrons – where that power, whatever exactly its ontological status, is at the very least non-identical with property *Q*. (Indeed I endorse an answer to the *Explanatory Question* along just these lines as a part of the *QT Account of Powers*.) But according to the *Enabling Conception of Powers*, property *Q* itself apparently ends up being *identical with* the power to repel other electrons – and any repelling-of-other-electrons behavior performed by our original electron is a 'manifestation' of its property-cum-power *Q*. To put things this way is to conflate the 'enabler' with the 'being enabled'. If the power to φ is itself an existent of some sort (e.g., a property of the thing which can truly be said to 'have' it), it must be something *further* to the property(s) which gives rise to it.

It is a plausible supposition that those who accept the *Enabling Conception* as a starting-point do so because they are attracted to two ideas which the *Enabling Conception* in effect joins together. The first of these is the idea that properties 'empower' their bearers, i.e. 'bestow' or 'give rise to' the powers which their bearers 'have'. Another way to put this, as I have noted, is to say that things 'have' the powers they have in virtue of, or because of, the properties they have – so that appeal to this 'empowering' or 'bestowing' relation would yield an answer to the *Explanatory Question*. The second of these is the idea that powers are 'would-be' properties or features of the things which 'bear' them – i.e., the idea that if powers can be truly predicated of things, then we must understand powers themselves as properties or features of those same things.

As I have noted, while I accept (1), I will go on to reject (2) – holding that we should not reify powers themselves, but instead understand reference to the powers of individual objects as a convenient 'shorthand' for an important truthmaking relation. But it is worth noting that there are at least two ways of marrying these two ideas to one another. One of these is to accept the *Enabling Conception* at face value; this would be to take literally the claim that *powers themselves* are properties (or otherwise features) which enable or dispose their bearers to act or be acted upon in some way(s) in appropriate circumstances. But in addition to the incoherence described, this has the upshot of making it sound as though properties like *shape* and *size* – paradigmatic examples of qualities or so-called 'categorical properties' (see below) – literally have 'manifestations'. (What would be a manifestation of, e.g., sphericity? One cannot just say *being spherical*, since *being spherical* is not itself an *action* of any sort. See discussion in the next section.) A second way of joining (1) and (2) is to suppose that there are two genuine and irreducible kinds of properties: (i) those which 'enable' or 'dispose', i.e. those properties 'in virtue of which' things have the powers they have; and (ii) those properties which are themselves powers. This would be to adopt some version of a dualist or 'mixed' view of properties, which I briefly consider in section 3.3.

For the moment, one important upshot is this: if indeed there are properties which 'enable' or 'dispose' their bearers to act or be acted upon in various ways, it is ill-advised – and not at all innocuous – to refer to those properties *themselves* as powers on the basis of the *Enabling Conception*.

2.1.3 The Necessitarian Conception of Powers

Alexander Bird observes that there is no "unequivocal agreement on what exactly a power is", but suggests that "most advocates of the powers ontology" adopt one or both of the following two characterizations of powers[44]:

    (a) A power is a (genuine) property whose essence is its dispositional character.

    (b) A power is a (genuine) property whose identity is fixed by its dispositional character.

By a 'dispositional character' Bird apparently has in mind what he goes on to call the 'causal/dispositional/nomic role' of a property, which "concerns its causal/dispositional/nomic relations to other properties".[45] Presumably, then, we can just understand the term "dispositional character" as something of a shorthand for 'causal and/or dispositional and/or nomic role(s)'. But it is worth noticing that while the term

---

[44] Bird (2016), p. 345.
[45] Bird (2016), p. 345.

'character' suggests something *intrinsic* to an item, its 'role' is something relating it to other things. Perhaps the idea for Bird is intended to be that a property has its 'role' *in virtue of* its character – not that these are one and the same thing.

In any case, Bird takes characterizations (a) and (b) to be related insofar as each says that a power is a property which has a 'dispositional character'; the latter just omits the former's assertion that powers have something called an 'essence' in favor of talk of grounds for individuating powers-cum-properties in terms of this dispositional character. Bird refers to both characterizations as versions of the '*Necessitarian Conception of Powers*', since each holds that a power has the dispositional character that it has *necessarily*, such that a power's causal/dispositional/nomic role is 'fixed across possible worlds'. Powers, according to Bird, are thus understood as 'modally fixed properties' – properties that not only have a certain causal/dispositional/nomic role with respect to other properties (or perhaps other kinds of thing besides properties), but which have this role as a matter of necessity. We may thus put Bird's general conception as follows:

> ***Necessitarian Conception of Powers***: Powers are properties (or otherwise features) of the things to which they can be truly ascribed, which are modally fixed, i.e. which have a certain causal/dispositional/nomic role (with respect to other properties, or perhaps other kinds of thing besides properties) as a matter of essence or necessity.

(Although I have already rejected both the *Directed* and *Enabling Conceptions*, perhaps each of these can be accommodated within the *Necessitarian Conception*. For instance, one might first understand a property's having a specific 'dispositional role', of necessity, to be a matter of its necessarily enabling or disposing its bearer to act or be acted upon in some way(s), and then go on to identify this property itself as a power.)

As we will see, a variety of ways have been offered of explicating the notion of a 'causal and/or dispositional and/or nomic role'. For instance, a number of powers theorists appear to understand the 'causal' or 'dispositional role' of a power to be what that power *does* in relevant circumstances – how it *acts* or *interacts* with other powers, including acting causally. But it seems to me to involve a category mistake to suppose that either (i) powers *to act* or *to be acted upon* or else (ii) properties, *ways things are*, can themselves literally perform activity of any type. It is the things which can truly be said to 'have' powers to act, or to be acted upon, which 'do the doing': *bearers of* powers, rather than powers themselves, are the 'agents' and 'patients' of relevant types of action. Indeed this appears to just follow from the basic understanding of powers as *powers* (*of the things to which they are ascribed*) *to act* or *to be acted upon*. Neither, it would seem, can specific *ways things are* – e.g., a particular way of being shaped or of being electrically charged – *act* or *do* anything; this is to say that properties do not themselves 'have' and manifest powers.

It is worth pausing for a moment to consider how this last claim – that properties are not the kinds of things which can literally *act* – might be justified. Part of the idea is that once we appreciate that all genuine properties are precisely specific *ways objects are* and recognize the ontological priority of objects over their properties (see section 1.3.3), we have at least prima facie reason for privileging objects over their properties as the real 'agents' and 'patients', i.e. as the existents which are capable of acting and being acted upon. I regard this case as further supported by reflection on our grounds for supposing that there really is *activity* in the world: these include our experiences of (apparently) doing various things, and having things done to us by other objects (including other persons), *ourselves* – rather than these actions being performed *by*, and *upon*, certain of our properties (see section 4.2). In connection with this, we should also notice that while an individual object can change in respect of at least certain of its properties, these various specific ways of being cannot *themselves* undergo change: e.g., an object's sphericity does not *itself* change to some different shape, rather it is the object which undergoes the change in shape. (And if it is objects rather than objects' properties which are the *patients* of change, then it should likewise be objects rather than their properties which are *agents*: prima facie, the doers, and the items which have things done to them, should be of the same ontological category.) Although there is perhaps no 'knockdown' argument against the claim that objects' properties (or perhaps genuine properties of items other than objects, if such really exist) might act or be acted upon, my view is that there is no good basis for supposing that this claim might be true – and that the *QT Account of Powers* (built upon a neo-Aristotelian substance ontology), though it rejects that claim, delivers the ontological elements needed to make good metaphysical sense of the possession and manifestation of powers (including, as I argue in Chapter 7, causal powers and liabilities).

On the *QT Account* there is indeed an important and irreplaceable kind of 'role' which all of objects' properties 'play': they serve, as a matter of necessity, as truthmakers for certain propositions about how their 'bearers', individual objects, either could or would behave in appropriate circumstances. But to serve as a truthmaker is simply to be something *in virtue of which* some relevant truth is true; truthmakers do not literally act *qua truthmakers*.

Moreover, it seems both inappropriate and misleading to use the term "power" (or cognate terms like "disposition", "ability", etc.) to refer to some or all properties themselves, as on the *Necessitarian Conception*. The concept *power to act (or to be acted upon)* simply does not fit with the concept *way of being* in the required way: there is nothing to or about these concepts which suggests that they might both concern *one and the same kind of existent*. The upshot is that any view which attempts to assimilate the two – namely, by regarding powers as properties, and vice versa – does not appear to be a coherent view. In response to this, one proposal might be to admit *two sub-categories* of properties: ways things are as well as powers. Alternatively, we might be encouraged to

accept a 'surprising identity' between ways of being and powers, to borrow C.B. Martin's phrase (see section 3.2.1). The problem with such proposals is that while we need good, principled reasons for accepting them, each appears to be little more than an ad hoc move. The *QT Account*, I will argue, undermines both the 'identity' claim (section 3.2) and the 'mixed' or dualist view of properties (section 3.3), precisely because it rejects the idea that if powers can be truly predicated of things (in a non-reductive fashion), then those powers themselves must be properties or features of the things said to 'have' them. It is only once we jettison this assumption as unneeded and unhelpful that we can succeed in illuminating the relationship between properties and powers as well as the implications of that relationship for further issues 'downstream', including causality, modality, laws of nature, and perhaps more.

Whereas I have rejected the *Directed* and *Enabling Conceptions* of powers outright, my case against the much broader *Necessitarian Conception* is, for now, tentative: it depends upon whether my *QT Account of Powers*, which explicitly avoids supposing that powers are 'would-be' properties, ultimately succeeds.

2.2 In search of 'categoricalism' and anti-realism about powers

The contemporary debate about powers is often portrayed by its various participants as a debate between so-called 'categoricalism', on the one hand, and a range of views defended by proponents of metaphysics which, in some respect or another, takes powers more seriously. My aim in this section is to try to briefly set out what these two opposing sides of the debate really amount to – and to then point out that these two sides do not, in fact, exhaust the range of positions which are available concerning the metaphysics of powers.

Categoricalism is, at heart, a view about properties according to which all properties are wholly 'categorical' properties. By a 'categorical' property is meant precisely a *non-power*; hence what exactly a given categoricalist position amounts to will depend on how exactly powers themselves are conceived. Consider, then, the following three formulations of 'categoricalism', corresponding to the three conceptions of powers named above:

> *Categoricalism$_D$*: No property has a type of manifestation-behavior, or effect of such behavior, toward which it is (by definition) directed or oriented.

> *Categoricalism$_E$*: No property essentially or necessarily enables or disposes its bearer to act or be acted upon in some way(s) in appropriate circumstances.

> *Categoricalism$_N$*: No property is modally fixed, in the sense of having a certain causal/dispositional/nomic role as a matter of necessity.

I set aside the *Directed* and *Enabling Conceptions*, since the case against these seems straightforward enough. Focus, then, on **Categoricalism$_N$** – 'categoricalism' defined in terms of the *Necessitarian Conception of Powers*. The proponent of **Categoricalism$_N$** might argue either that no property bears a specific causal/dispositional/nomic role at all, or else that that while some or all properties do bear such a role, they only do so in a way that is *contingent* (say, either ultimately contingent, or else contingent upon 'governing' laws of nature).

Since the *Necessitarian Conception* is so broad, **Categoricalism$_N$** can itself be formulated more precisely by reference to the various specific views built upon the *Necessitarian Conception*. For instance, it is sometimes said that the categoricalist maintains that all genuine properties are 'intrinsically causally inert' or that "the essence of a [genuine] property doesn't have to do with what its instances are disposed to do under various circumstances".[46] Along similar lines, Mumford suggests that we should understand would-be categorical properties as 'intrinsically powerless' and 'inactive', only "do[ing] what they do because of the laws of nature" – where laws might then be understood as either 'governing laws' or else along neo-Humean lines (e.g., in terms of David Lewis's 'best systems' account).[47] Powers, on the other hand, would thus be properties which *are* 'intrinsically powerful' and 'active'. (As noted above, I will argue that this way of understanding powers, and properties more generally, involves a kind of category mistake.)

Notice that **Categoricalism$_N$** can be understood as a kind of *anti-realism* about powers: namely, as the view that powers, understood as 'modally fixed' properties in line with the *Necessitarian Conception*, do not exist. In this strict sense, it is true that the position I set out in Chapter 4 would count as a variety of 'categoricalism' about properties, since I reject the idea that powers to act or to be acted upon are existents at all. But what I want to point out here is that there is another kind of 'realism versus anti-realism' debate concerning powers: that about whether or not there are mind-independent truthmakers, *intrinsic to objects* (or perhaps to items of any ontological category), for certain kinds of propositions about how those objects either could or would behave in appropriate circumstances – that is, truthmakers for power-ascriptions. (By 'mind-independent' here I mean truthmakers the existence of which does not depend on whether and how they are thought about.) My *QT Account of Powers* holds that such truthmakers do indeed exist: it is objects' qualities, their various specific *ways of being*, which play this 'role', serving as the sole truthmakers needed for a special class of propositions about how those objects either could or would behave in relevant circumstances. For this reason, I describe the account as 'quasi-realist' about powers: although realist about the needed truthmakers, it

---

[46] Choi and Fara (2018), [no page numbers].
[47] Mumford, "Hidden Powers", [no page numbers].

rejects as unfounded and problematic the assumption that powers themselves must be (genuine) *properties* of the things which can truly be said to 'have' them.

2.3 Conditional analyses: motivations and implications

Skepticism about powers, or about reference to powers, has a number of motivations – including, we may suppose, some of the less than perspicuous conceptions or characterizations of powers offered in the literature. If, say, powers are supposed to be properties which are 'directed' or 'oriented' toward certain objects (their manifestations or perhaps effects of those manifestations), then such alleged properties might seem deeply mysterious or puzzling for reasons considered above.

Such skepticism has led many to seek a way of 'analyzing' ascriptions of powers, or the predicates contained therein, by means of terms that are somehow less mysterious or otherwise problematic. In this section, I provide a brief overview of the main varieties of conditional analysis offered in the literature, ultimately concluding that such 'analyses' – at least when intended to be *reductive* in nature – are altogether unnecessary once we explicitly reject the ubiquitous assumption that powers are would-be properties or features of the things which can truly be said to 'have' them.

The popular recent project of attempting to find so-called 'conditional analyses' of power-ascriptions can be understood to begin with Rudolph Carnap.[48] A proponent of a radical, verificationist form of empiricism, Carnap proposed that power predicates like 'is water-soluble' could be 'introduced' into the language of (what he considered) respectable science by means of a 'bilateral reduction sentence' employing a material conditional, e.g.:

> For all x and t, if x is placed into water at t, then x is soluble in water at t if and only if x dissolves at t (and x is not soluble in water at t if and only if x does not dissolve at t).[49]

The problem here is that Carnap's material conditional fails to provide a satisfactory 'test' to determine the appropriate application of the predicate 'is water-soluble' to things which are *never* placed in water. For instance, some quantity of sodium chloride might well be water-soluble at time t, even though it is never, at any time at which it exists, placed in water.

---

[48] See, in particular, Carnap (1936) and (1937).
[49] I have added the specification 'at t' to the biconditionals here in order to avoid the possibility of misleading one into thinking that all dispositions are immutable.

2.3.1 The Simple Conditional Analysis (SCA)

By the latter half of the 20th century, the development of a semantics for counterfactual or subjunctive conditionals, given independently by Robert Stalnaker and David Lewis, turned attention to the thought that Carnap's schema might succeed as an analysis if it employed a counterfactual conditional rather than a material conditional. Thus we get what is called the *Simple* (or sometimes *Naïve*) *Conditional Analysis* (*SCA*), where response *R* would count as the 'manifestation' of a given power or disposition:

> (**SCA**): For all *x* and *t*, *x* is disposed at *t* to give response *R* to stimulus *S* if and only if if *x* were to undergo stimulus *S* at *t*, then *x* would give response *R* at *t*.[50]

The *Simple Conditional Analysis* appears to succeed where Carnap's material conditionals fail, and is perhaps most naturally joined with an eliminativist answer to the *Ontological Question*.[51] What makes *SCA* a schema for giving conditional *analyses* of power-ascriptions is the idea that ascribing a power to something is *logically equivalent* to the relevant conditionals, which are propositions about events or processes involving that thing, namely how it would behave if it were to be stimulated or triggered in some appropriate way.

The *Simple Conditional Analysis* enjoyed widespread acceptance in the middle of the century, being "explicitly endorsed by Ryle (1949), Goodman (1954), and Quine (1960) and implicitly by countless others".[52] But in time it came to strike many as unsatisfactory, usually for one or more of the following reasons: (i) inapplicability to 'spontaneous powers'; (ii) the problem of the loss of intrinsicality; and (iii) proposed counterexamples involving finks, masks, and mimics.

2.3.2 Objections to the Simple Conditional Analysis

2.3.2.1 Spontaneous powers

While it might seem that the manifestation or exercise of many 'types' of powers require a 'stimulus' or 'trigger' of some sort, it appears at least metaphysically possible that there might be powers which are not like this. What we might call 'spontaneous powers' are

---

[50] Or, at least, some process begins at *t* that will culminate in its giving response *r*.

[51] Though note that Molnar suggests that a proponent of a conditional analysis might instead understand powers in a reductive fashion, as "a bridging relation [between the bearer of the power and the manifestation] conditionalized on the occurrence of a stimulus event"; see Molnar (2003), pp. 84-85. I set this complication aside.

[52] Choi and Fara (2018), [no page numbers].

those whose distinctive type of manifestation need not be stimulated to occur, and perhaps could not in principle be stimulated.

What does it mean for the manifestation of a power to be stimulated or triggered? We might naturally take the terms "stimulus" or "trigger" to refer to a *cause* – and indeed this is what many participants in the debate about powers seem to have in mind when discussing the idea of the stimulus of a manifestation. But in section 4.6, I suggest that 'manifestations' of powers to act, which are action-events, are in fact never themselves *caused* to occur – i.e., are never *effects*. Rather, depending on the type of activity at issue, some manifestations (actions) might be *determined* or *necessitated* by the circumstances in which the relevant object finds itself, other manifestations not even though they are possible in those same circumstances. This appeal to determination or necessitation, rather than to a *cause*, offers a different, more neutral way of explicating the idea of a 'stimulus' or 'trigger' of a manifestation. (More neutral, it would seem, since it would remain a further question whether to understand the necessitating circumstances as a *cause* of the manifestation.) In accordance with this, we can characterize a spontaneous power in the following way:

> **Spontaneous power**: a power whose manifestation at *t* is possible but not determined or necessitated by the circumstances in which the bearer of that power finds itself at (or just before) *t*.

What we might simply call a 'non-spontaneous' power, then, would be any power whose manifestation at a given time *is* so determined or necessitated.

Suppose, for the sake of argument, that radioactive decay is a genuinely stochastic (random) event: that, e.g., when a radium atom emits an alpha particle, its doing so (an action of the atom) is not determined or necessitated by the circumstances in which the atom then found itself. This is just to say that, in those circumstances, the atom could, but need not, emit the alpha particle – that it is merely possible, rather than necessary (or even probabilistic), in those circumstances. Because the idea that any manifestation would be a *response* to some stimulus is built into *SCA*, that analysis seems inapplicable to such a power – so that other types of counterfactual (or perhaps propositions which are not conditionals at all) might be needed to accommodate spontaneous powers, if they are at least possible (even if not actual).

Perhaps such counterfactuals (or other types of propositions) are had easily enough. In section 4.5.2, I distinguish two types of counterfactuals needed for my QT Account of Powers to accommodate the possibility of both non-spontaneous and spontaneous powers: those counterfactuals which employ a 'would', on the one hand, and those which employ a '(mere) could', on the other. Although I offer an account of powers rather than a *reductive analysis* of power-ascriptions, the proponent of conditional

analyses might thus evade the problem of spontaneous powers by similarly supplementing *SCA* with a counterfactual that employs a '(mere) could'.

2.3.2.2 The problem of the loss of intrinsicality

A second alleged problem is that *SCA* appears to analyze power-ascriptions without requiring that anything informative be said regarding what it is *about* the item to which the power is being attributed, having to do at least in part with its intrinsic properties or features, which makes the manifestation behavior follow as a response to the occurrence of the stimulus. Molnar calls this problem the 'loss of intrinsicality', and illustrates it by invoking the occasionalist view of causation defended by Nicolas Malebranche.[53] Occasionalism holds that ordinary substances are never genuine causes; rather, God is the cause of every event, and our illusion of any so-called 'necessary connection' between things arises merely from our repeated experiences of God's causing one event and then another. Suppose, then, that every time a certain type of stimulus occurs, God – for whatever reason – causes an object *x* to give a manifestation-response of type *R*. Such a scenario fully accords with *SCA*, yet hardly seems to warrant ascribing to *x* itself a *power* or *disposition* to give a response of type *R*. (Rather, the only relevant power on the scene would seem to be God's power to cause *x* to *R*.)

A different way of putting the objection, appealing to truthmaking, is to claim that true propositions concerning how things either could or would behave in relevant circumstances are just the kinds of propositions which require a *truthmaker* – some particular existent in virtue of whose existence the proposition is true. Even if part of the truthmaker(s) are items external to the relevant power-bearer – say, 'governing' laws of nature – it seems that there must be *something* about that thing itself, having to do at least in part with its intrinsic properties or features, which serves as a truthmaker for a true counterfactual of the form employed in *SCA*. Yet the analysis is silent with respect to any such truthmakers, casting doubt on its claim to serve as a satisfactory *analysis* after all.

2.3.2.3 Finks, masks, and mimics

A third and perhaps most notorious problem posed against *SCA* concerns the seemingly ubiquitous possibility of 'finks', 'masks', and 'mimics' – or what I group together under the name 'interveners'.

A *fink* is a factor that can cause an object, or other relevant item, to gain or lose a power. C.B. Martin (1994) famously asks us to consider a wire that can be either 'live' or 'dead', where its being 'live' means that if it should become touched by a conductor, then

---

[53] See, e.g., Malebranche (1997).

electrical current would flow from the wire to the conductor. To say that the wire *is live* in this sense is simply to say that it has (at the present moment) a power to conduct electricity. Suppose, then, that a dead wire is connected to what Martin calls an 'electro-fink' – a device that can reliably detect when the wire is touched by a conductor, and upon which detection causes the wire to become live for as long as it remains in contact with the conductor. The relevant 'stimulus' here, we might suppose, is the wire's being brought into contact with the conductor (or, at least, this might be part of the stimulus); yet it is *that same* stimulus which triggers the electro-fink to cause the wire to become live. If we were to ask, prior to occurrence of the stimulus, whether or not the wire *is live*, application of *SCA* tells us that the wire is indeed live at that time, since occurrence of the stimulus would trigger the relevant response *by means of* triggering the electro-fink to cause the wire to become live. Yet we are already supposing by hypothesis that the wire is dead prior to occurrence of the stimulus. We can also imagine a case where the electro-fink operates on a 'reverse cycle', causing a live wire to become dead upon occurrence of the stimulus. Here when we ask, prior to occurrence of the stimulus, whether or not the wire *is live*, *SCA* tells us that the wire is dead, even though we are already supposing by hypothesis that the wire is live at that time. These results might seem, prima facie, to constitute counterexamples to *SCA*.

A *mask* (or sometimes *antidote*) is a factor which, although it does not affect the possession of a relevant power, can somehow prevent its being manifested. Suppose that some quantity of arsenic is disposed to kill a particular person (in a specific way in the right circumstances). A mask here would be, e.g., a sufficient quantity of dimercaprol. This medicine would not remove the poison's power to kill upon being ingested, but if taken soon enough would interrupt the process wherein the poison interacts with the person's body, so that the exercise of that power – in this case, causing death (in the relevant way) – never actually takes place. In cases involving masks, we are supposing that the object (or whatever) really does have the relevant power, yet the application of *SCA*, where a mask is present, appears to tell us that the object *lacks* it.

Finally, a *mimic* is a factor that *imitates* the exercise of powers that things might or might not have at the relevant time. Consider an example quickly offered in Lewis (1997)[54]. Ordinary Styrofoam dishes are not fragile in the sense of being disposed to break into pieces when struck. But when a Styrofoam dish is struck by a hammer, a distinctive sort of sound is produced. Suppose that whenever the Hater of Styrofoam hears this sound, he immediately locates and tears the relevant dish into pieces. In such cases, the Hater of Styrofoam, by tearing the dish into pieces, is said to mimic or imitate a power *to break into pieces if struck by a hammer* which the Styrofoam dish in fact lacked. In cases involving mimics, the relevant counterfactual would be true, even though the relevant

---

[54] Lewis (1997), pp. 143-158.

things themselves either lack the powers named in the analysis, or do not have a chance to exercise those powers before the mimics can cause the relevant behavior.

Can *SCA* be defended from counterexamples of these various sorts? Lars Gundersen (2002) and Sungho Choi (2006, 2008) suggest that it can by appealing to a distinction between what might be called 'simple dispositions' and 'complex dispositions'.[55] A simple disposition would be a disposition or power to give response *R* to stimulus *S* simpliciter; a complex disposition or power, on the other hand, would be a disposition to give response *R* to stimulus *S in the absence of finks, masks, and mimics*. The idea here, it seems, is not that we construct reference to a 'complex disposition' simply by invoking the phrase "in the absence of finks, masks, and mimics", but rather that we *get more specific* or *fine-grained* about the relevant stimulus conditions, the type of response behavior, or both of these – and that doing so in the right ways rules out the possibility of interveners for those specific cases. Unfortunately, examples of this strategy offered in the literature often amount to little more than invoking such a phrase by saying something like "when ingested *in the absence of dimercaprol*" or "when struck by a hammer *in the presence of the Hater of Styrofoam*". But perhaps we might find more success here by instead referring to specific stimulus conditions or manifestations which rule out interveners *indirectly* rather than just by fiat – say, by describing the relevant power of arsenic as being a power(s) to produce quite *specific* forms of organ damage by interrupting cellular activity when it comes into contact with enough relevant types of cells (where stating the 'stimulus' conditions in this way would just *entail* that, if those conditions were in place, dimercaprol was not on the scene to act as an antidote).

Gundersen's and Choi's proposal here – appealing to 'complex dispositions' which are intended to rule out the possibility of interveners altogether – is a version of what might be called the '*Getting Specific Strategy*' for defending conditional analyses. In a moment, we see Lewis's proposed method of giving conditional analyses, which adopts the *Getting Specific Strategy* on behalf of a form of analysis which answers the problem of the loss of intrinsicality.

2.3.3 Causal Conditional Analyses (CCA)

Owing to one or another of the perceived difficulties for *SCA*, many proponents of conditional analyses moved to defend versions of what is called a *Causal Conditional Analysis*, which adopts the following schema:

> (**CCA**): For all *x* and *t*, *x* is disposed at *t* to give response *R* to stimulus *S* if and only if *x* has some property B which would cause *x* to give *R* if *x* were to undergo *S* at *t*.

---

[55] These names are suggested by Choi and Fara (2018), [no page numbers].

The property *B* referred to here is commonly called the 'categorical base' or 'causal base' of the disposition. It is standardly regarded to be a non-disposition (i.e., 'categorical') intrinsic property of the relevant thing – though it appears consistent with (*CCA*) that property *B* be an extrinsic property (if such exist).

It is open to a proponent of *CCA* to adopt an eliminativism about dispositions, or to understand dispositions as so-called 'higher-level'[56] properties which things have in virtue of having relevant 'lower-level' causal or categorical bases. On such an approach, it would be thought that only the 'lower-level' properties are really needed to *explain* the relevant response-behavior on occurrence of the stimulus; dispositions themselves would be, in a sense, superfluous even if ontologically inoffensive. (See consideration of the Prior-Pargetter-Jackson view in the next section.)

Versions of *CCA* which take property *B* to be an intrinsic property of the relevant object or item are not subject to the 'loss of intrinsicality' objection. Like *SCA*, however, schema *CCA* as it stands fails to apply to spontaneous powers, if such are at least possible. (Though see my note above about whether conditional analyses might be easily reformulated to accommodate such powers.) It also appears vulnerable to counterexamples involving interveners, insofar as these affect the possession of, or prevent or imitate the 'causal role' supposedly played by, the relevant property *B* which constitutes the categorical or causal base.

2.3.4 Lewis's Reformed Conditional Analysis (RCA)

What is often called the *Reformed Conditional Analysis* (*RCA* or sometimes *LCA*) is Lewis's more sophisticated version of a causal conditional analysis:

> (**RCA**): For all *x* and *t*, *x* is disposed at *t* to give response *R* to stimulus *S* if and only if, for some intrinsic property *B* which *x* has at *t*, for some time *t'* after *t*, if *x* were to undergo *S* at *t* and retain *B* until *t'*, *S* and *x*'s having of *B* would jointly be an '*x*-complete' cause of *x*'s giving *R*.

An '*x*-complete cause', as Lewis understands it, is a cause of the relevant manifestation-event (response *R*) which is "complete in so far as havings of properties intrinsic to *x* are concerned".[57]

Like the preceding forms of analysis, *RCA* as it stands fails to apply to spontaneous powers, if such are possible. But like causal conditional analyses in general, it appears

---

[56] Or, as it is sometimes put, 'higher-order'. I follow the practice of using 'higher-order' to refer to *properties of properties* (about which I have expressed some skepticism), and take 'higher-level' to refer to properties possessed by objects or other items in virtue of their possessing some distinct 'lower-level' property.

[57] Lewis (1997), p. 156.

immune to the objection regarding loss of intrinsicality, since the property *B* cited in the analysis is explicitly required to be intrinsic to the object. *RCA* also seems to improve upon *CCA* by requiring that the object *retain* the relevant property *B* for some suitable duration past the time *t* when the relevant stimulus occurs. This is intended to help overcome counterexamples involving finks, at least for powers that are taken to be 'grounded in' the categorical base: requiring that property *B* be retained through occurrence of the stimulus – and presumably at least until the response-behavior *R* has actually begun – means that at the times when the counterfactual that comprises the analysans is true, no fink will have acted to cause the object or item to gain or lose the relevant power. (We might wonder whether simply *stipulating* that *x* retain *B* for the relevant duration is nothing more than an ad hoc move. Perhaps, however, there is some way to build into the stimulus, or the response behavior, or both, specificity which *entails* that *B* is retained for the time needed.)

Yet *RCA* might appear to do no better than *SCA* and *CCA* when it comes to masks and mimics. In the context of causal conditional analyses (including *RCA*), a masking case, for instance, would be one where both the power and the relevant intrinsic categorical base remain, but where the exercise of that power is prevented by the presence of the mask. In such cases, it would seem that the analysans of *RCA* is false even in cases where the object really does have the relevant power.

Much like Gundersen and Choi, however, Lewis believes that a strategy is available to help rule out such interveners: namely, the *Getting Specific Strategy*. What apparent counterexamples involving masks show, Lewis suggests, is that we sometimes formulate the relevant stimulus conditions or manifestation behavior (or both) of powers in overly-simplified, coarse-grained, and thus inadequate ways. Consider the case of dimercaprol serving as a mask or antidote of the relevant power(s) of arsenic. One suggestion might be to understand the analysandum *not* as arsenic's 'being disposed to kill if ingested (simpliciter)', but rather more specifically – say, as arsenic's 'being disposed to kill if ingested *in the absence of dimercaprol (or any other antidote)*', and so on.[58] (Though see my reservation above about the ad hoc nature of such a move described in this way – and the suggestion that it can be avoided by 'getting specific' in way that rules out masks *indirectly* rather than by general fiat.)

Lewis's answer to counterexamples involving mimics is somewhat less clear, but appears to likewise involve an appeal to getting more specific. Consider again the example of the Styrofoam dish and the Hater of Styrofoam. Lewis asserts that there is a "certain direct and standard process whereby fragile things most often (actually, nowadays, and hereabouts) break when struck" – then points out that our Styrofoam dish is "not at all disposed to undergo that process", but would only break if struck under rather

---

[58] Lewis (1997), p. 153.

unusual circumstances – like those including the presence of the Hater of Styrofoam.[59] The Styrofoam dish is therefore not disposed *to break if struck* simpliciter – i.e., is not fragile; but it is disposed *to break if struck in the presence of the Hater of Styrofoam*. The upshot, as best I can tell, is that for Lewis the activity of the Hater of Styrofoam does not 'mimic' some disposition which the Styrofoam plate lacks – because (a) being disposed to break if struck simpliciter and (b) being disposed to break if struck in the presence of the Hater of Styrofoam are different dispositions or powers. Against this suggestion, however, we might wonder whether it really makes good sense to suppose that the term "fragility", rather than serving as a shorthand or umbrella term for a range of powers bearing a kind of similarity to one another, in fact refers to some single power, namely the disposition or liability *to break if struck* simpliciter.

2.3.5 Bypassing the motivation for conditional analyses

Rather than wade any further into the various complicated, ongoing debates concerning whether there is a form of conditional analysis of power-ascriptions which can answer all possible counterexamples involving interveners, I simply reject the primary motivation for offering such analyses in the first place. The original character of conditional analyses of power-ascriptions was decidedly *reductive*: Carnap's aim was to make power predicates like "is soluble" or "is fragile" 'respectable' by employing 'reduction sentences' which employ only terms amenable to a verificationist criterion of meaning. Although participants in the contemporary debate rarely if ever share Carnap's specifically positivist motivation, it remains that many skeptics of powers-based metaphysics find something deeply mysterious or puzzling about powers conceived as properties. Proponents of powers, on the other hand, typically regard the perceived failure of conditional analyses – perhaps alongside a tendency toward scientific realism, with the belief that the concept *power* (or its cognates) is indispensable to the sciences[60] – as grounds for adopting 'realism' about powers themselves.

My answer to this state of the debate, of course, is to reject at the outset the assumption that powers are 'would-be' properties: the assumption that if powers can be truly predicated of things, then they must be properties or features of those things. Once we dispense with this assumption in favor of making clear sense of power-ascriptions by appeal to the idea of *truthmaking* – as on my *QT Account of Powers* – we no longer confront the charge that powers themselves are somehow mysterious or problematic. The key is to recognize that modal propositions of the general form '*x* would (or merely could) ϕ

---

[59] Lewis (1997), p. 153.
[60] See, e.g., Cartwright and Pemberton (2013), the title of which is "Aristotelian Powers: Without Them, What Would Modern Science Do?".

in circumstances *C*', if they are to be true, are just the sort of truths that require *truthmakers – existents* in the world in virtue of which those proposition is true – and then to ask what these truthmakers might be. Are the truthmakers, e.g., objects' intrinsic properties, laws of nature, both of these, or something else?

I am not sure what is left of conditional analyses if, by undermining this motivation for them, we thus remove their reductive character. Does **POWER₁**, for instance, count as an 'analysis' of powers talk – either before or after being supplemented with answers to the *Ontological*, *Scope*, and *Explanatory Questions*? As John Heil points out, it is not clear we will have achieved even if we should secure some conditional analysis of powers, reductive or otherwise, which is immune to counterexamples. For the question 'What are the truthmakers?' still arises:

> Suppose you decide that 'object *o* is fragile' implies and is implied by 'o would shatter if struck in circumstances C'. You are not excused from the task of saying what the truth maker might be for this conditional. Presumably, if the conditional is an analysis, its truth maker will be whatever the truth maker is for the original dispositional assertion. This is *progress*?[61]

POWER₁ is meant to be a starting-point which is as neutral as possible; the *QT Account of Powers* I go on to offer is an account, rather than a mere 'analysis', precisely because it provides answers to those three fundamental metaphysical questions – thereby setting out *conditions* for something's being correctly ascribed a power to act or to be acted upon.

There is, however, one crucial insight which can be adopted from efforts by proponents of conditional analyses to respond to counterexamples involving interveners. This is the idea that, in order to properly understand the link between powers and counterfactuals (or perhaps other forms of proposition), we must *get more specific* than we normally are in attributing powers to things. In Chapter 4, I will propose that most of our talk of the powers, dispositions, abilities, and so on of things – in both everyday and scientific contexts – is properly understood as a sort of gesture toward *vastly* more fine-grained propositions than those we normally consider when talking about what individual objects (and perhaps other things) either could or would do in relevant circumstances. Although many of these propositions lie well beyond not only our interests but our epistemic abilities – casting doubt on the idea that anything like an *analysis* of power-ascriptions could ever be found (at least for most types of powers) – it is these 'maximally specific' propositions, themselves made true by objects' qualities, which serve as truthmakers, or something along these lines, for the sorts of 'glosses' or 'generalizations' with which we are normally interested.

---

[61] Heil (2005), p. 345.

2.4 The Prior-Pargetter-Jackson view

In their (1982), Elizabeth Prior, Robert Pargetter, and Frank Jackson defend three theses about powers or dispositions which, as we will see, accord well with 'categoricalism' about powers. I shall refer to these three theses, taken together, as the *Prior-Pargetter Jackson (PPJ) view*:

> **Prior-Pargetter-Jackson (PPJ) view**:
>
> > (1) *Causal Basis*: Dispositions have *causal bases*, which are properties of the relevant objects.
> >
> > (2) *Distinctness*: Dispositions, whatever exactly they might be, are *distinct* from their causal bases.
> >
> > (3) *Causal Impotence*: Dispositions are causally impotent with respect to their manifestations.

By a 'causal basis' PPJ mean "the property or property-complex of the object that, together with [the relevant antecedent circumstances] is the causally operative sufficient condition for the manifestation in the case of 'surefire' dispositions, and in the case of probabilistic dispositions is causally sufficient for the relevant chance of the manifestation".[62] Questions about the ontological status of dispositions themselves are deliberately left open here: e.g., whether the causal bases must be 'categorical' properties or whether they might be *other* dispositions, structural properties, relations, etc.; whether dispositions are themselves properties; and so on. The PPJ view is thus consistent with a range of answers to the *Ontological Question*. Heil suggests, however, that many have followed Prior, Pargetter, and Jackson in supposing "that dispositions are 'grounded in', or 'realized by', objects' categorical properties" – an approach to the relation between properties and powers that, he says, was until very recently "so widely accepted as to constitute the default view".[63] It is therefore worth unpacking the overall PPJ view in some detail, beginning with a look at the case for each of their three theses.

2.4.1 Causal Basis

The case for thesis (1), intended to be understood as the strong claim that all dispositions *must* have a 'causal basis' – i.e., a property(s) which, alongside the relevant circumstances, is 'causally sufficient' for any manifestation – is quick and, unfortunately, far from clear. PPJ say little more than suggesting that counterexamples to this thesis, if there are any, would prima facie only be possible in 'indeterministic' worlds. They then

---

[62] Prior, Pargetter, and Jackson (1982), p. 251.
[63] Heil (2012), p. 58.

appear to offer some reason for thinking that counterexamples fail even in indeterministic worlds – at least so long as we suppose that any objective probabilities in such worlds are *explainable*.

Consider, then, the (supposed) disposition that some glasses have of being 'fragile' – i.e., of being disposed *to break when struck* – and suppose that such a disposition is 'surefire' rather than probabilistic. (To say that a disposition is 'surefire' is to say that it is deterministic: if the relevant stimulus occurs, then the relevant manifestation-behavior *must* follow.) PPJ suggest that if the actual world is deterministic, then the 'closest possible world' to ours will likewise be deterministic and will have the same laws of nature. Since both worlds are deterministic, it will of course be *determined* in each whether, upon being struck, some object A, which is made of glass, will either break or fail to break (in an appropriate way). PPJ then go on to reason as follows:

> In the [case where A fails to break] clearly A is not fragile. In the [case where A breaks] there will be a causally sufficient antecedent condition operative in producing the breaking – that follows from Determinism. Hence if A is fragile and Determinism is true, there must be a causal basis.[64]

In a causally deterministic world, there will, as a matter of definition, be a 'causally sufficient antecedent condition' – i.e., a necessitating cause(s) – for every event that ever occurs, including breakings of plates. But PPJ simply presume, as part of their definition of a 'causal base', that in the case of the manifestation of a power or disposition this 'causally operative sufficient' condition must include *a property(s)* of the bearer of that power. But this is far from obvious, and seems to receive no argument; it is simply a part of PPJ's definition of 'causal base'.

PPJ then move to consider indeterministic worlds. They consider a proposed counterexample involving two rubber bands A and B which, despite being "fully alike in all causally relevant aspects", are dissimilar in that while A always returns to its original length upon being stretched, B never does.[65] From this difference we are to conclude that while A is elastic (has the relevant disposition), B does not. But since A and B are wholly similar in 'all causally relevant aspects', this must apparently mean that A has a disposition which *lacks* any causal basis. PPJ suggest that what we must be dealing with here is "a situation *governed* by irreducibly probabilistic [rather than deterministic] *laws* – laws that tell us about the chance of something happening, not whether it will happen or not for sure".[66] If this is right, then A is only 'elastic' (has the relevant disposition) in the sense that, were A to be stretched, there would be some *specific probability* – presumably above a suitable threshold probability – that it would return to its original length; its elasticity is a

---

[64] Prior, Pargetter, and Jackson (1982), pp. 251-252.
[65] Prior, Pargetter, and Jackson (1982), p. 252.
[66] Prior, Pargetter, and Jackson (1982), p. 252. My italics.

'probabilistic disposition' which *B* lacks. But since *A* and *B* are alike in 'all causally relevant aspects':

> … when [we are] faced with the decision about what chance to give *A* of returning to its original length next time it is stretched, the earlier results for *B* are as relevant as those for *A* because *ex hypothesi* there is no relevant difference [between *A* and *B*]. Likewise, when considering *B*'s chance of returning to its original length, the results for *A* should be taken into account. There is thus no difference between the chance dispositions to be ascribed to *A* and to *B* in the present case, and so no trouble for [thesis (1)] in it.[67]

Presumably, when PPJ refer to 'giving a chance' to *A*, they mean assigning what is sometimes called a 'subjective probability' to *A*'s behavior, since it would make little sense to suppose that we can somehow *assign* objective probabilities in a case like this. The idea here seems to be that, since we can identify no difference between *A* and *B* in terms of their 'causally relevant aspects', the hitherto observed behavior of *each* rubber band is just as relevant to predictions about future behavior of the *other* rubber band as it is to its *own* future behavior. Supposing that the actual and possible behavior of both *A* and *B* is indeed governed by 'probabilistic' laws rather than (say) being merely stochastic (random) in nature, it would seem that there must, after all, be *something* about the objects themselves that helps to ground or explain the (objective) probabilities in question. The proposed 'counterexamples' would therefore fail. But PPJ make no attempt to argue that this something must be or include *what they call a 'causal basis'* – that is, a *property of the object* that, along with the occurrence of relevant antecedent circumstances, would constitute the 'causally operative sufficient condition' of any manifestation of a power of that object. The case for thesis (1) is therefore rather uncertain.

2.4.2 Distinctness

Thesis (2) holds that, whatever exactly dispositions are, and whatever exactly their causal bases are, the dispositions must be *distinct from* the causal bases. Here PPJ do provide clear considerations in favor of the thesis. For one thing, it might seem plausible that some specific dispositions could have different 'causal bases' in different kinds of objects – e.g., that "the causal basis of being fragile in some objects is molecular bonding *α*, [while] in others it is crystalline structure *β*".[68] Dispositions could thus be 'multiply realizable', as mental states like pain are often taken to be.

---

[67] Prior, Pargetter, and Jackson (1982), p. 252.
[68] Prior, Pargetter, and Jackson (1982), p. 253.

Second, even if all dispositions turn out to have only one kind of causal basis – say, perhaps fragility always has the causal basis of molecular bonding *α* – it might be that some objects which have that causal basis nonetheless lack the relevant disposition, perhaps because they have some "internal structural property *S* which *swamped* the effect of having *α*".[69] The idea is that this sort of 'swamping' would not be possible if having *α just is* having the relevant disposition, i.e. if the causal basis and disposition are one and the same.

Third, PPJ hold that just as "property names *are* names … that is, [are] *rigid designators*", so names for dispositions are really names and thus rigid designators – i.e., pick out one and the same thing in all possible worlds.[70] This means that if the proposition expressed by 'fragility = having *α*' is true, then it is *necessarily* true, and if it is false then it is *necessarily* false (perhaps setting aside any worlds where either or both of fragility and having *α* do not exist). Yet there seem to be possible worlds where objects are fragile and yet lack *α*: because dispositions appear to be multiply realizable, it is a sense contingent *what* the causal basis (or bases) of a given disposition in any world happens to be. Consequently, even if fragility and having *α* are *co-extensive* in *our* world, PPJ say, they must nonetheless be "distinct properties".[71]

Accepting the PPJ view is compatible with eliminativism as well as the various reductive moves made by proponents of causal conditional analyses. But PPJ suggest that if we adopt what they call a 'strong realism' about properties, where *every* expression like 'the property of being F' denotes a property[72], then we might take a disposition to be a 'higher-level' property – namely, the property of *having* a property (or property-complex) which is responsible for the object's manifesting the response-behavior on occurrence of the relevant stimulus. (The idea of a 'higher-level' property here is meant to be something that, in effect, comes for free on an 'abundant' view of properties: it is superfluous in that it plays no real 'role' at all, and hence is supposedly to be regarded as ontologically 'inoffensive'.)

Against this last suggestion, we might pose the following question: If there is a 'second-level' property of having a property *P*, is there then a 'third-level' property of having the second-level property of having a property *P*, a 'fourth-level' property … and so on, ad infinitum? Whether or not a regress like this looms, the very idea that there could be a property *of having some other property* seems to me an abuse of the notion of a property as a *way that something is* – a product of allowing ourselves (as 'strong realists'

---

[69] Prior, Pargetter, and Jackson (1982), p. 253. My italics.
[70] Prior, Pargetter, and Jackson (1982), p. 253. Italics in original.
[71] Here we find an explicit (albeit quite bare) suggestion from PPJ that dispositions are themselves *properties* of objects.
[72] That is, accept an 'abundant' view of properties, where every non-contradictory predication refers to a property.

about properties in general) to be fooled by language into thinking that anything which can be truly predicated of something else must be a property or feature of the latter thing. Appealing to an 'abundant', 'everything is allowed' conception of properties does not help matters here; the only real properties – the only items worthy of the name – are the genuine properties, the *ways things really are*. Powers, whatever they might be, should therefore not be regarded as 'higher-level' properties of any things to which they can be truly predicated.

On my 'quasi-realist' *QT Account of Powers*, powers or dispositions are indeed 'distinct', in a sense, from the properties which can meaningfully be said to 'bestow' or 'confer' them: namely, because while those properties are genuine existents, powers themselves are not. The powers realists we encounter in the next chapter, however, must either adopt a mixed view of (genuine) properties (non-powers plus powers) – a move that few make, though it would permit talk of 'bestowing' or 'conferring' to be taken seriously – or else *identify* powers with all properties.

To identify powers and properties, however, would apparently entail undermining PPJ's suggestion that powers are 'multiply realizable'. But perhaps this can be achieved easily enough by getting more specific about the relevant type of manifestation-behavior (where this might entail getting more specific, even if implicitly, about relevant kinds of circumstances as well). Heil asserts that the 'multiple realizability' claim proposed by PPJ is "founded on a confusion" which should not be allowed to drive our ontological conclusions:

> We find it convenient to say that a teacup, a piece of slate, a pocket watch, and a gramophone record all possess the same disposition: being fragile. These items are examples of things that typically shatter when struck or dropped. But do they, on that account, possess the *very same* disposition? That seems unlikely: the objects shatter *in different ways*. To be sure, the shatterings are *similar enough* to fall under a single predicate. But the similarity in question is far from precise. I take it as uncontroversial that, if distinct objects possess the very same property, *F*, they must be *precisely* similar *F*-wise. To assume [to the contrary] that 'is fragile' must name a higher-level property is to let the linguistic tale way the ontological dog.[73]

2.4.3 Causal Impotence

PPJ's third thesis holds that, as they put it, "dispositions are not *causes* [or even *parts of causes*] of their manifestations".[74] Their argument for this claim proceeds as follows.

---

[73] Heil (2005), p. 347. My italics.
[74] Prior, Pargetter, and Jackson (1982), p. 255. My italics.

Thesis (1) holds that any disposition must have a causal basis, and that precisely this causal basis is a "sufficient causal explanation of [a manifestation of that disposition] *as far as the properties of the object are concerned*".[75] This is intended to follow from the way that 'causal basis' is defined for thesis (1). But if this is right, PPJ say, then there is "nothing left for any other properties of the object *to do*"; and since thesis (2) holds that dispositions are distinct from their causal bases, the disposition "is [at most, if understood as 'higher-level'] one of these *other* properties, ergo the disposition does nothing".[76]

By way of considering possible objections, PPJ clarify the argument in several ways. First, while there does indeed appear to be causal overdetermination of some events that occur in the actual world, PPJ deny that any event ever has two or more distinct *operative* sufficient conditions. Classic examples of overdetermination used in the literature, they say, are cases where one sufficient condition is operative, but the second is not – so that the second, although sufficient for the effect, is in fact neither a cause of, nor part of the explanation for, the event-effect.

Second, one might think that our everyday ways of referring to objects and their dispositions seem to favor the idea that dispositions themselves have 'potency' – that they are capable of playing some sort of 'active causal role'. But consider a statement like 'The glass broke because it was fragile'. In accordance with thesis (1), PPJ say, this statement is equivalent to 'The glass broke because of having a nature responsible for breaking on dropping'. And this latter statement is ambiguous, in that it can be read either as:

(a) The glass broke because of having-a-nature-responsible-for-breaking-on-dropping.

(b) The glass broke because of a nature which is such that having it is responsible for breaking on dropping.

The phrase 'having-a-nature-responsible-for-breaking-on-dropping' in (a), according to PPJ, simply names the disposition itself, in this case fragility (whether or not that disposition itself is regarded as a 'higher-level' property). The 'nature', in turn, is presumably the property(s) which constitute the 'causal base'. But then this reading of the original statement 'The glass broke because of having a nature responsible for breaking on dropping' is incompatible with thesis (3), since (3) holds that dispositions themselves do not actually *do* anything. Rather, the second reading, (b), is the appropriate reading: it is perfectly compatible with thesis (3), since the 'nature' referred to in (b) may be understood as the *causal basis* of the glass's fragility.

Third, it might be objected that if thesis (3) is true, then we could never have evidence for belief in the existence of any dispositions in the first place: if dispositions

---

[75] Prior, Pargetter, and Jackson (1982), p. 255. Italics in original.
[76] Prior, Pargetter, and Jackson (1982), p. 255. My italics.

themselves are causally impotent, then, the objection goes, we could never have "a *sign* of their existence".[77] (We see this sort of reasoning again in discussion of pandispositionalism and the 'powerful qualities' view in Chapter 3.) But PPJ urge in response that we *can* know about what dispositions an object has, even though dispositions themselves do not cause anything, by observing the effects caused by the *bases* of those dispositions. Presumably the idea is that we infer powers or dispositions from these effects.

2.4.4 Evaluating the PPJ view

Although PPJ take thesis (1) to apply to *all* powers or dispositions – including by name the power of unstable atoms to undergo radioactive decay – this would be incorrect if it turns out that radioactive decay, or any other possible power, is a spontaneous power, i.e. a power whose distinctive type of manifestation need not be 'stimulated' to occur, and perhaps could not in principle be stimulated. The 'causal basis', as they define it, is a 'causally sufficient operative condition'; but if radioactive decay is in fact stochastic, then it is a type of activity which cannot be either caused or determined (necessitated) to occur, whether by 'stimulus' conditions or anything else.

Moreover, it should be noted that there is a good deal of ambiguity in the notion of a 'causally sufficient operative condition' as PPJ leave things. The term "causally operative" might be understood in at least two different ways: (i) as referring to *causal production*, i.e. to the making-happen or bringing-about of a relevant effect; or else (ii) as referring to mere causal relevant or 'difference-making'. (See section 5.1.1, where I distinguish production and difference-making conceptions of causation.) Thus consider thesis (1): if by 'causally operative' PPJ mean merely that the relevant property which comprises the 'causal basis' is, alongside any 'stimulus' conditions, *relevant to a causal explanation* of the manifestation of the power, then the claim is inoffensive (at least when setting aside its inapplicability to spontaneous powers). But if, as seems indicated by PPJ's discussion of overdetermination, 'causally operative' is meant to count the 'causal basis' as (part of) the cause which *produces* or *brings about* the manifestation, then thesis (1) remains unjustified for the reasons given above. Moreover, I will go on to argue that regarding objects' properties, their *ways of being*, as causes of effects involves a category mistake: to produce an effect is to act in some specific way, to *do* something – and only objects themselves are capable of literally acting or doing (see Chapter 7).

Finally, consider thesis (3), which holds that, since the 'causal basis' is causally sufficient for the manifestation *as far as the properties of the object are concerned*, there is

[77] Prior, Pargetter, and Jackson (1982), p. 256.

nothing left for the power itself, as PPJ put it, 'to do'. Heil expresses bewilderment at this reasoning:

> In an effort to make sense of causal powers – dispositionality – [PPJ] posit dispositions as higher-level properties. Having introduced these properties, they then express amazement that anyone could imagine that such properties might *do* anything. This is the kind of maneuver that gives philosophy a bad name.[78]

Whereas I will argue in favor of causation by individual objects, Heil and many other powers realists instead take powers to be genuine existents in their own right (and thus not ontologically inoffensive 'higher-level' properties) and then go on to hold that it is these 'properties-cum-powers' which are the real causes. In the next chapter, I consider the main varieties of realism about powers on offer, and then examine existing powers-based accounts of causation in Chapter 5.

2.5 Summary

In this chapter, I examined the ways the contemporary debate about powers is set up, starting with several different conceptions of powers commonly offered in the literature. I then attempted to identify the views which powers realists take themselves to be opposed to – namely, so-called 'categoricalism' and anti-realism about powers. Following this I looked at several ways of attempting to give conditional analyses of power-ascriptions, before examining three influential theses about powers advanced in Prior, Pargetter, and Jackson (1982).

One persistent theme throughout this chapter has been the identification of the pervasive – yet rarely examined – assumption by both powers realists and their opponents that *if* powers can be truly predicated of things, then powers themselves must be properties or features of objects. This assumption is very plausibly a primary part of the motivation behind both conditional analyses and the PPJ view. Each of these two strategies is thus commonly adopted by opponents of powers-based metaphysics (and indeed sometimes alongside one another) *because* they promise the reduction of power predicates to seemingly less mysterious or puzzling terms, allowing powers themselves (qua 'would-be' properties or features of things) to be either eliminated or reduced to supposedly more respectable or inoffensive existents like 'higher-level' properties.

---

[78] Heil (2005), pp. 349-350.

Chapter 3 - Proposed Alternatives to 'Categoricalism'

This chapter considers, in outline form, the main types of positions offered in the recent literature by proponents of powers-based metaphysics (i.e., views which somehow take powers more 'seriously' than categoricalism). Each of these can be understood not only as a view about powers themselves, but also as a view about the 'relation', so to speak, between powers and properties. (That is, each is fundamentally a type of answer to the *Ontological Question*.) The two most prominent of these views adopt a monism about properties, holding that there exists only one kind of (genuine) property: in the first case, 'pure powers' (section 3.1), and in the second case, 'powerful qualities' (3.2). A third type of view, to which I will devote comparatively little attention, instead opts for a dualism of power properties and non-power properties (3.3).

Versions of each of these three main views differ, sometimes dramatically, in their details. Although it is not my intention here to try to fully adjudicate any of them, I do aim to show that each faces significant conceptual and other difficulties – and to suggest that these are largely a product of the assumption, rarely made explicit, that if powers can be truly predicated of objects, then powers themselves must be existents, more specifically properties (or otherwise features) of those objects. This chapter and the next may be understood in part as a continued effort to campaign against that assumption – here, by attempting to highlight some of the conceptual difficulties it yields for 'realist' views of powers, and then by showing that a better alternative is available.

3.1 The 'pure powers' view

3.1.1 Dispositional monism, pandispositionalism, and the pure powers view

Many powers theorists refer to the view they themselves defend as "dispositional monism" or "pandispositionalism". But there appears to be some ambiguity in how these terms are deployed in the literature. On perhaps the most natural reading of the terms, each might be understood to refer to the view that all (genuine) properties are powers or dispositions. This is especially true of "pandispositionalism", where the prefix 'pan-' means 'all' or 'everything'.

But both terms are sometimes used instead in a more narrow sense, referring to the view that all (genuine) properties are powers or dispositions *and nothing else* – i.e., that all properties are 'pure powers'. Thus whereas the 'powerful qualities' view examined in section 3.2 apparently holds that all (genuine) properties are at once both qualities *and* powers, the pure powers view insists that a given property has (of necessity) – or perhaps

better *is* – a causal/dispositional/nomic role(s), *and nothing else*. By definition, then, the pure powers view appears to rule out qualities, or any sort of 'qualitativity' (i.e., objects or other things having some sort of irreducibly qualitative character), altogether.

My focus in this section is on the pure powers view (which I will refer to by that name, rather than by the terms dispositional monism or pandispositionalism). This type of approach to powers has seemingly been offered in two main forms: first, as the view that all properties are 'clusters of powers' (and nothing else); and second, as the view that all properties themselves just are (pure) powers.

3.1.2 Properties as 'clusters of powers'

3.1.2.1 Shoemaker's clusters view

In his (1980), Sydney Shoemaker offers what appears to be a version of the pure powers view – and one later adopted by Stephen Mumford (and then by Mumford and his frequent co-author, Rani Lill Anjum): the view that all properties are 'clusters' of powers (and nothing besides this). But Shoemaker's route toward this view of the ontology of powers is rather uncertain – a fact worth pointing out to help make some sense of his subsequent rejection of the position (see below). He begins by appearing to explicitly disavow the idea that "all properties are dispositional properties" – that is, dispositional monism or pandispositionalism in general – briefly offering two reasons:

> Surely we can *make a distinction* between dispositional and nondispositional properties, and can mention paradigms of both sorts. Moreover, it seems plain that what dispositional properties something has, what powers it has, *depends on* what nondispositional properties it has … .[79]

Shortly after this he sets out two goals which he wants his account of properties to meet. His account, he says, is intended:

> … to capture what is correct in the view that properties just are powers, or that all properties are dispositional, while acknowledging the truth of a standard objection to that view, namely that a thing's powers or dispositions are distinct from, because 'grounded in', its intrinsic properties.[80]

Talk in these quotations of powers being 'grounded in' intrinsic properties, and of distinguishing dispositional from nondispositional properties, makes it sound as though Shoemaker is about to defend a form of mixed or dualist view of properties (section 3.3).

---

[79] Shoemaker ([1980] 2003), p. 210. My italics.
[80] Shoemaker ([1980] 2003), p. 213.

But he quickly goes on to say that one can "express [his] view by saying that properties are *clusters of conditional powers*".[81] What exactly is meant by a 'cluster of powers', however – that is, both what a 'cluster' (i.e., a property-qua-cluster) would amount to, and what an individual 'power' itself would be – remains entirely mysterious even after attempts to unpack Shoemaker's overall view. (This, one might suspect, is part of the unstated reason for his later renunciation of the clusters approach.)

By a 'conditional' power Shoemaker says he means a power which something has "conditionally upon the possession of certain properties".[82] Consider the property of being 'knife-shaped':

> What has the property of being knife-shaped could be a knife, made of steel, but it could instead be a piece of balsa wood, a piece of butter, or even an oddly shaped cloud of some invisible gas. There is no power which necessarily belongs to all and only the things having this [single] property. But if this property is *combined with* the property of being knife-sized and the property of being made of steel, the object having these properties will necessarily … have the power of cutting butter, cheese and wood, if applied to these substances with suitable pressure, and also the power of producing various sorts of sense-impressions in human beings under appropriate observational conditions … and so on.[83]

Such powers are *conditional* in the sense that something's having them requires its also having one or more appropriate properties (e.g. being made of steel, or being made of titanium, etc.). We might suppose that *all* powers are conditional in this sense, given that Shoemaker has explicitly stated an intention to accommodate the idea that a thing's powers are 'grounded in' its properties (and thus, presumably, explainable in terms of those properties): an 'unconditional' power would be a power that is not so 'grounded'. But notice that if this is right, then it is hard to see how the idea that powers are conditional in this sense – grounded in properties – is compatible with the claim that properties *just are* 'clusters of powers', since something cannot serve as its own ontological 'grounds' or its own explanation.

Shoemaker then suggests that what makes a given property the property it is, i.e. what determines its identity, "is its potential for *contributing to* the causal powers of the things that have it".[84] By having relevant properties (e.g., being knife-shaped, being knife-sized, being made of steel), a thing thereby has one or more powers (e.g. the power of cutting butter, the power of producing relevant sorts of sense-impressions, etc.). Presumably the idea here is that the powers toward which a given property of *x*

---

81 Shoemaker ([1980] 2003), p. 213.
82 Shoemaker ([1980] 2003), p. 213.
83 Shoemaker ([1980] 2003), p. 213.
84 Shoemaker ([1980] 2003),, p. 212. My italics.

'contributes' are conditional powers which *x* has at the same time as, and in virtue of, having that property (and others besides). But this too is hard to square with the ontological claim that the properties of *x just are* 'clusters of powers': a property of *x* cannot 'contribute' to *x*'s possession of *that very same* property.

With one caveat to be named momentarily, Shoemaker is clear that what determines a property's identity is *exhausted by* this potential for contributing to powers:

> This means, among other things, that if under all possible circumstances properties X and Y make the same contribution to the causal powers of the things that have them, [then] X and Y are the same property.[85]

If there is thus nothing to determine the identity of a property besides its potential for 'contributing' to the powers of the things which have that property, then presumably this sort of 'dispositional' or 'causal role' of a property must be necessary or essential to it.

Following a counterexample given by Richard Boyd, Shoemaker added a postscript to his (1980) which revised his 'causal theory' of properties, as he then called it, in the following way:

> … for properties *F* and *G* to be identical, it is necessary *both* that *F* and *G* have the same causal potentialities *and* (this is the new requirement) that whatever set of circumstances is sufficient to cause the instantiation of *F* is sufficient to cause the instantiation of *G*, and vice versa. This amounts to saying that properties are individuated by their possible causes as well as by their possible effects.[86]

Shoemaker later summarized the view given in his (1980) by saying that "causal features of this sort constitute the *essence* of a property".[87] He adopts this criterion of identity, he says, for broadly epistemological reasons:

> Only if some causal theory of properties is true, I believe, can it be explained how properties are capable of engaging our knowledge, and our language, in the way they do.[88]

We come to "know and recognize" properties, he says, ultimately by making inferences from observations of "the effects of the events which are the activations of the causal powers which things have in virtue of having the properties".[89] He thus sums up the case for a 'causal theory' in the following way:

> … unless the instantiation of the property had, under some circumstances, effects from which its existence could be concluded, we could never discover laws or

---

[85] Shoemaker ([1980] 2003), p. 212.
[86] Shoemaker ([1980] 2003),, p. 233. Italics in original.
[87] Shoemaker (1999), p. 61. My italics.
[88] Shoemaker ([1980] 2003), p. 214.
[89] Shoemaker ([1980] 2003), p. 214.

correlations that would enable us to infer its existence from things other than its effects.[90]

Against the suggestion that the nature or identity of a property is exhausted by its 'causal role', some[91] have argued that a vicious infinite regress results which would undermine any justification for attributing properties to things. I will briefly return to this form of objection in section 3.1.3.

If a property's identity is a matter of its potential for contributing to the powers of the relevant property-bearer, then *what* exactly contributes to these powers? What is this potential, and what is the property itself? It is hard to see what clear sense can be made of the idea that properties *are*, ontologically speaking, 'clusters of (conditional) powers' – let alone how that could help us to answer this last question. Moreover, no explanation is given for why Shoemaker shifts from talk of powers being 'grounded in' properties to the idea that properties *are* 'clusters of powers'.

To his credit, then, Shoemaker himself goes on to reject his earlier 'clusters' conception of properties, saying that:

> That formulation has a reductionist flavor to it. And the reduction it seems to promise is a cheat. We must make use of the notion of a property in explaining the notion of a conditional power, so there is no question here of reducing properties to some *more fundamental* sort of entity.[92]

Notice that even if it were not a problem that we already employ the concept *property* in order to make sense of the idea of a power's being *conditional* in Shoemaker's sense, there would still remain the matter of sorting out just *what* the 'more fundamental sort of entity' –would itself be. I come back to this same point shortly when assessing Mumford and Anjum's adoption of the clusters view.

In place of the 'clusters' conception, Shoemaker (1999) speaks in terms of properties 'bestowing' powers – an idea that certainly resembles the claim, which his (1980) explicitly set out to accommodate, that powers are 'grounded in' properties, as well as the idea that things have their powers 'in virtue of' or 'because of' their properties. Unfortunately, though, he seems to say nothing at all to address the important *Ontological Question* about powers – the question of what, if anything, powers themselves *are*. At the very least, he makes no explicit claim either that powers are existents of some kind, or else that they are not.

One final question is worth posing for what Shoemaker says in his (1980) – not so much a question for his 'clusters' view, but for the idea that the identity of a property is

---

[90] Shoemaker ([1980] 2003), p. 214.
[91] See, e.g., Swinburne (1980).
[92] Shoemaker (1999), p. 64. My italics.

exhausted by its potential for contributing to the powers of the relevant property-bearer. What, exactly, *is* this potential, or (perhaps better) from what does it arise? Although Mumford and Anjum embrace the 'clusters' conception as a version of what looks very much like a 'pure powers' view, it is not clear whether Shoemaker ever intended for his original 'clusters' view to hold that all properties are powers *and nothing else*. We might, for instance, try to make sense of the idea of a 'potential for contributing' to powers in terms of what might be called the 'qualitative character' or 'nature' of properties – where it might be supposed that it is this character(s) of one or more properties which 'bestows' or 'grounds' the relevant powers (whether these powers are 'conditional' or not).

But in advance of offering my *QT Account of Powers* in the next chapter, I want to urge that the idea that (genuine) properties *have* something like a qualitative 'character' or 'nature' can be misleading: properties, ways objects are, *just are* themselves a qualitative character or nature. Sphericity is a *way of being shaped*; negative electrical charge a *way of being electrically charged*; and so on. Objects' genuine intrinsic properties, their qualities or specific ways of being, just *are* the very referent of the term "qualitativity". It is something else entirely, and indeed I would suggest a category mistake, to speak as though there is some further 'qualitativity' – some qualitative character or nature – which *qualities themselves* possess.

3.1.2.2 Mumford and Anjum's clusters view

In their (2011), Mumford and Anjum (M&A) write that while Shoemaker abandoned the 'clusters' conception in favor of the idea that, as M&A put it, "properties *bestow* their bearers with causal powers … instead of being simply constituted by them", they cite two reasons for preferring his original view.[93] First, they believe his earlier view generates "a more parsimonious ontology than that in which there are properties as well as the powers they bestow", not to mention some sort of ontological dependence relation of 'bestowal'.[94] Second, whereas the earlier view tells us that properties are clusters of powers, they worry that Shoemaker's later view "would tell us no longer what a property is".[95] On these grounds, M&A thus prefer the properties as 'clusters of powers' approach. It is worth taking some time to try to unpack these two claims; I will take them in reverse order.

Is it true that Shoemaker's later view "no longer" tells us what a property is? This criticism can only succeed if the original approach really did accomplish this. On the clusters view, a property just *is* a cluster of powers. But I claimed above – and indeed in the 'promised reduction is a cheat' quotation from his (1999) Shoemaker himself appears

---

[93] Mumford and Anjum (2011), p. 3.
[94] Mumford and Anjum (2011), p. 3.
[95] Mumford and Anjum (2011), p. 3.

to agree – that this is unsatisfactory unless we are given an adequate understanding of what *powers themselves* are supposed to be, which we are not by Shoemaker himself. The question, then, is whether Mumford and Anjum can improve upon Shoemaker's original position in this respect.

In their (2011), M&A in fact recognize that it is "[a] further task is to explain what powers are and [to] defend the ontological commitment to them", but state that they "will not be attempting to complete that task here" – resting on reference to a range of authors including Mumford himself who "have done so with varying degrees of detail and success".[96] In their later (2018), meanwhile, they state that:

> Dispositions are properties of things; arguably they constitute *the* properties of things (Mumford 2008).[97]

In this quotation as well as the Mumford (2008) paper referenced in it, we get the idea that dispositions or powers *constitute* properties. On the final page of his (2008), Mumford likewise makes reference to constitution as well as identity:

> Powers/dispositions are constitutive of properties. Clusters of them will be identical with properties.[98]

Earlier in that same work, Mumford writes that "objects have [causal powers] *in virtue of* their properties", before immediately going on to say that "[t]he relation between [properties and powers] is the closest relation: identity". But, at the cost of nitpicking, it is worth pointing out that the 'in virtue of' here hardly seems explanatory if the relation between the two things is just identity or 'constitution': powers cannot meaningfully be had 'in virtue of', or 'grounded in', properties if properties *just are* clusters of powers. As I said above, one thing cannot be its own ontological 'grounds'.

In his still earlier (2004), Mumford asserts that properties are clusters of powers and then observes that there are "various interpretations of how properties might be *connected with* their powers or causal roles"[99]:

> Perhaps properties are sets of instantiated powers. Perhaps they are mereological sums of them. Perhaps property terms merely plurally denote multiple powers. A full development and defence of any of these options will require much work. Fortunately I do not have to provide it here. My claims are neutral on these options. The cluster view is that there is nothing more to a property than its powers and that

---

[96] Mumford and Anjum (2011), p. 4.
[97] Mumford and Anjum (2018), p. 66. Italics in original.
[98] Mumford (2008), p. 150.
[99] Mumford (2004), p. 171. My italics.

the powers fix the identity of the property. We don't need to commit on what exactly a cluster is.[100]

In that same book Mumford also says that "properties *provide* real causal powers"[101] and that powers "are instantiated in particulars *in virtue of* their properties"[102] before making clear that his view is a realism about powers *qua existents*:

Powers exist independently of their manifestations so may be there even if their manifestations never are.[103]

Mumford and Anjum (2011) then goes on to make the same realist claim about powers:

A disposition or power we take … to be something that has possible manifestations, though it may nevertheless still *exist unmanifested*. This commits us to *realism* and, for reasons we will give much later, we do not accept that there is a reductive analysis of disposition ascription.[104]

The root of the problem I want to pose here is that, throughout these works, Mumford and Anjum assert that powers 'exist' and are 'real', yet tell us nothing about *what* powers themselves actually are, ontologically speaking. From theorists who regard powers explicitly as *existents*, the response that there is nothing at all to say here would appear to be an evasion. (Indeed M&A's aforementioned recognition that it is a "further task" to explain what powers are would seem to amount to a promissory note – one which is never adequately fulfilled by the other works they reference.)

The other reason cited for preferring the 'clusters' view is supposed to be its advantage in terms of parsimony. Mumford (2008) says that while the 'clusters' conception of properties makes do with just powers, Shoemaker's later 'bestowal' view requires not only powers and the properties that 'bestow' them, but also an account of the bestowal relation – and, presumably, governing laws as well:

It is not just that Shoemaker moves to an ontology of distinct properties and powers; in separating them he needs also to grant a *relation of bestowing* between them. … Instead of identity, Shoemaker seems to have in mind something like the laws of nature being *responsible for* the bestowing. In 1980: 222 and 233 and in 1998: 412 he mentions laws of nature governing which powers are bestowed by a property.[105]

---

[100] Mumford (2004), p. 171.
[101] Mumford (2004), p. 161.
[102] Mumford (2004), p. 200.
[103] Mumford (2004), p. 200.
[104] Mumford and Anjum (2011), pp. 4-5. My italics.
[105] Mumford (2008), pp. 145-146. My italics.

But against this claim of greater parsimony, one might urge that the 'clusters' view is not quite as simple as it seems. For while M&A allege that Shoemaker (1998) needs to accommodate this special relation of bestowal via laws of nature, it might be thought that the 'cluster' view has its own relation to account for. Thus in his (2004) Mumford says that:

> If there are properties that are clusters of distinct powers, however, what is the *bundling relation* that ties the powers together and makes them all powers of the same property or trope? In short, there is none. … There is no extra element holding a causal power within the cluster or tying the individual powers together. But were one of the powers absent from the cluster, we would have a different cluster so different property.[106]

Here Mumford denies that he has any such relation to account for. Is this right? The problem is that it is impossible to make sense of, let alone go on to assess, this deflection in advance of some understanding of *what* the existents 'bundled' together, powers, are supposed to be. If one power were "absent", we would have a different property-qua-cluster; but cluster of *what*? No extra element needed to tie *what* together, exactly?

The upshot is that while it may be superficially true that the 'clusters' view is more parsimonious than whatever Shoemaker's talk of 'bestowal' is intended to amount to ontologically, the former is wholly inadequate without some account of what powers are – some relevant (realist) answer to the *Ontological Question*. My own view, of course, is that no clear and suitable account can in principle be given, because it is an error at the outset to think that powers which can be truly predicated of objects are themselves *existents* of any kind.

3.1.3 Properties (themselves) as 'pure powers'

3.1.3.1 Bird's description of a pure powers view

In his (2007), Alexander Bird argues that what he calls 'dispositional monism' – by which he explicitly means "the view that natural properties and relations are '*pure powers*'" [107] – has two main merits.

First, the pure powers view, he says, "entails a condition for transworld identity of [all, genuine] properties (sameness of dispositional essence)" – where by a property's having a 'dispositional essence' Bird means that it has an essence or character "which may be characterized dispositionally".[108] (Bird sometimes uses the phrase "dispositional

---

[106] Mumford (2004), p. 173.
[107] Bird (2007), p. 513. My italics.
[108] Bird (2007), pp. 514-515.

character" here in place of "dispositional essence" – the former being the term we first encountered in discussion of what Bird terms the *Necessitarian Conception of Powers* in section 2.1.3.) This means that for the relevant property P "there is a stimulus S and a manifestation M such that it is essential to P that anything that possesses P thereby possesses the disposition to manifest M in response to stimulus S".[109] (Set aside the objection to Bird's 'stimulus-response' model that there might be 'spontaneous powers' – powers which do not require a relevant 'stimulus' or 'trigger' in order to be manifested.) Such properties Bird calls 'powers' or 'potencies'. He considers the example of the property of *being negatively charged*: if it is *essential* to this property that any object 'having' it attracts objects which are positively charged, then being negatively charged is a property which has a fixed 'essence' across possible worlds, i.e. is a power (or potency) and can be characterized dispositionally.

In contrast to this picture of properties-cum-powers having a fixed 'dispositional essence', what Bird calls 'quidditism' is the view that the identity of properties is a primitive or brute matter – that is, that a property is a so-called 'thisness' ('quiddity') *lacking* any fixed 'dispositional essence'. The upshot of this sort of primitive identity is supposed to be that properties have their 'dispositional essence', if at all, only *contingently* (say, because of ultimately contingent, 'governing' laws of nature) – which would "permit the swapping of causal powers by properties" across possible worlds (or perhaps even within the same world, should the laws somehow change).[110] Proponents of powers including Bird regard this as an unacceptable outcome: it would entail the possibility that, e.g., "the properties actually filling the charge-role and the inertial-mass-role could swap those roles to yield a new possible world".[111] Instead, powers theorists believe that whatever 'role' properties play is one they play essentially or necessarily. (This, of course, is true for the 'role' my *QT Account* accords properties: truthmaking is a necessary relation.)

But we might pause for a moment to query the move from (i) the contrast between properties which have a 'dispositional essence' only contingently (so-called 'quiddities') and properties which have a 'dispositional essence' which is 'modally fixed' to (ii) the idea that properties of the latter type *just are* powers or potencies. As Bird himself put it, quidditism entails that properties can 'swap causal powers' – that they have a 'dispositional essence' only contingently (if at all). How does the rejection of quidditism amount to the view that properties literally *are* causal powers – rather than simply the view that properties *cannot* 'swap causal powers', powers being something *further* to properties (if they are even existents in the first place)? Powers are not literally parts or constituents of properties, contrary to one possible interpretation of the 'clusters' view rejected above.

---

[109] Bird (2007), p. 514.
[110] Bird (2007), p. 515.
[111] Bird (2007), p. 515.

The most natural way of understanding the claim that properties cannot 'swap' causal powers would be the idea that properties, i.e. qualities or ways of being, *bestow* (or *confer*) the specific powers they bestow *as a matter of (metaphysical) necessity* – where these powers, if they are reified at all, would be understood as something *further to* the properties which bestow them. (My *QT Account*, again, embraces talk of 'bestowal' but rejects the idea that powers themselves are existents of any kind.) Here we return again to the question of why we should accept what Bird himself termed the *Necessitarian Conception of Powers* – of why, even if it is true that properties have a certain causal/dispositional/nomic role as a matter of essence or necessity, we should understand these properties themselves as *powers*. I can see no answer or clarification from Bird here; my diagnosis, as elsewhere, is that this is little more than a product of the assumption that if there can be true ascriptions of powers to things, then powers themselves must be properties or features of those things.

The second purported advantage of dispositional monism or the pure powers view – one it might be thought to share with the 'powerful qualities' and 'mixed' or dualist views considered shortly – is that it "permit[s] an account of the laws of nature as *generated by* dispositional essences", or else altogether "*obviate[s]* the need for laws".[112] Lacking the space for any serious discussion of laws, I make a few brief suggestions about what so-called 'laws of nature' amount to, on my *QT Account of Powers*, in the Conclusion – noting that my own, 'quasi-realist' account of powers shares this same virtue *without* having to try to make sense of the idea of powers as properties, i.e. *ways objects are* (or else as being 'clusters' of powers, etc.).

3.1.3.2 Evaluating the pure powers view

To say that a property is a 'pure power', on the *Necessitarian Conception* (section 2.1.3), is apparently to say that the property is itself *nothing more than* the relevant causal/dispositional/nomic role which it 'has' of necessity. Bird himself holds that "dispositional monism [i.e. the pure powers view] is the view that *all there is* to (the identity of) any property is a matter of its second-order relations to other properties".[113] He also says that the 'essence' of a disposition is *relational* rather than intrinsic. By this he means that "the essence of a property *is a relation to other properties*".[114] What this in turn means, apparently, is that properties have an essence or character, and this essence is a relation to other properties which are themselves relations to further properties, and so on.

[112] Bird (2007), p. 515. My italics.
[113] Bird (2007), p. 527.
[114] Bird (2007), p. 524. My italics.

(I can make no clear sense of the idea that a property or *way of being* is itself a 'relation' to other *ways of being*, etc.; but I set the complaint aside for the moment.)

In any case, the standard way of describing the 'pure powers view' in the literature is as above – i.e., as the view that properties are powers *and nothing else*. One problem, even with Bird's reference to the 'essence' of a property, is that it is unclear in the first place what a power could actually *be*; another is that it is one thing to say that a property *has* a (causal and/or dispositional and/or nomic) role (consistent with Bird's own *Necessitarian Conception of Powers*), quite another to say that it *is* that very same role. I return to these complaints momentarily.

The pure powers view, understood literally, appears to some opponents, both realists and non-realists about powers, to introduce the prospect of a vicious regress – one which has the alleged result of no property ever getting its identity fixed. The idea, in very general form, is that if the identity of a property-cum-power is determined wholly by its distinctive type or types of manifestation (and perhaps also its distinctive type or types of stimulus), but that manifestation-type(s) (etc.) is itself just a further property(s), then *no* property can ever get its manifestation fixed by anything, because we have on our hands a regress of properties which either goes on endlessly or else circles back on itself in some 'vicious' or problematic way.[115] Bird, for his part, proposes that this sort of regress objection can be answered by fixing the identities of properties in terms of their positions in "structure[s] of manifestation and stimulus relations".[116]

But my own view is that the regress objection concerning identity only gets off the ground in the first place if we regard manifestations of powers as themselves being *properties-cum-powers*. And I do not think this makes any good sense. The manifestation of a power *to do something* is the bearer of that power's *doing that very thing*, performing the relevant type of *action*. Actions, in turn, are events rather than properties: they are *things objects do* rather than *ways objects are*. (See section 1.3.) As such, it is inappropriate to regard manifestations of properties as themselves being properties, and thus inappropriate to regard them as being properties-cum-powers (as on the pure powers view).

Either way, there are a number of other quite serious problems for the pure powers view. Two of those were just mentioned above. The first is that it is very difficult to grasp how a power *to act* or *to be acted upon* could itself be a *way something is* – a genuine property or feature of the thing to which the power is predicated. Talk of powers concerns what objects either *could* or *would* do, or have done to them, in appropriate circumstances; and, I will argue, we can *explain* why objects can be said to 'have' the powers they have in

---

[115] See, e.g., Lowe (2006), p. 138.
[116] Bird (2007), p. 524.

terms of their intrinsic properties, their qualities or ways of being. I do not believe that there is any way to make good sense of the idea that powers themselves are *ways objects are* – nor, for that matter, that powers are existents of any kind at all. The concepts *power to act (or to be acted upon)* and *way of being* are simply too different to be assimilated in this way. To just assume that powers *must* be ways of being is to be misled by language into supposing that any true predication of something to an object *x* must be a predication of a (genuine) property or feature of *x*.

One response to this last objection is that it is precisely the idea of a 'way of being' which is being jettisoned by the pure powers theorist's (apparent) claim that there is no 'qualitativity' to properties. The rejoinder to this, in turn, is the following question: if any genuine property of something is not literally a specific *way that thing is*, then what else can a property *be*?

The second problem already mentioned is that while the *Necessitarian Conception* talks of powers being properties which *have* a certain sort of role(s) as a matter of 'essence' or necessity, the pure powers view must apparently *identify* properties-cum-powers with that same role(s). But this is to say that a property *just is* a certain role and nothing else – that there is nothing more to the property than that role. And this picture seems incoherent: there can be no roles without things which 'have' or 'play' those roles, yet on the pure powers view there is (as far as properties go) only *the role(s) itself*. (Notice that we cannot appeal to an *object*, the 'bearer' of the relevant property-cum-power, and suppose that *it* is the thing which 'has' or 'plays' the relevant role. For this is inconsistent both with the *Necessitarian Conception* and with Bird's own description of the pure powers view above.)

A third objection to the pure powers view concerns explanation. If properties are nothing but 'pure powers', then what is it that explains *why* the relevant power-bearer has just that property-cum-power (at the relevant times)? And what, as far as the intrinsic features of the power-bearer are concerned, explains why the power-bearer *manifests* that property-cum-power (when it does)? On my *QT Account*, objects' qualities, their *ways of being*, provide (at least part of) the needed explanations. The question of why an object 'has' the specific qualities it has – e.g., why the ball is red and spherical and has a mass of 3.0 kilograms – is a historical or causal question; the question of why an object 'has' the powers it has, on the other hand, is a metaphysical one, having to do with just which propositions are true, *in virtue of* the object's qualities, concerning how that object either could or would behave in relevant circumstances. Proponents of the 'powerful qualities' and 'mixed' views considered below might also attempt to ground such explanations in objects' qualities, e.g. by appealing to identity or else to a 'bestowal' relation (where what is 'bestowed' might itself be an existent on the 'mixed' view). But no such move is available to the pure powers theorist, for whom there can apparently exist *no 'qualitativity'*

whatsoever in the world.[117] We are left, it would seem, either with an appeal to mysterious 'governing laws' or else to brute contingency – two outcomes which 'realists' about powers explicitly seek to avoid.

Notice that the problem here goes beyond the lack of a suitable *explanans*. The idea of a world altogether devoid of qualitative character is, I submit, the idea of a world which is in fact completely and utterly empty. This would be a world wholly unlike our own – a world without objects, since objects must have *qualities* of some sort or another, and without any happenings or occurrences, since events by definition involve objects' qualities (as changes in those qualities, or as activities they perform, or have performed upon them, in virtue of having just those qualities). In our world, on the other hand, it certainly seems as though there are objects – whatever exactly the fundamental objects might amount to – and that these objects do have various kinds of intrinsic properties and do participate in events of various sorts. Among these objects are human persons ourselves, and among our properties or activities include the various kinds of conscious mental experience we undergo, each having a distinctive sort of qualitative or phenomenal 'character'. This, of course, is precisely to say that 'qualitativity' is an ineliminable part of conscious experience – though much more than this as well.

It is considerations of this last sort in particular – the need to accommodate qualitativity of some kind in the world – that motivate many to move away from the pure powers view, most commonly toward the 'identity' or 'powerful qualities' view.

3.2 The identity or 'powerful qualities' view of properties

3.2.1 Martin and Heil

The roots of the 'identity' or (as it is now more commonly called) 'powerful qualities' view, championed by C.B. Martin and John Heil, lie in Martin's earlier (1993) description of what might be called a 'two-sided' view of properties. On this 'two-sided' view, all (genuine) properties have both a qualitative 'side' or 'aspect' and a dispositional or powerful 'side' or

---

[117] Notice, crucially, that if the pure powers theorist does try to fit some sort of qualitativity into properties-cum-powers – that if by 'pure powers' she does not in fact mean literally powers *and nothing else* – then by definition the resulting view really becomes the powerful qualities view instead. See Taylor (2018) for an argument that the pure powers view, at least as presented by proponents, and the powerful qualities view are in fact one and the same. My preference, rather than saying the two views are really just the same view, is to suggest that it might turn out that no one really defends a genuine 'pure powers' view, after all. But quotations above from Bird certainly seem to make it sound as though he is rejecting the idea that any properties are anything more than a certain 'role(s)' – or, as I would put it, that he is rejecting the idea that any properties are themselves *qualitative characters*.

'aspect' – with no particular direction of priority or dependence between the two. A property, on this view, could be understood as analogous to a two-sided coin.[118] The problem is that such a view does not appear to be coherent. Whereas coins are physical composite objects, properties themselves are not and do not have proper parts (whether or not 'sides' themselves are really parts) – so what, exactly, is a 'side' or 'aspect' of a property, if *not* a 'part' of it? Moreover, as David Armstrong points out[119], we might ask whether the link between the two 'sides' is supposed to be *contingent* or else *necessary*. If it is contingent, then it seems that the qualitative and dispositional sides could in principle 'come apart' (rather than necessarily covarying), perhaps such that any qualitative 'aspect' could 'link up' with *any* dispositional 'aspect'. This would be an unacceptable result for a view which is intended to somehow explain powers in terms of qualities (or powerful 'aspects' in terms of qualitative 'aspects', whatever). On the other hand, if the connection is supposed to be necessary, then we might ask why it is so; Armstrong himself supposes that such necessity would be altogether inexplicable – the presumption being that appeal to it would be a rather ad hoc move.

Martin (along with Heil) later explicitly renounced this way of understanding properties and powers, saying that "what is qualitative and what is dispositional for any property is less like a two-sided coin or a Janus-faced figure than it is like an ambiguous drawing".[120] The identity or powerful qualities view which emerged thus dispenses with talk of 'sides' or 'aspects' and holds instead that what is qualitative *just is* (necessarily) dispositional, and what is dispositional *just is* (necessarily) qualitative; Martin fittingly termed this a "surprising identity".[121] As Martin and Heil describe it, "the dispositional and the qualitative are *identical with one another* and with the unitary intrinsic property itself".[122] The "purely qualitative", Martin says, "is as much a 'logical fiction', in Hume's phrase, as is the purely dispositional".[123] Likewise, Heil writes that the "dispositional-qualitative distinction is one of conception only, what the scholastics and early moderns would have called a distinction of reasoned reason, not a real distinction".[124]

We should note, briefly for the moment, that the powerful qualities view appears committed to regarding at least many powers as 'multi-track' – i.e., as being powers with more than one distinctive type of manifestation. Indeed proponents of the view acknowledge and endorse this result. Consider, for instance, a particular electron's property of being *negatively electrically charged*. In virtue of being negatively electrically charged, the electron has both a power to attract protons and a power to repel other

---

[118] See Martin (1992), p. 184.
[119] See Armstrong (2005), pp. 314-315.
[120] Martin (2007), p. 65.
[121] Martin (2007), p. 64.
[122] Martin and Heil (1999), pp. 46-47. My italics.
[123] Martin (2007), p. 63.
[124] Heil (2020), p. 21.

electrons. These certainly seem like different powers, since they involve what are altogether different types of activity. Indeed the electron also has corresponding causal liabilities: namely, to itself be attracted by protons and repelled by other electrons. (This is to suggest that when two objects attract and repel one another, each both acts upon, and is acted upon by, the other.) If the electron's negative charge is itself a power (to act or to be acted upon), then it seems as though it must be a multi-track power – a power of its bearer to perform, or have performed upon it, each of these distinctive types of activity.

In section 4.7.1, I consider E.J. Lowe's case against multi-track powers, which involves regarding the idea as an unnecessary departure from the more natural way of understanding all powers, namely as 'single-track'. Neil Williams, in turn, replies to Lowe on behalf of 'multi-tracking'. Although I express some affinity for the idea that the concept *power to act or to be acted upon* is indeed most naturally understood in the 'single-tracking' way, I argue that my *QT Account of Powers* effectively dissolves the debate through its insistence that reference to powers is merely a convenient 'shorthand'.

More needs to be done to try to make clear sense of the identity thesis. But first, it is worth noting a main motivation for adopting it over the pure powers view. Martin and Heil appear to agree with the pure powers theorist's idea, encountered in discussion of Shoemaker above, that any property that was purely 'qualitative' would fail to be 'detectable', and thus, at the very least, could not be something that we have any reason to believe really exists. As Heil puts it, "a property that *made no difference* to the causal powers of its possessors would, it seems, be a property the presence of which made no difference at all".[125] (For my part, I fully agree with this last line – though I do not think it justifies supposing that objects' properties must be something more than qualities, specific ways of being. The 'difference' that *all* genuine properties make is wholly a matter of their serving as the relevant truthmakers; see Chapter 4.) But they disagree with respect to the idea that there could exist a world devoid of qualities or 'qualitativity'. Indeed Heil suggests that such a world is "literally unthinkable" – presumably because conscious thought necessarily involves qualitative or phenomenal content of some sort – and would be "indistinguishable from the void".[126] Although he is not always very explicit on the matter, we should also note that Heil often speaks as though objects' qualities, their *ways of being*, serve to *explain* objects' powers; thus, e.g., his slogan, which I embraced in the Introduction, that "objects do what they do because they are as they are".[127]

Although I take the identity or powerful qualities view to be an improvement upon the pure powers view in these respects, it is nonetheless quite hard to make very clear

---

[125] Heil (2003), p. 77.
[126] Heil (2003), p. 76.
[127] Heil (2020), p. 19.

sense of – a product, I believe, of the effort to force powers into the position of properties or features of objects. The suggestion here is that the view is not ultimately coherent.

What, we should ask, does it *mean* to say a given property is at once both qualitative and dispositional? In his (2004), Heil articulates the identity thesis in the following way:

> If *P* is an intrinsic property of a concrete object, *P* is simultaneously dispositional and qualitative; *P*'s dispositionality and qualitativity are not aspects or properties of *P*; *P*'s dispositionality, P_d, *is P*'s qualitativity, P_q, and each of these *is P*: $P_d = P_q = P$.[128]

But can any clear sense be made of the idea that a property *P* literally *just is* its (own) 'qualitativity' and its (own) 'dispositionality'? How are we even to attempt to judge this identity claim? We might describe an *object* as being 'qualitative', since it must have some qualities (specific ways of being) or other; and we might perhaps describe an *object* as being 'dispositional' insofar as it can correctly be said to have a given power to act or to be acted upon. But I must confess to simply having no real grasp of how to make good sense of the application of these adjectives to *properties*. Perhaps the idea is just that properties are at once both *qualities* and *powers* – that, e.g., sphericity is a quality, a way of being, as well as a ('multi-track') power. But as I have already complained in section 2.1.3, regarding qualities like particular sizes, shapes, and so on as themselves being powers *to act* or *to be acted upon* is an abuse of the concept *power* as expressed in the commonsense starting-point **POWER₁** – an unnatural and incoherent move only forced upon us by the assumption that powers must be properties or features of the things which can truly be said to 'have' them. We can do better than this.

Complicating matters, Heil suggests that while it might be "convenient", it is also "potentially misleading ... to describe properties *as powers*, or *as qualities*, or *as both powers and qualities*"; rather, properties "could be thought of as *contributing* in distinctive ways to the dispositionalities and qualities of their bearers".[129] It is easy enough to understand one thing that we might mean by saying that properties 'contribute' to the 'dispositionalities' of their bearers: this might simply be akin to saying that properties 'bestow' or 'confer' powers. Consider, then, what Heil says about the powers or dispositions of a spherical tomato:

> The tomato's sphericity is a quality, but it is *in virtue of* possessing this quality that the tomato would roll. The tomato's redness is equally a quality, and *in virtue of*

---

[128] Heil (2004), p. 243.
[129] Heil (2004), p. 243. My italics.

possessing this quality, the tomato would look red in bright sunlight, black in blue light.[130]

The natural way to read this is as saying that (e.g.) the tomato has a power to roll (in appropriate circumstances) *in virtue of* being spherical (in the specific way it is); this is equivalent to saying that the tomato's particular sphericity bestows a power to roll (in appropriate circumstances). But while this claim that can then be quite naturally cashed out either in terms of either the 'mixed' view of properties (next section) or my *QT Account* (Chapter 4), it is not available to the identity or powerful qualities theorist, since on that view properties cannot just be *one and the same thing as* the powers they literally 'bestow'.

What, on the other hand, could it mean to say that properties 'contribute' to the *qualities* of their bearers? What is a property if not a quality, a specific *way an object is*? Heil offers no clarification, only going on to say that "the dispositionalities and qualities possessed by a given object *depend on* all its properties".[131] But how can either or both of 'dispositionalities and qualities' *depend on* the properties with which they are supposed to be identical?

Despite his warning in the above quotation that it is 'potentially misleading' to describe properties as 'both powers and qualities', Heil suggests elsewhere that we can solve certain problems (concerning causality, modality, and so forth) "by *identifying* powers and qualities, [thereby] turning properties into *powerful qualities*".[132] But even the term "powerful qualities" seems problematic. To call something powerful is to say that it *has* some power(s) to act or to be acted upon; and saying that qualities themselves have powers to act is of course quite different from saying that qualities just *are* powers (namely, of the things which 'have' those qualities).

Perhaps, in the end, the phrase "the dispositional" can be understood just as referring to a quality's having the relevant sort of causal/dispositional/nomic role(s) as a matter of necessity, i.e. its meeting the *Necessitarian Conception of Powers*. In one place, Heil says that "a property's dispositionality and its qualitativity ... inseparably constitute [the property's] nature".[133] Maybe we can understand this as amounting to the claim that any genuine property (i) is, by its nature, a quality, a way something is, and (ii) has the relevant sort of role(s) necessarily. Then we can indeed say that qualities just are powers – with most if not all being 'multi-track' powers. But I have already expressed misgivings about this way of understanding the relation between properties and powers (see section 2.1.3).

---

[130] Heil (2012), p. 61.
[131] Heil (2004), p. 243. My italics.
[132] Heil (2010), p. 70.
[133] Heil (2012), p. 61.

My aim in the next chapter is to show that my *QT Account* can do a better and clearer job here.

3.2.2 Jacobs' appeal to truthmaking on behalf of the powerful qualities view

Recognizing that the immediate challenge for the powerful qualities view is to "say how [properties] could be both [qualitative and powerful] at the same time", Jonathan Jacobs attempts in his (2011) to offer a 'reformulation' of the approach – what he calls the 'truthmaker view'. On this approach, all (genuine) properties are 'qualitative' – where, Jacobs says, "to be qualitative is to be identical with a thick quiddity", i.e. with a quality. (Jacobs seems to understand the term "thick quiddity" to refer to a property which has a character or nature of its own – though recall my reservations above about supposing that qualities themselves *have* character, as opposed to just *being* a character, a qualitativity.) Put more simply, all properties are qualities – specific ways objects are. But more than this, all qualities are also 'powerful', as Jacobs puts it, because any given quality is "a nature sufficient to be (part of) the truthmaker for certain counterfactuals" concerning how objects with that quality would behave in appropriate circumstances.[134] Jacobs speaks of "a nature sufficient to be …" in order to allow that the relevant truth-bearers, whatever they are, might be contingent existents – the upshot being that "a powerful quality would still be powerful even if the counterfactuals it *would* make true don't exist".[135] (I note as well my earlier objection to describing properties themselves, rather than objects, as "powerful" here.)

Although Jacobs goes to some length to detail what the relevant counterfactuals would look like, it is not my interest here to spend time examining his counterfactuals since those relevant to my *QT Account of Powers* take a rather different shape. But I do want to highlight an important point of agreement with Jacobs: what counterexamples involving finks, masks, and mimics (section 2.3.2.3) manage to show is not "that there are *no* true counterfactuals connected with powers or dispositions", but rather "that the true counterfactuals connected with powers or dispositions are *more complicated* than we might have thought".[136] I make greater sense of this latter claim, on behalf of the *QT Account*, when discussing the notion of 'maximally specific propositions' in the next chapter.

Setting aside differences in the form of the counterfactuals of interest, I regard it a serious virtue of Jacobs' approach that it pays attention to the idea of *truthmaking* in the context of powers or power ascriptions. On my *QT Account*, qualities are indeed

---

[134] Jacobs (2011), p. 91.
[135] Jacobs (2011), p. 92.
[136] Jacobs (2011), p. 95. My italics.

truthmakers for an indefinite (if not infinite) number of propositions about how the objects having those qualities either could or would behave in appropriate circumstances. But Jacobs' mistake, to my mind, is to move from understanding qualities as truthmakers to identifying qualities themselves *as powers* (or regarding them as being 'powerful', whatever exactly this means). The concept of a power *to act* or *to be acted upon* concerns how an object either could or would behave in appropriate circumstances; it does not *itself* name a way an object is. Rather, objects can be said to 'have' powers *in virtue of* their qualities, the specific ways they are.

3.3 The mixed or dualist view of properties

A final 'realist' view of the relationship between properties and powers worth mentioning briefly is the 'mixed' or dualist view, according to which there are two types of (genuine) properties – neither reducible to the other.

George Molnar, who holds that what distinguishes powers is their being intrinsic properties of objects which are 'oriented' or 'directed' toward their distinctive types of manifestation, says that what he calls the 'S-properties' fail to meet this criterion: they are not directed toward manifestations of any kind, and most if not all of them are not even *intrinsic* properties of their bearers. The 'S-properties' include spatial location, temporal location, spatial orientation, temporal orientation, and the supposed property of 'numerical identity of parts' – that of an object's having a certain individual as a component part at a given time, which Molnar takes to be both a relational *and* an intrinsic property. The upshot for Molnar is that the S-properties are 'non-power properties', in contrast to powers.

But it might be wondered whether Molnar's view really counts as a version of dualism about *properties*, whether on the *Directed Conception* or something else (e.g. the broader *Necessitarian Conception*). This is because he holds that all 'purely' intrinsic properties – that is, all genuine properties other than the 'S-properties' – are in fact powers, making his view sound rather more like some version of dispositional monism. Molnar's so-called S-properties, arguably including 'numerical identity of parts', are not themselves intrinsic properties or qualities – and arguably are not properly understood as *properties* of objects at all, intrinsic or otherwise.

A rather different way of adopting a mixed view, mentioned above, is to embrace the idea that qualities, objects' specific *ways of being*, 'bestow' or 'confer' powers, and then regarding powers themselves as properties of those same objects. This would amount to accepting two types of properties, qualities and powers, with the latter depending ontologically upon – but, importantly, *explained by* – the former. (Would such qualities, non-powers, really fail to meet, say, the *Necessitarian Conception*? This would depend, in part, on just what we take the necessary *role(s)* of powers to be, on that

conception of powers. A dualist view of this sort could perhaps require jettisoning the *Necessitarian Conception* altogether.) But as I just emphasized, this move is quite unnatural: all genuine properties are specific *ways objects (or other bearers of genuine properties) are*, but the concept *power* does not itself seem to name a *way of being*.

To admit a second sub-category of properties *in addition to* ways of being, we must have a very good, non-ad hoc reason. But no such reason exists: the temptation to reify powers, to turn them into properties or otherwise features of things, seems to be founded on nothing more than illicitly (and non-reflectively) allowing syntax to drive ontology.

3.4 Summary

The main intended conclusion of this chapter is that each of the three main types of view (apparently) defended by self-styled realists about powers is subject to various conceptual difficulties which cast doubt on their coherence. My 'diagnosis', as I have called it, is that these problems are a product of the assumption, rarely acknowledged explicitly, that *if* there can be true ascriptions of powers to things, then powers themselves must be properties or features of those things. In the next chapter, I aim to show that a better, clearer view – one joining Jacobs in appealing to the idea of truthmaking, and which can make the best sense of the idea of 'bestowal' – is available.

Chapter 4 - The Qualities as Truthmakers (QT) Account of Powers

The conclusion of the previous chapter was that attempts to *reify* powers – that is, to regard powers themselves as *properties* or *features* of the things which can truly be said to 'have' them – face a variety of conceptual difficulties. In short, qualities, specific *ways objects are*, do not themselves seem to be *powers to act or to be acted upon*; and powers which can be predicated of objects do not themselves seem to be ways those objects are. As I noted in Chapter 1, we should not be tempted by the language of predication into supposing that all 'true' predicates refer to genuine properties of things. By trying to force powers into the position of properties, powers realists unintentionally but inevitably make reference to powers mysterious and the debate about powers more obscure. This, in turn, makes it much more difficult to explain the 'connection' between powers and their manifestations, on the one hand, and objects' properties, on the other; it is also an impediment to founding accounts of causality, modality, laws of nature, and perhaps more upon an account of powers.

My aim in this chapter is to try to give reason for believing that there is a better, clearer alternative to this sort of 'realism' about powers – one which handles the 'relationship' between properties and powers in the right way. This is to regard reference to powers as a 'shorthand' for a very important sort of truthmaking relation: that between objects' qualities and certain propositions about how those objects either could or would behave in relevant circumstances. I call this view the *Qualities as Truthmakers (QT) Account of Powers*. It is this approach, I believe, which helps us to make the best possible metaphysical sense of John Heil's slogan – embraced at the very start of my Introduction – that "objects do what they do because they are as they are".[137]

4.1 Overview: qualities as truthmakers and reference to powers as a 'useful shorthand'

The *QT Account of Powers* can be summarized as follows:

> ***Qualities as Truthmakers (QT) Account of Powers***: Qualities, specific *ways objects are*, are the (sole) truthmakers for certain 'maximally specific' propositions about how those objects either could or would act, or be acted upon, in appropriate circumstances. Reference to powers to act, or to be acted upon, is nothing more than a convenient 'shorthand' for this form of truthmaking; powers and liabilities are not themselves existents of any sort at all.

---

[137] Heil (2020), p. 19.

The above formulation contains the essential basic elements of the account. But we can put things even more concisely: on the *QT Account*, to say that some object *x* has a power to φ is to say that *x* has properties which (by themselves) make it true that *x* either could or would φ in relevant circumstances.

The shorthand may be usefully extended here by saying that objects' qualities 'bestow' or 'confer' (upon their bearers) powers, and that objects 'have' the powers they have *in virtue of* their qualities. The point, however, is that we should not go on to suppose that powers themselves must either (i) be *further* properties or features of objects in addition to objects' qualities or (ii) be *identified with* objects' qualities with their powers. Not only do such moves introduce the aforementioned difficulties, but there is simply no positive reason for making them. The truthmaking 'role' that objects' qualities play helps us to secure the needed explanation of behavior in terms of objects' properties: it shows us how properties can be said to 'contribute to' powers, and how powers might be understood to be 'grounded in' or 'depend on' properties, to recall manners of speaking embraced by Shoemaker and others. And this, after all, is just what the powers realist is after in opposing so-called 'categoricalism': an explanation which does far better than any resort to Humean contingency or appeal to mysterious 'governing' laws.

I describe the *QT Account* as a 'quasi-realist' account of powers for two reasons. First, because it shares the same primary motivation with realism about powers: accounting for ascriptions of powers in terms of some sort of necessary or essential 'role' played by objects' properties themselves, without any need for 'governing laws' – a role which might have important implications down the road, so to speak, in metaphysics, e.g. for accounts of modality and laws. In this respect it is entirely opposed to the motivations of those various neo-Humeans (e.g. Lewis) and 'nomic necessitarians' (e.g. Armstrong) who identify as proponents of so-called categoricalism about properties. Second, although the account is not realist about powers themselves (i.e., rejects the idea that powers are *existents* of any kind), it *is* realist in a different sense: it insists that there are mind-independent truthmakers for power ascriptions.

After a brief clarification about manifestations of powers in section 4.2, I spend sections 4.3-4.5 discussing the nature of the truthmaking 'relation' and each of its two sides.[138] I note that truthmaking is a *necessary* relation, and suggest that whether or not universals exist, the truthmakers must be *particular* ways objects are, i.e. must be modes (particularized properties) rather than property-universals. I then insist that the key to understanding the relationship between properties and various sorts of counterfactuals (and any other types of propositions) about how objects either could or would behave is to

---

[138] I put the term "relation" in single quotes here to denote that I am using the term informally – that is, in a way that does not involve any suggestion that there is some *truthmaking relation* which is an existent of its own.

point toward the *right* propositions – what I call 'maximally specific' propositions about behavior.

4.2 Getting clearer about manifestations

Shortly after giving my initial characterization **POWER₁** (section 1.1), I distinguished powers *to act* from powers *to be acted upon*, where the latter might be termed 'liabilities'. At the core of each of these concepts is the idea of *activity*: a power is a power *to perform*, or *to have performed upon oneself*, some type of behavior, a doing. I went on to suggest that activities comprise one of two main varieties of *events* (or *processes*), the other variety being changes in the properties (and perhaps relations) of objects.

 I regard the notion of activity as essential to the concept *power* – and to cognates like *disposition*, *ability*, and so forth – as we use these concepts in everyday and scientific language. To dispense with any notion of activity – as on Neil Williams' account of powers as powers *for states of affairs* – is to deploy a different concept entirely (unless, of course, by a 'state of affairs' we mean precisely an activity of some kind). Such a revisionary[139] move requires a sufficient justification, such as grounds for accepting the conclusion that the idea of *activity* or *doing* is somehow metaphysically impossible or dubious: that there are, at most, only *happenings* or *occurrences* in the form of *changes*, or various displays of *states of affairs*, in this or any possible world.

 Why should we suppose that there really is activity in the world? For one thing, it seems plausible that if there is change in the world, then unless *all* such change is in a sense spontaneous, there must be some 'engine' to at least some forms of change – something which *produces* or *brings about* that change, which *makes* it happen. (In section 5.1.1, I argue that mere 'difference-making' is not enough for an instance of causation: any phenomenon worthy of the name causation must involve *production*.) Changes in objects' properties and relations, we might suppose, are either *produced* by something acting upon those objects, or else they are purely stochastic occurrences. But to produce or bring something about, it would seem, is to *act* or *do* in some way; indeed this is just what I argue in defending my positive approach to causation in Chapter 7.

 In any case, we have a further, prima facie very compelling reason for thinking that there really are various forms of activity in the world: our own experiences of acting, and of being acted upon, in different ways. We ourselves *do* a variety of things; we are *active* often and in many ways. For example, we make a wide variety of *choices* about what to do, both immediately and in the future; we consciously and deliberately *move* our bodies

---

[139] 'Revisionary' in the sense that it explicitly aims to modify what we *mean* when we speak of powers, dispositions, abilities, and the like in everyday and scientific discourse.

around; we exert both mental and physical effort in a variety of ways. Thus, for instance, I am aware of my consciously making a choice to lift the barbell, of moving my legs and arms into the appropriate positions, and of exerting effort as I struggle to lift it into the air and above my head. Or consider the experience of engaging in an arm-wrestling match with another person (of, let us suppose, similar strength): not only is one aware of one's own choices, deliberate movements, and effort or strain, but one can literally *feel* the force exerted upon one's arm by the other person performing relevant actions of their own.

From our own experiences of seemingly doing things, and having things done to us, we might then generalize and suppose that not only non-human animate objects, but indeed inanimate objects, likewise engage in activities of various sorts in appropriate circumstances (depending, of course, on what those objects are like, i.e. what qualities they have). Is this generalization illicit? It is not clear what reason there might be for thinking this is so – that is, for thinking that our experiences support the conclusion that we ourselves have powers *to act* as well as liabilities *to be acted upon* (by other objects), but (say) inanimate objects do not.

Might it be the case that we can speak truly of there being activity in the world, but that such activity can somehow be reduced ontologically to something else? It seems not: if there are true propositions of the form <*x* is (now) ɸ-ing>, then the only suitable candidate to serve as a *truthmaker* for such a proposition is *x*'s ɸ-ing itself, i.e. *x*'s activity of doing ɸ.

If there really is irreducible activity in the world, then we can speak meaningfully and usefully of *powers to act* and *to be acted upon*. What we may then call 'manifestations' or 'exercises' of these powers and liabilities would be precisely the relevant varieties of activity: *x*'s manifestation of a power or liability to ɸ, for some action-type ɸ (or ɸ-ing), is an instance of *x*'s ɸ-ing, i.e. of *x*'s doing (or having done to it) ɸ. The manifestation of *x*'s power *to act* is therefore the particular event or process of *x*'s acting in the relevant way. But the manifestation of *y*'s power *to be acted upon* (i.e., *y*'s liability), on the other hand, is not an activity of *y* – for it is *y*'s having something done *to it* by some further object *z*, not *y*'s doing something. Talk of the manifestation of a liability is thus to be understood as referring simply to the fact or state of affairs which is *y*'s having something done to it by *z* – a fact which consists in nothing more than *y*, *z*, and the activity (an event or process) performed by *z* upon *y*.

In section 7.5.1, I distinguish manifestations of causal powers (to act) and liabilities (to be acted upon) from the *effects* produced in causation, holding that any instance of causation involves, as a matter of necessity, two simultaneous events or processes: the activity of one object ('agent') upon another ('patient'), and the effect produced by the agent-object in the patient-object, namely a change in the properties (or perhaps relations) of the latter.

4.3 The truthmaking relation

4.3.1 An overview of truthmaking

The appeal to truthmaking here is motivated by the conviction that at least some truths about reality must be *made true*, i.e. must be true in virtue of specific 'ways' that reality is.[140] As Gonzalo Rodriguez-Pereyra puts it in his (2005), "the root of the idea of truthmakers is the very plausible and compelling idea that the truth of a proposition is a function of, or is determined by, reality".[141] A *truthmaker* is some aspect of reality, in particular some *existent*, which necessarily makes one or more truthbearers true (perhaps in concert with other truthmakers, other relevant existents).[142] (In what follows, I assume that the primary truthbearers are *propositions*, though the approach could perhaps be modified to count sentences, mental representations, or other items as the truthbearers instead.) The idea, then, is that the kinds of propositions of primary interest to my *QT Account of Powers* (section 4.5) are precisely the kinds of propositions which require truthmakers.

To say that a truthmaker *makes* a proposition true is not, of course, to imply any sort of causal relation, nor to suggest that the truthmaker *does something* or is *active* in any way. Rather, to appeal to a 'making-true' relation is simply and exactly to say that the relevant proposition is true *in virtue of*, or *because of*, that truthmaker – or, as some might like to put it, that the truthmaker *grounds* the truth of the proposition. Neither can truthmaking just be entailment, since entailment is a relation between *propositions* (or sentences, expressions, etc.), i.e. between truthbearers alone. Rather, proponents typically characterize truthmaking as a relation which involves a 'primitive' variety of necessitation, according to which some item's serving as a truthmaker for some proposition is a matter of its necessitating the truth of that proposition. This necessitation is asymmetric: the truthmaker necessitates the truth, but not vice versa. Nonetheless, truthmaking yields 'relations' of supervenience running in *both* directions: as Rodriguez-Pereyra puts it, "truth and being supervene upon each other": there can be no change in

---

[140] In speaking of 'ways reality is', I do not, of course, mean to suggest that any such 'way' is a *property* of some existent which can be referred to by the term "reality".

[141] Rodriguez-Pereyra (2005), p. 20.

[142] Some theorists argue that there can be truthmaking without truthmakers – that some proposition's being true in virtue of some way that reality is need not amount to a relation between that true proposition and some existent or entity which is a 'truthmaker'. See, e.g., Lewis (2001) and Dodd (2002). For the reasoning given in Rodriguez-Pereyra (2005), I reject this claim, holding that truths which are made true must indeed by made true by entities, by existents of appropriate sorts.

what is true (at least, those truths which require truthmakers) without a change in truthmakers, *and vice versa*.[143]

A proponent of truthmaking might suppose that all truths require truthmakers, or else that only some do. Although it does not matter for my purposes here, I am inclined toward the view that so-called 'analytic' truths, as well as certain 'synthetic' truths such as truths of logic and mathematics, are not true in virtue of some way(s) that reality is, i.e. do not require a truthmaker. But the truthmaking theorist will accept that a very large number of both non-modal and modal truths *are* grounded in reality in the way just described. For instance, the non-modal proposition <this apple is red> is true, if it is, in virtue of the redness of the relevant apple, i.e. that apple's particular way of being colored. The true propositions of primary interest to the *QT Account*, meanwhile, are modal propositions, since they concern how objects either could or would behave in appropriate circumstances. These propositions are made true by particular *ways objects are*, i.e. particular qualities of the relevant objects.

Importantly, truthmaking can be a one-one, one-many, many-one, or many-many relation. This is to say that, depending on the truths and truthmakers involved, one truthmaker might make true exactly one or else multiple propositions about reality, and multiple truthmakers might jointly make true exactly one or else multiple propositions about reality. In keeping with the understanding of reference to powers as a 'useful shorthand', then, we might say that objects' qualities 'bestow' or 'confer' powers in a one-one, one-many, many-one, or many-many way, depending upon the specific qualities and propositions of interest in a given case.

It is of course beyond the scope of this chapter to defend anything approaching an *account* of truthmaking; for that, I lean on existing work in, e.g., Rodriguez-Pereyra (2005), Lowe (2006), and Heil (2012), among others. The debate about truthmaking is ongoing, and there are a variety of disagreements among even its proponents. For this reason, the appeal to truthmaking here is very much a 'motivated *assumption*': I have urged that at least some true propositions *must* be true in virtue of something which really exists in the world, a truthmaker, and I aim to show what attention to truthmaking can deliver with respect to the three fundamental metaphysical questions about powers named in section 1.2.

4.3.2 Truthmaking and explanation

It is important to note that truthmaking is not *itself* an *explanatory* relation; rather, it is a kind of ontological relation – a dependence of truthbearers, for their truth, on truthmakers,

---

[143] Rodriguez-Pereyra (2005), p. 19.

existents of certain kinds – attention to which *yields* explanations. Sometimes these explanations are, in a sense, trivial and uninteresting; other times attention to truthmakers helps to *uncover* explanations which are extremely important and non-trivial.

Consider, then, the following three types of propositions, where *x* is some individual object, φ-ing refers to some type of *activity*, and *N* refers to some quality, a specific *way of being*:

p_1: <*x* is now φ-ing>

p_2: <*x* is *N*>

p_3: <*x* would φ if *C*>

While p_3 is, importantly, a modal proposition (since it concerns either what *would* or else what merely *could* be the case), p_1 and p_2 are not. But each of these three propositions seems to require a truthmaker – some existent(s), an item which really exists in the world, in virtue of which that proposition is true rather than false (or, for that matter, true rather than indeterminate). That is, proposition p_1, <*x* is now φ-ing>, is true at a time *t* if and only if *x* really is φ-ing at *t*; the truthmaker for p_1, what that proposition is true in virtue of, is thus precisely *x*'s φ-ing, its activity (e.g., *x*'s repelling another electron). The same goes for p_2, whose truthmaker is *x*'s relevant specific *way of being, N,* at *t* (e.g., *x*'s negative electrical charge).

We should notice that attention to the truthmakers for p_1 and p_2 in particular, though the truthmakers explain *why the relevant proposition is true* (since p_1 and p_2 are true *in virtue of* their truthmakers), hardly yields any non-trivial explanation of what those propositions are 'about' – *x*'s activity in p_1 and *x*'s property in p_2. That is, *x*'s activity of φ-ing does not itself explain, e.g., why *x* is φ-ing (at the relevant time); and *x*'s being *N* does not itself explain why *x* is *N* (at the relevant time). For those explanations, we must look elsewhere. Take the property that p_2 is 'about': perhaps *x*'s being *N* is an 'accidental' property of *x*, the onset of which was caused by some other object acting upon *x*; or perhaps being *N* is an 'essential' property of *x*, such that any object of *x*'s type (e.g., any *electron*) must have that property. In the first case, an explanation of why *x* is *N* will be, at least in part, a causal explanation of how *N* itself came to exist; in the second case, explaining why *x* is *N* might instead consist in explaining why *x* (an 'instance' of *x*'s type), rather than *N*, exists when it does.

Whether attention to truthmaking itself yields any non-trivial explanation of anything beyond *the truth of the relevant proposition* depends upon the type of proposition of interest. Perhaps the lesson here is that when (i) the relevant truthmakers and (ii) what the proposition is 'about' are *one and the same thing*, there is no non-trivial explanation of anything, by those truthmakers (at least *on their own*), other than the truth of the relevant proposition (i.e., *why* that proposition is true).

91

But now turn to the modal proposition p_3, which is 'about' behavior of x that is (in this case) *necessary* should certain circumstances obtain. This proposition has just the kind of form of interest to my *QT Account of Powers*: it is a proposition concerning how an object (x) either *could* or *would* behave (ϕ) in appropriate circumstances (C). *In virtue of what* might such a proposition be true – that is, what might its *truthmakers* be? My answer, again, is that when we have the right kinds of propositions – the 'maximally specific' propositions about behavior (section 4.5) – we can see that the relevant truthmakers are strictly qualities of the relevant object x, specific ways that x is (e.g., negatively charged) at the relevant time. But, crucially, these qualities explain more than simply *why the proposition p_3 is true:* they explain why x would ϕ in C, that is, why it is necessary that x would ϕ should circumstances C come to pass.[144]

Indeed the truthmakers for p_3 help to explain even more than this. In those circumstances C where x really is (now) ϕ-ing, those very same truthmakers – x's specific *ways of being*, its qualities – partially explain *why x is (now) ϕ-ing*. That is, where x and ϕ refer to one and the same object and activity, respectively, in p_1 and p_3, the truthmakers for p_3 – x's qualities – partly explain not *why p_1 is true* (since p_1 is true strictly in virtue of x's now ϕ-ing), but rather what p_1 is 'about', namely x's (now) ϕ-ing, its activity of doing ϕ. In addition to part of the explanation for x's activity being a matter of how x itself is intrinsically (i.e., what qualities it has), the rest of the explanation for why x is ϕ-ing *here and now* concerns why exactly the circumstances C obtained – that is, why x came to 'find itself' in circumstances *conducive to* (indeed, in this case, circumstances which *necessitate*) its doing ϕ.

I return to these issues in section 4.6, when making clear how my *QT Account* answers the *Explanatory Question*.

4.4 The relevant truthmakers: qualities, i.e. ways objects are

In section 1.3.2.1, I noted E.J. Lowe's observation that talk of *ways objects are* is ambiguous between properties conceived as particulars and properties conceived as universals. A universal, if such really exist, would be something 'repeatable' – an *existent* which can exist or be 'exemplified' or 'instantiated' in different places at the same time; a particular property, on the other hand, is a one-off, something which is unique to an object and thus not repeatable in this sense. I then suggested that while the acceptance of

---

[144] Implicit here is the idea that (i) explaining why <p> is true and (ii) explaining why p are not quite the same thing: the former is an explanation of why a proposition is true, the latter an explanation of whatever that proposition is 'about'. If I want to know why it is raining outside right now, I do not go around asking people the question, 'In virtue of what is the proposition <it is raining outside right now> true?' – the correct answer to which is precisely *the rain (or perhaps the raining) itself*.

universals is compatible with the *QT Account of Powers*, it seems that this can only be if we also accept particular properties, i.e. 'modes', as instances of property-universals. My aim in this section is to explain why this is so.

4.4.1 Qualities as modes (strictly)

Consider, then, a view according to which all genuine properties (i.e. qualities) are 'modes' or particularized properties and universals do not exist. A mode would be an object's *particular* specific way of being (at particular times): e.g., its very own, particular color, shape, mass, net electrical charge (if any), and so on. Modes cannot be shared by more than one object, either at a single time or at separate distinct times – for modes cannot be 'passed around' by distinct objects. This is because modes depend for their very identity on the particular object whose property – whose particular way of being – they are. Objects can of course bear modes which are similar, to varying degrees (perhaps including exact similarity), to the modes of other, distinct objects. Thus two red apples might have approximately, or perhaps exactly, similar redness modes – where each mode is correctly understood as just that individual object's *particular way of being colored*.

If all genuine intrinsic properties (qualities) are *modes*, then, straightforwardly enough, it is modes which are the truthmakers for the relevant propositions concerning how their bearers either could or would behave in appropriate circumstances (section 4.5). If this particular apple in front of me is disposed to reflect certain kinds of light in such a way as to produce a red sensation in my visual field, then the truthmaker for that disposition-ascription is the apple's particular redness, its specific quality of *being red* (whatever exactly this amounts to in fundamental physical terms). Another apple might be similarly disposed, this being a matter of its having a relevantly similar redness mode of its own.

4.4.2 Qualities as universals: three views

On the other hand, we might suppose that genuine properties are *universals* – existents which are 'repeatable' or which can somehow be 'shared' by more than one particular object, and which do not themselves depend for their identity, even in part, on any object whose property – i.e. whose way of being – they are. If all properties are universals, then two apples which are colored in the exact same shade of red, say, 'share' – or perhaps in *some* sense 'exemplify' or 'instantiate' – one and the same, numerically identical universal.

There are three main different ways of accepting property-universals – only one of which really seems compatible with the idea that truthmakers for the relevant propositions are *intrinsic* to objects. According to the first approach, so-called 'Platonic' or

93

'transcendent' realism, property-universals can exist even when 'unexemplified' – that is, even when no object anywhere in the world can truly be said to 'have' that property. To adopt transcendent realism about universals is to suppose that the specific redness universal which is 'shared' now by these two apples before me will continue to exist even after I eat both apples, and even if there should come to be *no* other objects anywhere in the world which have the same shade of red (and, indeed, even if there had *never* been any objects with that exact shade). But if such universals can exist even when not being 'exemplified', then they must apparently be *abstract items* – i.e., items which do not exist in space and time – since unless properties are somehow themselves 'free-floating' object-like existents, they cannot be concrete even in a derivative sense (that is, owing to the concreteness of something else, e.g. the objects which 'have' them) unless they are 'exemplified' by objects.[145]

One charge which might be leveled against transcendent realism concerns our perception of concrete objects like apples. When we perceive an object (veridically), that object interacts with us causally in certain ways – or, at least, interacts with other objects which themselves go on to interact with us in relevant ways.[146] When I perceive visually the apple on the table in front of me, I perceive its redness, its rounded shape, and so on. But how can we perceive a property of a concrete object if that property itself is an abstract item? More generally, how can properties play any 'role' at all – even the *truthmaking* and *explanatory* roles accorded to them by the *QT Account* – in the behavior of the objects which 'have' them if those properties themselves do not exist in space and time, even in a derivative sense?

The only possible solution here for the transcendent realist, it would seem, is to insist that while universals are abstracta, their 'exemplifications' or 'instantiations' are concrete. But the only good way to make clear sense of this claim, in turn, is to adopt the third approach to universals considered below – admitting both universals *and* modes, particularized properties into our ontology. But this, it would seem, would be to move away from transcendent realism after all.

The second and third ways of accepting property-universals each count as varieties of so-called 'immanent' realism – the view that universals exist only at those times when they are 'exemplified' or 'instantiated', i.e. whenever some object actually *is* the relevant way of being. In his (2006), Lowe usefully distinguishes two different conceptions of 'immanence': strong and weak. According to the 'strong' conception, adopted by (e.g.) Armstrong, "universals exist 'in' space and time in the sense that they may be quite literally

---

[145] And also since existents cannot somehow just switch back and forth between being concrete and being abstract.

[146] As when, say, photons 'bounce' or 'reflect' off the apple in relevant ways and ultimately come into contact with cells in our retinas: the apple is not itself interacting causally with us, but rather interacts with the photons which themselves go on to interact with us.

'wholly present' in many different places at the same time".[147] On this second way of accepting property-universals (immanent realism with the strong conception of immanence), if the two red apples before me share the exact same shade of redness, that the relevant redness universal is "located *in its entirety* both in the same place as this [apple] and in the same place as that [apple]".[148]

Lowe charges that the 'strong' conception of immanence is difficult to understand in any literal sense. For if we are to suppose that the relevant redness universal coincides spatially with all of the first apple, and also coincides spatially with all of the second apple, then it is hard to see how the two apples would not coincide spatially *with one another*. Absent some explanation of why universals would 'behave' differently than particulars as regards spatiotemporal location, where those universals themselves are being supposed to be literally (whether derivatively or non-derivatively) located in space and time, the 'strong' version of immanent realism appears to verge on incoherence.

The third way of accepting property-universals is to adopt immanent realism with the 'weak' conception of immanence. The weak conception, rather than involving the idea that a universal is somehow 'wholly present' in objects, insists upon a quite literal *principle of instantiation*: every universal which actually exists at a given time must be instantiated at that time, i.e. must then have at least one *instance*. On this view, the instance must be in space and time (perhaps derivatively, i.e. insofar as the object of which it is a property is itself in space and time), but the corresponding universal is not: the universal itself is an abstract item. If there is one red apple on my desk, then the redness of that apple is an instance of some redness universal that might be 'shared' – i.e., might be *instantiated* – in or by other apples, or other kinds objects entirely, elsewhere. When one or more objects are colored in the relevant shade of red, the corresponding universal exists; when that ceases to be the case, the universal ceases to exist, at least until some object becomes colored in the relevant shade of red.

What, then, *are* instances of universals? As we saw with Lowe's 'four category ontology' (section 1.3.2.1), one answer is straightforward: instances of property-universals are precisely *modes*, i.e. particular ways that individual objects are. On this way of understanding instances, the 'weak' version of immanent realism about universals amounts to an acceptance of both modes (particular, concrete items) *and* universals (abstract items) – and thus that the term "(genuine) property" is ambiguous between the two. That such a view is even open to us is frequently overlooked, since as Lowe puts it:

> … many philosophers who currently debate over the ontological status of properties
> assume that the only choice before us – given that we at least accept that

---

[147] Lowe (2006), p. 99.
[148] Lowe (2006), p. 99. Italics in original.

properties do exist – is between conceiving properties as universals and conceiving them as particulars.[149]

Suppose, contrary to this last suggestion, that instances of property-universals are not modes, but are instead individual objects themselves: e.g., that this particular apple is *itself* an instance of the relevant redness universal (and the relevant shape universal, and mass universal, etc.). The problem with this, as Lowe rightly notes, is that there would then be "nothing *about* the object – no discriminable feature or aspect of it – which relates it to each [property universal] which the object is said to instantiate, so that it is only the object *simpliciter* or 'holus-bolus' which instantiates each of its properties."[150] But now we would face the same problem faced by transcendent versions of realism about universals: it would be a complete mystery why some object's properties should play *any role at all* in that object's actual or possible behavior, including its causal interactions with other objects like human perceivers. The difficulty here is that by making this move we will have gotten away from the understanding of properties as specific *ways of being*. We would have a property-universal 'on the scene' in some sense, as well as an object understood as an instance of that universal; but there would be no *particular way the object itself is* which can serve to explain why that object behaves as it actually does (or why it either could or would behave in relevant ways in appropriate circumstances).

4.4.3 Realism about universals and the requisite truthmakers

Having briefly surveyed three quite different varieties of realism about universals – transcendent, strong immanent, and weak immanent realism – we may now ask what the needed truthmakers might be on each view.

On Lowe's weak immanent realism, taking instances of property-universals to be *modes*, the answer is straightforward: the truthmakers are the modes themselves, specific and particular ways objects are intrinsically. This, of course, is the same answer given by the view that all genuine properties are modes strictly (i.e., that universals do not exist).

What, then, about strong immanent realism? If the objection considered can be answered and the view made coherent, then the proponent of this type of realism can cite as the needed truthmaker the *universals themselves*, since these are understood to be (somehow) 'wholly present' in the relevant object. I am skeptical, but set the matter aside.

Things are much more difficult, however, for the transcendent realist as I have defined that view. Since universals are wholly abstract items and there are no *modes* or *instances* to cite without abandoning transcendent realism in favor of weak immanent

---

[149] Lowe (2006), p. 96.
[150] Lowe (2006), p. 100.

realism, it seems the proponent of this view has nothing to cite *about the object in and of itself* as the needed truthmaker. Perhaps the transcendent realist could point to the 'fact' that an object 'exemplifies' the relevant Platonic universals; but what, precisely, would this fact consist in? Is there some sort of relation, other than instantiation, between the object and the property-universal? What might this relation amount to? (To just deploy the term "exemplification" is hardly to answer this question.) In the end, this is really just an instance of the more general problem of explaining how it could be that objects 'exemplify' universals, understood as abstracta, without this being a matter of their literally *instantiating* them.

My own preference, as I mentioned in section 1.3.2.1, is to reject universals as fundamental (irreducible) existents in favor of the idea that thinking in terms of universals or similarity involves a mental act of abstraction – consideration of what makes two or more (real or imaginary) objects similar separate from the particularity of those objects and their various other qualities. This, I believe, is a simpler and more straightforward ontology that gets us everything we need – so that there is no good theoretical reason for admitting universals in addition to modes. But the crucial upshot of these reflections about universals is that whether or not one accepts property-universals as genuine existents, we *do* nevertheless seem to need modes – particularized properties, non-repeatable ways objects are – on the scene, ontologically speaking, to serve as the truthmakers for propositions about how those objects either could or would behave.

One point worth briefly noticing is that the *QT Account* offers a clear way of distinguishing 'genuine' (natural, sparse) properties from 'non-genuine' or false (non-natural, abundant) properties: the former are just those properties which play the truthmaking role with respect to one or more propositions about how their bearers either could or would behave in appropriate circumstances. All genuine properties – all fundamental ways that objects *really* are – *must* play some such role(s), we may suppose, since any property which failed to do so would be a property that made no difference to anything at all. (Recall that this sort of reasoning was employed by pure powers theorists as well as powerful qualities theorists in support of their acceptance of the more general view that all properties are powers.)

4.5 The relevant truths: 'maximally specific' propositions about behavior

4.5.1 What is a maximally specific proposition about behavior?

What, then, *are* the special propositions, true solely in virtue of objects' qualities, which are of interest to the *QT Account of Powers*? These are what I call the *'maximally specific' propositions about behavior* – modal propositions which are as 'fine-grained' as possible in two crucial respects:

> **Maximally specific proposition about behavior**: a proposition concerning how an object *x* either could or would act, or be acted upon, in appropriate circumstances, where both (i) the type of action and (ii) relevant circumstances are specified in the *most fine-grained way possible*.

To say that a maximally specific proposition specifies the relevant activity and circumstances in the most fine-grained way possible means that it specifies an *exact* type of activity and a *complete* set of circumstances. What I mean by this is that, in principle, any adding or subtracting of anything from the description of the activity or circumstances, respectively, would entail, *not* (a) making the description of *one and the same activity* or circumstances either more fine-grained or else less fine-grained, but rather (b) reference to a *different* type of activity or *different* circumstances altogether.

The idea is that, for any possible actual set of circumstances that an object could find itself in, and any specific way of acting ϕ, there *is*, 'by definition', so to speak: *both* a maximally specific proposition, which is either true or false, concerning whether that object *would* ϕ in just those circumstances; *and* a maximally specific proposition, which is either true or false, concerning whether that object *merely could* (but need not) ϕ in precisely those circumstances. (Either both of these propositions will be false, or else exactly one of them will be true; it cannot both be true that an object *would*, and that it *merely could but need not*, act in some way in one and the same set of circumstances.)

This explication is admittedly extremely abstract. Consider, then, the idea that the world, the whole of reality, is at any given moment t just is a certain 'total' way: that there is something (albeit a sum or collection) that we refer to by the phrase "the total state of the world at t". Take the total state of the world at the present moment t_1, and consider the heap of salt presently on the table in front of me. There is a proposition <the salt would dissolve in water at t_1 in circumstances C>, as well as a distinct proposition <the salt (merely) could dissolve in water at t_1 in circumstances C>, where C refers to the total state of the world at t_1. Suppose, for the moment, that the phrase "dissolves in water" expresses a precise type of activity. Part of the idea here is that either both of these propositions are

false, or else exactly one of them is true: either the salt *either* could (but need not) *or* would dissolve in water at t_1, or else the salt neither *could* (but need not) *nor* would dissolve in water at t_1. (The disjunction here is, of course, exclusive.)

As it happens, the heap of salt on the table in front of me at the present moment t_1 is now in contact with some water: prior to t_1, I dropped the heap into a cup of water, and just before t_1 the two objects[151] came into contact with one another. In these precise circumstances at t_1, then, it is true of the salt that it *would* dissolve in water at t_1: t_1 'contains' a total set of conditions not only conducive to salt's dissolving in water (namely, salt being in contact with water, and perhaps more besides), but circumstances which determine or necessitate this. What are the truthmakers for this true modal proposition that <the salt would dissolve in water at t_1 in circumstances *C*>? *Not*, we should be clear, some or all of those circumstances or conditions themselves: it is not, e.g., *in virtue of* (actually) being in contact with water that the salt *would* dissolve in water. What we need is some truthmaker concerning the salt itself, how it is intrinsically. On the *QT Account*, then, the truthmakers for this modal proposition about how the salt would act, or be acted upon, in the relevant circumstances are entirely intrinsic properties of the salt: specific *ways the salt is*, e.g. its microphysical structure.

4.5.2 Maximally specific propositions and everyday ascriptions of powers

It should be clear from the foregoing that not only are there are indefinite if not infinite numbers of the relevant maximally specific propositions, but each such proposition is typically, if not always, *unimaginably, monstrously complex*. Not only do such propositions specify, in the most fine-grained way possible, specific types of behavior, but the circumstances *C* expressed by them are a 'complete' set of circumstances: if not the 'total' state of reality at a given moment, then at least everything that could possibly be relevant in some more local 'sub-region' of the world.

As a result, rarely if ever are propositions of this sort themselves of any real, direct interest to us. How could they be? For one thing, they would apparently typically outstrip *by far* human cognitive abilities: our powers of perception, understanding, and memory are very much finite. So how, it might be asked, can they be of any help to an account of powers which aims to make good metaphysical sense of our actual everyday and scientific predications of powers to things? Taking the expressions we use at face value, at least, our concerns are typically with, e.g., whether a particular object *is fragile*, rather than with whether that object would break or shatter in *precisely* this way in *exactly* such-and-such

---

[151] Or, rather, composites of objects (i.e., sums of water and salt molecules, respectively); set this complication aside.

circumstances; or with whether a radium atom either would or (merely) could eject an alpha particle under perhaps relatively fine-grained but highly *local* circumstances.

There seem to be two distinct but plausibly compatible answers available here. The first is that while it is objects' qualities which are truthmakers for the relevant maximally specific propositions, those propositions themselves can be truthmakers for our less-fine-grained everyday ascriptions of powers. (Notice that taking the relevant truthbearers to be propositions, as I have, commits us to saying that propositions, abstract items, can be truthmakers, i.e. *existents*.) The idea here is that whenever we ascribe a power to act (or to be acted upon) to an object, we always have in mind *some* type of action and *some* relevant set of circumstances, even if we lack the abilities needed to entertain a proposition that specifies the circumstances in a fully fine-grained way. Perhaps the circumstances of interest are just those which obtain where and when the relevant power is being ascribed – either exactly as they are at that time and place, or perhaps with some small number of conditions added or subtracted to the then-existing circumstances. We can at least *gesture* at a total set of circumstances, actual or possible, even if we are incapable of comprehending it given our finite abilities. In any case, however coarse-grained our power-ascriptions may be in the relevant context, we might suppose that they are *made true*, when they really are true, by the maximally specific proposition, or set of such propositions, which they can be understood as *approximating* or perhaps *glossing over*.

What does it mean to say that our everyday power-ascriptions 'approximate' or 'gloss over' maximally specific propositions? The idea is that, given whatever rough, coarse-grained idea or understanding we have of the type of action and circumstances of interest when ascribing a power to an object, there is *some* maximally-specific proposition – or rather, some *set* of maximally-specific propositions – concerning the relevant object under which our relatively coarse-grained power-ascription falls. A power-ascription 'falls under' exactly that set of maximally specific propositions which are *consistent with* that power-ascription: that is, those maximally specific propositions which specify total circumstances (and perhaps also precise types of activity) that may be understood of different ways of making our coarse-grained ascriptions more fine-grained, of 'filling out' our power-ascriptions as we think about and express them.

The second answer is that many if not most of our everyday and perhaps scientific power-ascriptions are not themselves strictly true (or false), but can be understood as 'approximately' or 'roughly' true (or false) insofar as the maximally specific propositions they approximate or gloss over (in the above sense) are themselves true. If our everyday and scientific ascriptions of powers to objects are really only vague gestures at maximally specific propositions, then perhaps it is illicit to suppose that these ascriptions themselves are ever really genuinely truth-apt as the first answer suggests.

100

Need it be the case that, in order to have epistemic grounds for regarding our everyday and scientific power-ascriptions as either true or else as 'approximately' or 'roughly' true, we are able to recognize when those power-ascriptions 'approximate' or 'gloss over' some set of maximally specific propositions? If this had to be so, then we might suppose we face a problem. For such a recognition would seem to require a cognitive grasp or understanding of those very maximally specific propositions in virtue of which our coarse-grained power-ascriptions are true (or at least approximately or roughly so); yet we have acknowledged that many if not all maximally specific propositions far outstrip the cognitive abilities of any finite thinker.

Fortunately, this is not how having grounds for accepting the (at least approximate or rough) truth (or the falsity) of standard power-ascriptions normally works. We form beliefs about what objects either could or would do (or have done to them), in relevant circumstances, primarily on the basis of our observation of those objects and their behavior in various circumstances. We may then try to explain *why* various power-ascriptions are true by appeal to, say, objects' properties (as on the *QT Account* as well as realist views of powers) or perhaps to 'governing' laws of nature. (Or we might settle for brute contingency.) Although our understanding of objects' powers, and the circumstances in which those powers might or must be manifested, is perhaps incomplete, we nevertheless manage to do quite well with our approximations of maximally specific propositions: we learn enough about the possible and necessary behavior of a wide variety of objects in the world around us to permit not only our own survival, but a range of scientific and technological achievements.

The primary purpose of the *QT Account* is not to direct our empirical investigations toward the maximally specific propositions, but rather to offer an account of the metaphysics of powers: to shine light on the *truthmakers* for power-ascriptions, including the oftentimes vague and imprecise ascriptions of interest to both everyday life and the various sciences.

4.5.3 'Would' versus '(merely) could' propositions

Like the 'initial characterization' of the concept *power* (*to act or to be acted upon*) offered in section 1.1, my explication of the notion of maximally specific propositions about behavior employed an 'either (merely) could or would' disjunction. The purpose of this is to allow that there might be metaphysically possible types of powers whose manifestations – a specific way of acting or being acted upon – are possible yet not fully determined or necessitated by circumstances in which objects might find themselves. Such powers would be powers that, in precisely those circumstances, could, but need not, be manifested.

We might suppose, then, that maximally specific propositions take one of two main forms – the first for 'would' propositions and the second for '(merely) could' propositions:

MSPᴡ: *<x would* ϕ *if C>*

MSPᴄ: *<x* (merely) *could* ϕ *if C>*

We might wonder, however, whether all maximally specific propositions should take the form of *counterfactual conditionals* in particular. Perhaps it is at least metaphysically possible that there could exist what we might call 'continuous powers'. These would be powers that are *always* being manifested, *no matter what*: powers whose 'bearers' are always performing, or having performed upon them, the relevant type of activity, in *every possible set of circumstances* in which those objects find themselves.

If continuous powers are at least possible, then we seem to have two options. One is to suppose that, since there are no relevant circumstances *C* to put into the antecedent of a conditional, the relevant proposition must take a different form – say, simply <x would ϕ>. This is admittedly an unusual and perhaps awkward construction: we normally only use the word "would" to refer to actions something would perform in relevant circumstances of some specific kind.

There is, however, a different way of dealing with the possibility of continuous powers. This is to suppose that there really are relevant circumstances *C* to put into the antecedent – namely, *all* possible circumstances in which the object might find itself. In this case, our proposition would a form along the following lines: <for any *C, x* would ϕ if *C>*. Although there is perhaps little of importance that hangs on the matter, I prefer this second approach both because it avoids the awkwardness of a proposition of the form <*x* would ϕ>, and because of its simplicity: it makes for a uniformity across along maximally specific propositions.

4.6 Answering the three fundamental metaphysical questions about powers

Having sketched and (hopefully) gone some way toward explaining the *QT Account of Powers*, it is worth briefly reviewing how it answers the three fundamental metaphysical questions about powers identified in section 1.2. Those questions were the following:

1. *Ontological Question*: What, if anything, *are* powers – i.e., what is the ontological status of powers?

2. *Scope Question*: What kinds of things can 'bear' or 'possess' powers – i.e., to what kinds of things can we truly and appropriately ascribe powers?

3. *Explanatory Question*: Why do things which bear powers have those powers – i.e., in virtue of what, if anything, do things have the powers they have?

Unlike realist accounts of powers, the *QT Account* insists that we should not reify powers themselves – that is, should not understand powers as *existents* of some kind, namely as properties or features of the things which can truly be said to 'have' them. As I argued in Chapter 3, doing so introduces serious conceptual difficulties which not only cast doubt on the coherence of realist views, but turn reference to powers into something mysterious or puzzling – a primary motivation for the pursuit of conditional analyses and adoption of the PPJ view of powers. The chief problem here, I claimed, is that the concept *power to act (or to be acted upon)*, on the one hand, and the conception of genuine intrinsic properties as specific *ways of being*, on the other, do not fit together in any clear way. Although Martin suggested that there is in fact a 'surprising identity' of qualities and powers (or, as he might put it, of 'the dispositional' and 'the qualitative'), my response is that there is no reason to accept any identification of powers with (some or all) properties once we refuse to let the language of predication dictate our ontological conclusions.

With respect to the *Scope Question*, the *QT Account* as I have presented it holds that it is individual objects alone which can truly be said to 'have' powers to act or to be acted upon. The reasons for this are two-fold. First, our grounds for supposing that there really is genuine *activity* in the world begin with our first-hand experiences in performing, and having performed upon us, various kinds of activity (see section 4.2 above). To the extent that we have good reason for generalizing from our experiences and supposing that things other than humans (and perhaps other animate creatures) have powers of their own, this is a matter of supposing that it is other kinds of *individual objects* besides ourselves which can literally act or be acted upon. Second, and related to this, I have charged that to suppose that items other than individual objects – say, properties of objects or else events – have powers to act or to be acted upon is to commit a category mistake: it is to forget *what* properties and events are, to forget their place in a fundamental ontology, and instead to treat such items as themselves being very much object-like.

Finally, the *QT Account* offers an answer to the *Explanatory Question* in just the way described in section 4.3.1 above: namely, by holding that although truthmaking is not itself an explanatory relation, attention to truthmaking can in the right cases yield important and non-trivial explanations. On my account, the truthmakers for a proposition of the form <*x* would ϕ if *C*> are strictly intrinsic properties (qualities) of *x*, i.e. specific *ways x is*. But these qualities do more than just explain *why the relevant proposition is true*: they explain *why x* would ϕ should it find itself in circumstances *C*. Why would *x* ϕ in precisely those circumstances? Because it has just those qualities. Indeed the qualities explain even more than this: when <*x* would ϕ if *C*> is true for some object *x*, the truthmakers for that proposition offer part of the explanation for why x is *actually* ϕ-ing in circumstances of type

C, when it finds itself in those circumstances. A *complete* explanation of an object's activity must include *both* (i) an explanation in terms of intrinsic properties of that object, how the object is in and of itself, and (ii) an explanation of how the object came to find itself in circumstances *C* (or perhaps, in the case of continuous powers, how the object came to exist in the first place).

In connection with the *Explanatory Question*, it is worth considering a separate question that first arose in section 2.3.2.1. This is the question of whether we should suppose that manifestations of powers to act, or liabilities to be acted upon, can ever themselves be *caused* to occur – that is, can ever be *effects*. My answer, as part of the *SP Account of Causation* sketched in Chapter 7, is *no*: the only things which count as the effects produced in instances of causation are changes in objects' properties (or perhaps relations). But manifestations of powers *to act* are activities, things objects *do*, rather than changes which happen to objects. (To suppose that performing an activity is a matter of changing from *not having* the property of performing that activity to *having* the property of performing that activity is simply to let syntax dictate ontology: there are no genuine properties of performing activities. Nor, for that matter, are activities themselves properties, *ways objects are*; see section 1.3.2.6.) Manifestations of liabilities to be acted upon, meanwhile, are not existents at all; rather, reference to such is just a shorthand for the fact that an object *x* is being acted upon in some way by another object *y*. The effect in such a case, as I have said, is not any manifestation by either *x* or *y*, but rather a change in the properties (or perhaps relations) of *x*.

4.7 Some implications of the QT Account

4.7.1 Powers as 'single-track' versus 'multi-track'

4.7.1.1 Lowe and Williams on single-track versus multi-track powers

In section 3.2.1, I noted that the powerful qualities view seems committed to regarding at least many powers as 'multi-track' – that is, as being powers with more than one distinctive type of manifestation. (The same can be true for the pure powers view, it would seem, depending upon how exactly that view is formulated.) A property-cum-power, on this sort of approach, is typically not just a power to do *A*, but also to do *B*, to do *C*, to have *D* done to oneself, and much more – where *A*, *B*, *C*, and *D* refer to distinct types of activity. In the course of defending his version of the 'mutual manifestation' view of causation (next chapter), Heil suggests that a single power can "manifest itself differently with different

kinds of reciprocal power partner".[152] Many other proponents of the mutual manifestation view share this same idea, appealing, explicitly or implicitly, to 'multi-tracking' of this sort.

In his (2010), however, Lowe poses a dilemma for those who believe that a single power could have more than one distinctive type of manifestation:

> Either those supposedly different types [of manifestation] fall under a *single unified description* [which covers all the supposedly 'different' things that the power is a power to do] or they do not. If they do, then there is really only one manifestation-type. If they don't, then what reason is there to suppose that there is really just *one* power involved rather than *two or more* – one for each genuinely different manifestation-type?[153]

Lowe's stated worry is that countenancing multi-track powers might render the notion of power, as he puts it, "feeble and trivial": once we admit powers which have a variety of types of manifestation which "don't fall under any unified description", we appear to lose any grounds for supposing that a single object can have a *variety* of powers to act and to be acted upon, rather than just one power "to do all the things that it can do [and have done to it]".[154]

Williams (2011) responds on behalf of multi-tracking – along with the powerful qualities and mutual manifestation views – in part by posing a dilemma of his own. Our observation of various types of stretching behavior leads us to ascribe to certain objects, e.g. rubber bands, a power of elasticity, which we might naturally understand as a power *to elongate, widen, or deform in response to stress and then return to a previous shape once the relevant stress is removed*. Suppose, then, that we have a particular rubber band *b* which is 10 centimeters long, and which can be stretched up to a maximum length of 15 centimeters before it snaps. It is commonsensical – and very much of interest to, say, structural engineers – that what we might call an event or process of 'stretching to 14 centimeters' is a distinct event from an event of 'stretching to 12.5 centimeters'. The choice facing the single-tracker here is this:

> ... [either] she can treat each of the types of stretching [elongating, widening, etc.] as determining a unique power, or [else] she can group them all together under a single description and get just one power.[155]

But according to Williams, neither option is desirable for the single-tracker (the theorist who regards *all* powers as single-track). Consider the second option first – the attempt to give a single description that can unify all the various types of stretching-behavior that

---

[152] Heil (2012), p. 75.
[153] Lowe (2010), p. 11.
[154] Lowe (2010), pp. 11-12.
[155] Williams (2011), p. 589.

rubber band *b* can perform. Describing the relevant power as a power to stretch *simpliciter*, or as a power to stretch *up to 15 centimeters*, will not do, since these descriptions obliterate the fine-grained distinctions between manifestation-types that, e.g., a structural engineer designing an automobile engine might care very much about. This seems right. On the other hand, by taking the first option the single-tracker "will thereby saddle herself with the implausible thesis that [rubber band *b*] has continuum many powers, each corresponding to a minutely different length of stretch".[156] This strikes Williams as too high an ontological cost for the single-tracker.

What we should all want, Williams urges, "is to be able to take seriously the subtle and extremely fine-grained distinctions found between different *types* of stretching, without thereby committing ourselves to equally many *fine-grained powers*".[157] He suggests that the multi-tracker can meet Lowe's original dilemma above by grasping its second horn: that is, by offering a reason to suppose that, for some set of manifestation-types which do not adequately fall under a single unified description, there really is just *one* power corresponding to these manifestation-types. The sort of reason which Williams has in mind appeals to the fact that "certain powers are found together whenever we locate them – they are 'clustered'"[158]. Two or more powers are clustered, in this context, just in case (i) the event-types which count as their manifestation-behavior are distinct from one another and (ii) the class of objects with any one of these powers is *identical* with the class of objects with each of the other powers.

The phenomenon of clustering, Williams says, "is (strictly) neutral between the single and multi-track positions".[159] In some cases, what will *best explain* such clustering – i.e., what will best explain certain powers always being found together – might be that the relevant powers are in fact "*one and the same [multi-track] power* responding differently to different stimuli".[160] Multi-tracking cannot be ruled out "by fiat", Williams insists, because it at least sometimes "offers a good explanation of clustering, even if other explanations, in certain cases, win the day".[161] Unfortunately, Williams offers little in the way of reasons for thinking that explanations of 'clustering' in terms of multi-track powers might sometimes be superior to explanations which invoke only single-track powers.

---

[156] Williams (2011), p. 589.
[157] Williams (2011), p. 591. My italics.
[158] Williams (2011), p. 592.
[159] Williams (2011), p. 592.
[160] Williams (2011), p. 592. My italics.
[161] Williams (2011), p. 593.

Recall that in posing his dilemma for the single-tracker like Lowe, Williams urged that regarding each of the distinctive types of stretching behavior as 'determining' (that is, corresponding to) a unique, single-track power is to accept 'continuum many powers, each corresponding to a minutely different length of stretch' – an outcome that, he thinks, should strike the single-tracker as coming at too high an ontological cost, namely because it proliferates powers out to an infinity.

But what we should recognize is that this is only really a problem – that is, there is only an ontological cost here – for the theorist who regards powers as *existents* in their own right, i.e. for the realist about powers. The *QT Account*, on the other hand, regards reference to powers simply as a convenient 'shorthand' rather than reifying powers themselves. Hence for the latter view there is no cost to advocating a strict single-tracking view, which one might do for, say, the reason identified by Lowe: the worry that, despite Williams' appeal to the phenomenon of 'clustering' of powers, multi-tracking might lead to the conclusion that objects have but one power to do (and have done to them) *all* the things they can do (and have done to them). (In addition to this worry, I would suggest that the notion of a single-track power is the more natural, default notion, in contrast to 'multi-tracking'. But I will not bother with trying to offer an argument for this suggestion.)

Does this mean that we should go exclusively for single-tracking? The answer, in the end, is that it simply does not really matter: because reference to powers is just a 'shorthand', we can and should use powers talk in whatever ways are most useful and convenient in the relevant (say, everyday or scientific) context. If talking in terms of single-track powers offers the greatest clarity, then go for single-tracking; if it is instead of some greater benefit to talking in terms of multi-track powers, then go for multi-tracking. Because it refuses to reify powers themselves, the *QT Account* in effect *dissolves* the debate between single-tracking and multi-tracking.

4.7.2 On locating indeterminism

I have suggested that the reason for employing the 'either (merely) could or would' disjunction, and ultimately for supposing that maximally specific propositions come in two main varieties (MSP_W and MSP_C in section 4.5.3), is that it seems at least metaphysically possible that there might be what I have called 'spontaneous powers'. In section 2.3.2.1, I defined such a power in the following way:

> **Spontaneous power**: a power whose manifestation at t is possible but not determined or necessitated by the circumstances in which the bearer of that power finds itself at (or just before) t.

A spontaneous power is therefore a power that, for some complete set of circumstances *C*, could, but need not, be manifested.

To recall an earlier example, suppose that radioactive decay is a stochastic (random) phenomenon. We might pause briefly to notice that there seem to be two different ways that this might be so. First, it might be the case that, e.g., a radium atom could, but need not, emit an alpha particle in just *any circumstances whatsoever*. If this were so, then the relevant proposition would be of the form <for any *C*, *x* (merely) could φ if *C*>. (Compare this to the form of proposition suggested above for what I have called continuous powers. which is of the 'would' variety.) The second way that radioactive decay might be random involves a more constrained kind of randomness. It might be the case that, say, a radium atom could, but need not, emit an alpha particle, but that it would only do so in circumstances of type *C* (or, perhaps, types *C*, *D*, and *E*, but no others). If this were so, then the relevant proposition would be of the form <*x* (merely) could φ if *C*>. Whether there really are any such powers is an empirical question – one that seems, as best I can tell, to remain open.

Perhaps there are spontaneous powers, in the sense given above, which do not involve any kind of *randomness* at all; Lowe (2008) suggests that the human power *to choose how to act*, from among some range of alternatives of which one is consciously aware, is just such a power, involving neither randomness nor any sort of 'objective probability'. What we should recognize, in any case, is that spontaneous powers of any sort would introduce indeterminism into a world: there would be circumstances where some type of activity could happen, but need not, such that the activity would be undetermined, not necessitated by those circumstances. That is, a world where there are spontaneous powers would be a world that is not deterministic – at least if some such power is manifested at least once, though perhaps arguably even no such power ever is, depending upon how exactly we understand determinism.

Might there be some other way that a world could be indeterministic? Perhaps. One proposal is that there could be *probabilistic* powers: powers whose manifestations could, but need not, occur at *t* in a given complete set of circumstances *C*, and where there is some *objective probability* (between 0 and 1.0) that the relevant type of manifestation should occur. (Genuine randomness, by contrast, does not seem to involve any objective probability.) Because we are talking about an objective probability that *x* would φ at *t* in a *complete set of circumstances*, there are no further conditions that might be added to the situation that could raise or lower the relevant probability.

For my part, I have an uneasiness about the notion of genuine objective probability (as opposed to mere subjective probability, which concerns our epistemic grounds for accepting certain possibilities). What could be the *explanation*, not for why an object *x* has a certain probabilistic power, but rather for why that power involves the specific objective

probability(s) it does (in relevant circumstances)? Any appeal here to so-called 'governing' laws of nature would be, for the proponent of a 'powers-focused' metaphysics, an appeal to something utterly mysterious. Although I do not have anything like an argument that such powers are impossible, I do want to suggest that accepting them should only be done for very good reason, and not merely to 'fill' some explanatory gap (which, absent the needed explanation of the 'grounds' for the relevant probabilities, such powers would fail to do in any case).

4.7.3 Extending the 'shorthand': classifying powers into 'types'

I have in previous sections identified several ways of classifying powers. The very first distinction offered was between powers *to act* and powers *to be acted upon* – the latter also referred to as 'liabilities'. A related distinction is between causal and non-causal powers, each being a type of power *to act*. A causal power is one whose distinctive type(s) of manifestation *consists in* its bearer's producing or bringing-about some effect; a non-causal power is one whose manifestation(s) is not like this. All liabilities, it should be noted, are *causal* liabilities, since to be *acted upon* in some way is precisely to be *caused* to undergo a change of some appropriate sort.

Water's power to dissolve salt, we might suppose, is a causal power, while salt's power to be dissolved by water is a causal liability. (At least this is so if the interaction between salt and water involves a genuine 'agent-patient' relationship; see sections 5.3.4.3 and 7.3.) By contrast, the power of a radium atom to emit an alpha particle seems like a non-causal power: it arguably does not *consist in* the radium atom's causing a change in the properties (or perhaps relations) of any object at all, not even the atom itself or the alpha particle.

I have also suggested that this same power of a radium atom might be a spontaneous power – one whose manifestation could, but need not, occur in a relevant total set of circumstances. What I have called continuous powers, on the other hand, are those whose manifestations must occur, no matter what circumstances the relevant object finds itself in.

There are almost certainly a variety of further distinctions to draw here; e.g., we might find reason to reserve the term "ability" to refer to certain human (or animal) powers, say mental or cognitive powers. The crucial point to bear in mind, on the *QT Account*, is that although we can usefully classify powers into 'types', this is not to generate a classification of *existents*. Talk of types of powers, like reference to powers more generally, is simply a convenient 'shorthand' for the truthmaking relation discussed throughout this chapter.

4.8 Summary

In this chapter, I presented my *Qualities as Truthmakers Account* – a 'quasi-realist' account of powers which, rather than reifying powers, understands reference to powers as a 'shorthand' for an important truthmaking relation strictly between (i) objects' qualities and (ii) maximally specific propositions about how those objects either could or would behave in appropriate circumstances. After making an effort to get clearer about manifestations of powers – including offering reasons for believing that there really is genuine activity in the world – I provided a brief sketch of the idea of truthmaking in general before spending some time considering the truthbearers and truthmakers relevant to the *QT Account*. I then made explicit how the account answers the *Ontological*, *Scope*, and *Explanatory Questions*, closing with consideration of several implications of the account for specific issues in the debate about powers.

Chapter 5 - Powers-Based Accounts of Causation in the Recent Literature

Throughout the next three chapters, I attend to the question of how a powers-focused approach might help to generate a satisfactory metaphysics of causation. Many recent proponents believe that taking powers seriously has significant implications for causation: e.g., Stephen Mumford suggests that a "dispositional ontology … offer[s] a vital insight into the nature of causation"[162], and Neil Williams says that what "powers do best [is] the heavy lifting in a theory of causation"[163]. Indeed a unifying belief for many proponents is the idea that what *ultimately* justifies a particular account of powers is the work that account can do to help make good sense of issues throughout fundamental metaphysics and beyond – and to do so in a *systematic* (as opposed to piecemeal) way. Thus George Molnar advises proponents of powers that "[o]nly when we have fully worked out theories of causation, laws of nature, modality, and everything else that powers can explain, will we have the clincher".[164]

I embrace this idea about the overall 'big picture' justification for a powers-based approach. In the end, I will argue that when the *QT Account of Powers* is joined with several important further claims about the nature of causation, the resulting approach – what I call the *Substances as Producers Account* – appears able to meet essential desiderata better than competing approaches.

In this chapter, I begin by pursuing an initial characterization of causation, and then sketch several desiderata that a satisfactory theory must meet. To aid in setting out these targets, I briefly summarize a number of well-known objections to the two prominent approaches inspired by David Hume. My aim is not to evaluate such views in any detail – others have done this many times over, and debates and refinements persist – but simply to identify important places where such theories, in broad form, are alleged to fail. Having done this, I go on to examine a number approaches to causality offered by recent proponents of powers, standardly built around the idea that causation is the 'mutual manifestation' of powers by 'reciprocal disposition partners'. I conclude that such approaches, which standardly regard properties-cum-powers as causes, face a variety of conceptual difficulties in addition to being unable in principle to account for genuine *production*.

---

[162] Mumford (2009), p. 265.
[163] Williams (2019), p. 120.
[164] Molnar (2003), p. 186.

5.1 Initial desiderata for a theory of causation

5.1.1 Two conceptions of causation: difference-making versus production

In section 1.1, I started with an 'initial characterization' of the relevant term "power". This was meant to be a rough 'starting-point' explication of powers – conceived at the outset as powers *to act* and *to be acted upon* – which could then be filled in by defending specific answers to the *Ontological*, *Scope*, and *Explanatory Questions*. Might we begin working toward a metaphysical account of causation with a similar initial characterization, or perhaps even definition, of "cause" or "causation"?

Identifying such a starting-point becomes rather difficult once we recognize the tremendous diversity which exists in causal talk, both everyday and scientific. This diversity includes reference to items from a variety of ontological categories – objects, properties, events, facts, and perhaps others – as being *causes* and/or *effects*. (For a wide array of examples, consult, e.g., Phyllis Illari and Federica Russo (2011) and (2014).) It might also include reference to a variety of types of *causal relation* – say, because we think that *making-happen*, *producing*, *interfering*, and *preventing* (perhaps among others) constitute or involve distinct kinds of causal relation. (Such diversity might be thought to constitute grounds for adopting one or another version of pluralism about causation; see section 6.2.)

But even more fundamentally than all of this, everyday and scientific talk of causation appears to involve two quite distinct *concepts* of causation – a point recognized in various ways by Ned Hall (2004), Peter Godfrey-Smith (2010), and Illari and Russo (2014), among others. I will refer to these as the *difference-making* and *production* conceptions of causation. On the first of these, something is a 'cause' if and only if its existence or presence in the relevant circumstances *makes a difference* to the occurrence or non-occurrence of something else (an 'effect'). Versions of the counterfactual dependence approach to causation, considered in 5.1.2.2 below, take difference-making as their core feature. A 'production' conception of causation, on the other hand, aims for something rather more 'substantial' (for lack of a better term) than difference-making – and might even eschew difference-making as an essential feature of causation.

Saying what exactly this 'something more substantial' amounts to – and how it relates to (causal) difference-making – is a primary challenge facing anyone who adopts the production conception. As we see in this chapter, proponents of powers-based approaches to causation commonly make explicit reference to the idea that causes (somehow) *produce* (or, equivalently, *bring about*) their effects. In contrast to eliminativist or reductive approaches to causation, powers theorists typically aim for a realist theory of causation, believing that it is the idea of production or bringing-about – of some sort of

'causal oomph' and perhaps some kind of 'active' role played by causes – which lies at the heart of the realist belief that causation is a genuine, irreducible feature (or set of features) of the world.

Below, I argue that existing powers-based approaches, though purporting to make sense of the notion of production, do little more than highlight features of causal situations which are merely relevant in some way to the occurrence or non-occurrence of causation – rather than being constitutive of causation themselves. More specifically, such approaches fail to identify the real producers (and sufferers) of change: individual substances (i.e. 'objects').

On the positive account I defend in Chapter 7, on the other hand, production is a matter of one object performing a *specific variety of productive activity* upon another object. My claim is that if there are any phenomena worth identifying as *causal* in the world – and, indeed, I will claim that we do have good, empirical reasons to suppose there are – then these phenomena must involve, at root, some or another specific type of productive activity by objects upon one another. (Meanwhile, we should not count as "causes" any items which merely make a difference to causation or are somehow causally relevant, as this serves only to obscure the causal landscape – a rather undesirable outcome when our concern is to understand the fundamental metaphysics of causation. See section 7.4 for discussion of causes versus 'conditions'.)

What might serve as a suitable 'initial definition' of "cause" or "causation" thus depends on whether one accepts difference-making or else production (or both) as central to causation. Because I advance a 'realist' account which embraces the notion of production, I could happily accept the following:

CAUSE$_1$: x is a cause of y $=_{df}$ x produces y.

That is, simply enough, a cause is something which (somehow) produces something further.[165] There is, however, an important caveat to this 'definition': the idea of production, as I understand it, is a 'generic' or 'umbrella' concept – an *abstraction* from the various specific varieties of productive activity which we have reason to believe do or might exist. In a sense, then, **CAUSE$_1$** is not so much a proper 'starting-point' but a way of generalizing or glossing over what is 'similar' about particular varieties of causation. My claim throughout the next three chapters is that the failure to appreciate this point about the notion of production leads to a failure to give a satisfactory account of causation as a set of phenomena in the world. (My ultimate concern, of course, is with the metaphysics of causation as a set of genuine phenomena in the world, rather than our concepts or ways of thinking and speaking about causation.)

---

[165] Although I do not want to get hung up on the question here, I do not think that causes of any kind can produce *themselves*; hence x and y in **CAUSE$_1$** must be non-identical.

Why should we attempt to find a satisfactory *realist* account of causation – one which makes good sense of the idea of *production* or *bringing-about*? Why, in other words, think that we should attempt to do better than a reductive account which appeals to, say, some sort of difference-making – or even an eliminativism about causation? One reason just mentioned is the conviction, to be defended in section 7.2, that we really do have good empirical grounds for accepting the existence of events or processes which are *specific varieties of productive activity by one object upon another*. If this claim is correct and 'production' in general is thus a genuine feature of the world, then we should want our theory of the fundamental metaphysics of causation to meet an important desideratum discussed in section 5.1.3 below: namely, 'carving reality at the joints'.

Suppose for the moment that causation just is difference-making (and nothing more). Would this mean that all instances of difference-making are instances of causation? The particular redness of some apple depends for both its existence and its identity on the apple of which it is a mode (particular property, i.e. way of being): if that apple did not exist, then *that very redness* would not exist, either. Put another way, the existence of the apple 'makes a difference' to the existence of that particular mode. But it does not seem that we should say that the apple itself *caused* the existence of its particular redness, its way of being colored. If this is correct, then there are varieties of difference-making or dependence which are not properly described as 'causal'. Might we suppose that causation is not difference-making or dependence simpliciter, but some particular *variety(s)* of difference-making? The problem then becomes distinguishing those varieties of difference-making which are causal from those which are not. What grounds could we possibly have for drawing such a distinction in a way that still allow us to consider causation a genuine (if reducible) feature of reality? I return to these questions when briefly examining the counterfactual dependence approach to causation in section 5.1.2.2 below.

In section 7.4, I find a place for difference-making in causation: namely, in whether or not objects' properties – and perhaps other features of circumstances as well – make a difference to whether some specific variety of productive activity occurs. But this is just to say that we can only distinguish causal from non-causal difference-making by first understanding causation as involving *production*.

5.1.2 A brief review of complaints against regularity and dependence views

Whatever Hume's ultimate conclusions about the existence of 'powers' and 'necessary connections' in nature[166], it is generally agreed that the seeds of two general types of theory of causation can be found in his work: causation as *regularity* and causation as *counterfactual dependence*. Thus the champion of neo-Humeanism, David Lewis, opens his (1973) by saying that:

> Hume defined causation twice over. He wrote "we may define a cause to be *an object followed by another, and where all the objects, similar to the first, are followed by objects similar to the second*. Or, in other words, *where, if the first object had not been, the second never had existed*."[167]

Although Hume used the phrase "in other words", as though the two 'definitions' are equivalent, they in fact appear to refer to quite different phenomena: the first to regularity, the second to counterfactual dependence.

Importantly, both regularity and counterfactual dependence approaches to causation amount to *reductive* accounts or analyses, in the sense that versions of them either attempt (i) to reduce causation to some other, ostensibly less mysterious phenomenon or else (ii) to reduce causal *concepts* (or terms, sentences, etc.) to non-causal ones while eliminating causation as a would-be phenomenon in the world. (The upshot, of course, is that neither makes any real attempt to accommodate or explicate the notion of production expressed in **CAUSE₁** above; presumably for proponents of regularity and dependence views **CAUSE₁** is asking for something that simply cannot be found in the world.)

5.1.2.1 The regularity view

Consider first the case against a regularity approach. In its basic and minimal form, the regularity view holds that causation is a relation between events consisting in a certain kind of exceptionless regularity: event *c* caused event *e* if and only if (i) *e* succeeded *c* (*succession*), (ii) *c* and *e* were contiguous in time and perhaps also space (*temporal or perhaps spatiotemporal contiguity*), and (iii) events of *c*'s type[168] are always and everywhere succeeded by events of *e*'s type (*exceptionless regularity*). Regularity views thus might be regarded as 'reducing' causation entirely to non-causal facts: as Stathis

---

[166] There is some debate over whether Hume rejected outright the existence of necessary connections and the like, or whether he might instead have been a 'skeptical realist' about such things. See, e.g., the edited volume Millican (2002).

[167] Lewis (1973), p. 556. Italics in Lewis. The quotation from Hume is from *An Enquiry concerning Human Understanding*, Section VII.

[168] Or perhaps of some suitable degree of *similarity* – though I will set this complication aside since I mean only to capture the regularity approach to causation in broad brushstrokes here.

Psillos puts it, causation is "built up from non-causal facts, more specifically two particular facts [succession and contiguity] and one general [exceptionless regularity]", and there is "no extra element … which is of a fully distinct kind, like a necessary connection or a productive relation … that would explain or ground or underpin the regular association".[169] Crucially, then, there is no sense in which event *c* – or anything else, for that matter – itself *produced* or *brought about* *e*; there is only *c*'s being related to *e* in terms of their instantiating the relevant type of constant conjunction, which for the Humean is a wholly contingent fact.

This last point conforms with Hume's claim that, when we look toward the origins of our concepts and beliefs regarding causation, we find no sense impression of a necessary causal connection between distinct existents. Because of this, he concludes that we have no (suitable empirical) reason to believe in the existence of such a connection. For Hume our idea of a 'necessary connection' is just a kind of projection that we form by habit, by observing repeated instances of (at least apparent) regularities over time. (But see section 7.2 for the claim that Hume simply missed a crucial starting-point: our experience of various kinds of productive activities, both our own and those of other objects upon us.)

The conviction that there is no necessary (or even probabilistic[170]) connection between a particular cause and a particular effect leads the regularity theorist to regard causation as a wholly *extrinsic* matter. Whether event *c* can truly be said to be the cause of event *c* depends upon how things are throughout all of time and space – namely, on whether the relevant type of regularity holds, as a purely contingent affair built out of purely contingent specific occurrences, universally. All that matters, beyond succession and contiguity, is what patterns of events are found throughout the entirety of reality – in this case, whether events of type *E* (or at least sufficiently similar to *E*) follow events of type *C* at all times and all places. For the Humean generally, all that exists in the world at any time – or, at least, all that the compliant Humean empiricist can see any reason to believe exists – is what Lewis famously described as "a vast mosaic of local matters of particular fact, just one little thing and then another".[171] Whatever events occur in the world, Hume said, "seem entirely loose and separate" – one following another, but such that we "never can observe any tie [or connection] between them".[172]

But regarding causation as an 'extrinsic' matter in this way yields a number of well-known difficulties for a regularity approach – particularly if such an approach is intended to

---

[169] Psillos (2009), pp. 131-132.
[170] I set this complication aside, though recall my brief remarks on 'locating indeterminism' in section 4.7.2.
[171] Lewis (1986b), ix. Lewis goes on to suggest that anything else which can be said to 'exist' *supervenes on* the mosaic – apparently allowing that there might be fundamental and non-fundamental 'levels' to reality.
[172] Hume (1975), p. 74.

be reductive rather than eliminativist about causation. For one thing, counterexamples seem easily devised which might suggest that the relevant sort of regularity (with succession and contiguity) is not sufficient for causation – that is, that some regularities are *accidental*, and thus that the constituent events are not connected causally in any relevant way. Williams (2019) offers the example of "a dog that barks all and only those times that a specific light switch is flicked to the up position".[173] The regularity approach, in its basic form, would seem to imply that the flicking really is the cause (or part of the cause) of the barking – for if causation just is regularity (plus the relevant forms of succession and contiguity), then *all* regularities (having these forms of succession and contiguity) are instances of causation. Yet we can easily imagine further details under which this implication is mistaken, say because the 'trigger' for the dog's barking is really its hearing a companion human enter the room moments before flicking the switch (or perhaps brain activity of the dog triggered, in turn, by the relevant auditory sensation). Is there some way of making the approach more sophisticated, such that it offers the resources to distinguish causal from non-causal regularities? Like many debates in philosophy, the literature is filled with iterations of refinements and new counterexamples.

Whatever the answer to this last question, a closely related challenge comes in the form of what Psillos calls the 'terminus of explanation argument'. Taking as a starting-point the belief that there do exist regularities in nature, one might suppose that these regularities – particularly if they deserve being called 'causal' – must be explainable in terms of something further. (I consider *why* someone might suppose this momentarily.) As Psillos notes, this supposition is widespread, though there is significant disagreement regarding where the explanation ultimately rests:

> Some appeal to powers (e.g. Mumford 1998, 2004; Ellis 2001; Molnar 2003); others (including Strawson 1989) posit a force-based productive relation; others appeal to thick laws of nature: that is, laws that are not, ultimately regularities [(e.g. Dretske 1977; Tooley 1977; and Armstrong 1983)].[174]

But the defender of a regularity approach, Psillos suggests, must *resist* this search for a deeper explanation. This would amount to asserting that while some regularities might be explained by appeal to more fundamental regularities, the "ultimate and fundamental [regularities] must be taken as brute".[175] After all, there must be *some* terminus of explanation, Psillos observes, and thus some 'unexplained explainers' (i.e., brute facts); and he suggests there is nothing to gain by looking beyond the fundamental regularities.

Of course, opponents of the regularity approach to causation will neither be satisfied by this response nor agree that there is nothing gained by looking beyond the

---

[173] Williams (2019), p. 37.
[174] Psillos (2009), p. 134.
[175] Psillos (2009), p. 135.

ultimate and fundamental regularities, whatever they might be. Even accepting that explanation must end somewhere, proponents of powers-based or otherwise realist approaches will urge that any satisfactory explanation of the causal behavior of objects – whether across a set of constant conjunctions or in any *particular* case – cannot plausibly end at the massively extrinsic fact of regularity across all times and places. After all, it would be quite incredible to suppose that the existence of so much order and regularity in the world is itself just a *brute*, contingent fact about the world. Rather, as I argued in section 3.6, the appropriate terminus for the explanation of behavior of objects – and hence as well for any non-coincidental regularities anywhere in the universe involving such behavior – consists (in part) in the nature of the intrinsic qualities, i.e. *modes* or *ways of being*, of those objects. Water and salt (or molecules thereof, etc.) interact in certain characteristic ways (in part) because of their intrinsic features; objects do what they do, as John Heil likes to say, because they are *as they are* (and, in addition, because they then find themselves in circumstances of some appropriate type). I say more about this view of causal explanation after defending my own approach to causation in Chapter 7.

Mumford poses yet another difficulty for the regularity approach – a problem concerning prediction and inductive reasoning which has the same root as the explanation problem. What, Mumford asks, should a Humean with a headache and a bottle of paracetamol do? We quite naturally and habitually reason in certain ways: having observed ourselves and others taking paracetamol when suffering from a headache, we tend to conclude that there is some 'real causal connection' between paracetamol in general (and thus this particular paracetamol as an instance) and subsequent alleviation of headaches (and thus, we might expect, this particular headache). But on the empiricist motivations that help to motivate the regularity approach but see no 'necessary (or even probabilistic) connections' in nature, there is no *rational basis* for choosing to take the paracetamol; it is nothing more than something we do out of habit. A Humean, in other words, must acknowledge that because on her view there are no necessary (or even probabilistic) connections between distinct existents, there is no rational basis for supposing that the alleviation of headaches will always (or even in some percentage of cases) follow from the administration of paracetamol in relevant circumstances. And here we have one way of formulating the classical Humean problem of induction – namely, that of finding a rational basis for inferring that, given past observation of events of type *B* following events of type *A* in some percentage of cases, events of type *B will* (or do) follow events of type *A* in approximately the same percentage of future (or unobserved) cases. Hume believed that such inferences could not be justified a priori since they involve no 'contradiction', yet neither could they be justified empirically without begging the question. Mumford suggests that Hume himself "was not happy with this [result], but … thought it

118

inescapable"[176]. Many since have followed C.D. Broad in regarding induction as "the glory of science and the scandal of philosophy", on account of the alleged failure of philosophers to provide a suitable epistemology for what is an essential – and highly successful – mode of inference throughout science.[177]

The upshot of these brief considerations is that the regularity approach appears to face serious challenges with respect to (i) distinguishing causal from non-causal regularities, (ii) explaining (at least some) regularities), and (iii) finding secure epistemic grounds for prediction and inductive reasoning generally.

5.1.2.2 The counterfactual dependence view

The second general type of approach to causation inspired by Hume – championed in successive iterations by Lewis – proposes understanding causation reductively in terms of the ultimately non-causal fact of counterfactual dependence between events.[178] (Why 'ultimately non-causal'? For the same reason that regularity approaches reduce causation to something non-causal, in their case the relevant sort of regularity. Suppose that there are 'causal' and non-causal varieties of counterfactual dependence. If causation *just is* that 'causal' variety of dependence, then whatever distinguishes the causal from the non-causal varieties must be something ultimately *non*-causal, on pain of circularity.)

On a basic formulation of this sort of theory, to say that event *c* causes event *e* is to say, at a minimum, that if *c* had not occurred, then *e* would not have occurred either. Causes, on this approach, are precisely *difference-makers*: if *c* is a cause of *e*, then the occurrence (or presence, whatever) or not of *c* makes a difference to the occurrence or not of *e* (or, on a probabilistic approach, to the probability of the occurrence of *e*; I set this complication aside). Setting aside the many various complications – e.g., the details of Lewis's possible worlds semantics for counterfactuals and generations of efforts to make the dependence view more sophisticated in order to deal with proposed counterexamples – I want once again to briefly cover some of the main general challenges facing such a view.

First, though, it should be noted that the dependence theory might be thought to have some attractions, especially when compared to a regularity approach. Like the regularity approach it is, as Williams notes, "more or less a one-size-fits-all account of causation", in the sense that it seems to apply equally to microphysical phenomenon as to

---

[176] Mumford (2013), p. 22.
[177] Broad (1926), p. 67.
[178] Between events – whether conceived as Davidsonian or Kimean events, or something else – or perhaps items of some other appropriate type; I set this complication aside.

macro-level events.[179] Moreover, according to Williams it "does a good job of capturing our everyday use of the term 'cause'", at least in respect of the idea that causes make a difference to what events happen (though we might well doubt that this is a feature of *all* everyday uses of "cause").[180] It also appears to offer a way to distinguish causal from non-causal (including coincidental) regularities: namely, by holding that causal regularities are those where there really is counterfactual dependence of one or more events on another, prior event.

At the same time, however, the dependence view faces some of the same difficulties as the regularity view. If *e* depends counterfactually on *c*, then not only is *c* (at least part of) the cause of *e*, but c's causing *e consists in* that dependence. This appears to open the door to counterexamples: there might seem, prima facie, to be both (i) instances of causation without counterfactual dependence between events and (ii) instances of counterfactual dependence between events without causation. And if this is right, then counterfactual dependence between events might be either not necessary or not sufficient – or perhaps neither – for causation, with the upshot being that a reductive analysis of causation as consisting in such dependence cannot in principle succeed.

Mumford provides a counterexample of the first sort:

> Suppose a train gets delayed *because* there's an elk on the line. … What if, as well as there being an elk on the track, [the elk] is standing next to a faulty signal, stuck on red? In such a case, the train would be delayed even if there was no elk on the line. If the elk did not stop the train, something else would have. Here it seems as if the elk does cause the delay, but the train would still have been delayed even without the elk. The elk is a cause but not, it seems, a difference maker.[181]

What we have here seems to be a kind of apparent 'overdetermination' of the relevant effect, where that effect is the (actual, token) event of the train's stopping: it is plausible that, in the relevant circumstances, it was true both that the elk helped to bring about the delay of the train *and* that had the elk not been in any appropriate location near the track, the faulty signal *would have* helped to bring about the delay of the train. (To help Mumford's case along, we might suppose that the train has separate sensors which detect both when there is some obstacle on the tracks and when the signal is showing red; and we might suppose that when these sensors activate, this somehow *determines* that the train will stop.) The key point of the case is that because of the presence of the faulty signal, it seems not to be true in these circumstances that the delay of the train – its stopping – *depended* (counterfactually) upon the presence of the elk. But if this is right, then according to the counterfactual dependence approach the presence of the elk cannot

[179] Williams (2019), p. 38.
[180] Williams (2019), p. 38.
[181] Mumford (2013), p. 51 and p. 60. My italics.

really be a *cause* of the delay after all – contrary to our initial stipulation in describing the case. Can proponents of the dependence approach somehow rule out the relevant sort of 'overdetermination' here in a non-ad hoc manner? The question, it seems, hangs on whether we can fill in the details of Mumford's counterexample so that we would have the very *same* actual, token event-effect in both the case where the elk causes the stoppage and the case where the faulty signal causes the stoppage. But I set the matter aside here, since my purpose is not to adjudicate the regularity and dependence approaches; in any case, the dependence approach faces more urgent problems considered below.

Consider next a counterexample Mumford proposes of the second type – dependence without causation:

> One afternoon, John increases the pace of his stride. He wouldn't have been able to do so unless he had got out of bed that morning. John increasing his pace thus counterfactually depends on him getting out of bed. But did his getting out of bed that morning cause him to increase his pace in the afternoon? It doesn't look like it. When John got up, he had no intention of increasing his walking pace later. But it was a *necessary condition* for it.[182]

To really push the example, Mumford notes that John's increasing his speed depends counterfactually even upon (e.g.) the Big Bang – yet it seems counterintuitive to regard the Big Bang itself as a *cause* of the increase. We might think it quite plausible that some effect's happening depends on certain types of condition obtaining, but think that we should not identify these conditions *themselves* as causes of that same effect. I argue for this sort of division in section 7.4: it is objects which are causes, but their performing causal actions of relevant types depends upon their having relevant properties and being in appropriate circumstances.

Another example of this sort is my favored case of an allegedly *uncaused* event. If it is at least metaphysically possible that radioactive decay – say, a radium atom's emitting an alpha particle – is stochastic (rather than merely probabilistic in the appropriate sense), then it is at least plausible to suppose that there might be certain conditions that must be in place (or perhaps fail to be in place) for the relevant type of action (alpha particle emission) to occur. Perhaps the alpha particle's being a part of the atom is one such necessary condition, though this seems rather trivial. In any case, if this is right, then there would be counterfactual dependence of the emission on some prior event or circumstance, even though – by stipulation – that action was an uncaused, completely 'random' event (and thus not even subject to some sort of objective probability).

The upshot of this second sort of counterexample is that the dependence approach to causation appears to conflate causes with what might be called 'necessary conditions'

---

[182] Mumford (2013), p. 61.

for causation to occur. As we see shortly, however, many proponents of powers-based approaches to causation reject the idea that there is a real *metaphysical* – as opposed to conceptual – distinction to be made between causes and 'mere background conditions'.

We should recognize that, much like the regularity approach, counterfactual analyses of causation standardly make causation into an 'extrinsic' matter, in the sense that whether or not two or more events bear a causal relation to one another depends upon much more than what, if anything, is happening in *that single, particular case* (or on the properties of the relevant events or the objects involved in those events). This, Williams observes, is because of the way the neo-Humean treatment of *counterfactuals* relies upon neo-Humean accounts of laws and possibility:

> In assessing the truth of the counterfactuals we 'look' to the goings-on of nearby possible worlds. The worlds … are complete descriptions of ways things could have been; a nearby world is one that obeys the same (nongoverning) laws as the actual world, and which differs only minutely in terms of the positions of the properties that make up the mosaic (it diverges just enough to allow that the putative cause does not obtain, and then in all law-abiding ways afterwards). It is through the 'examination' of these nearby worlds that we establish what would have happened had the cause-event not taken place, and how we determine if the effect-event depends on it. The account is thus extrinsic because it relies on extrinsic accounts of laws and possibility. We have to look beyond the pair of events to determine whether they constitute a cause and its effect.[183]

This extrinsic appeal makes a dependence account "weak", Williams says, in the sense that events – the neo-Humean's causes – are "merely related to each other according to patterns of similarity and imaginability". [184] For those who think that causes, whether events or items from another ontological category, somehow *produce* or *bring about* their effects in a meaningful sense – "for those of us who take causes to be oomphy", as Williams puts it[185] – this appeal to extrinsic matters is wholly unsatisfactory.

The problem here is not merely that the dependence analysis of causation leaves out something that is intuitively important; common sense is only a starting-point for metaphysical inquiry and our 'intuitions' or 'commonsense' beliefs can of course be mistaken. Rather, it is that the approach seems to have an explanatory problem similar to

---

[183] Williams (2019), p. 39.
[184] Williams (2019), p. 39. Williams puts 'look' and 'examination' in 'scare quotes', he says, to indicate his belief that these must be acts of *imagining* rather than genuine observation. (Even for the Lewisian 'modal realist' about possible worlds we must use our imaginations in this way, since Lewis's 'alternative' possible worlds are spatiotemporally unconnected from our own.)
[185] Williams (2019), p. 39. I tend away from using the phrase 'causal oomph', though will make note of how Williams tries to accommodate the idea, as expressive of 'production', in section 5.4.2 below.

that facing the regularity view. Supposing that there exists counterfactual dependence in some particular instance of causation, we might then ask the question: What *explains* this dependence? (For the dependence view, again, the relevant instance of causation literally just *consists in* this dependence.) The proponent of a dependence analysis of causation might appeal here to a neo-Humean account of laws of nature – say, to the Mill-Ramsey-Lewis 'best systems' account, which Williams summarizes as follows:

> [On the 'best systems' account] laws are those generalizations [about the spatiotemporal distribution of properties throughout all times and places in the universe] that best systematize this information [about that spatiotemporal distribution], where 'best' is a balance of simplicity and strength.[186]

Crucially, these laws are what Williams terms 'after-the-fact' laws:

> The laws [on the 'best systems account'] do not push around the objects or their properties; they do not govern. But nor do the objects or their properties propagate their own movement and change (as the powers theorist claims). The neo-Humean metaphysic thus sees physical objects as *inherently passive*: objects are lifeless puppets whose apparently perfectly choreographed dance is really just a series of random positions. The dance is not choreographed at all; it is a log book, and nothing more. Objects appear in various locations and configurations—their properties sometimes changing, other times not—but *nothing makes this the case*; all changes and similarities are 'explained' after the fact. There is no saying why such and such occurred, only that it did, and that it occupies a place in a wider pattern of such happenings. If you want to know why something happened, the neo-Humean refers you to the *after-the-fact* laws.[187]

What, in turn, explains the laws themselves on the 'best systems' account? The answer is: *nothing* beyond the purely contingent matters, bearing no necessary connections at all to one another, about which these laws are generalizations. Thus what explains counterfactual dependence is nothing beyond a statement of how things simply happened to go in the world. For the powers theorist and the realist about causation, this is hardly an explanation at all.

Two final points are worth noting. Like the regularity view, the counterfactual dependence analysis of causation standardly regards *events as the relata* of causal relations: it is events which feature in regularities, and events which depend counterfactually on one another. (Of course, there is quite a range of things one might mean by "event" here: e.g., Davidsonian vs. Kimean events.) This accords with some of the ways that we speak and think about causation. Both approaches also typically posit a

---

[186] Williams (2019), pp. 33-34.
[187] Williams (2019), p. 34. My italics.

temporal *asymmetry* to causation, where cause-events precede effect-events in time – a feature which likewise might be thought to match much of our commonsense thinking about causation. But powers theorists are inclined to reject both of these presuppositions. First, most powers theorists regard properties or powers, rather than events, as causes – with a minority, myself included, advancing a substance causal approach instead. Second, powers theorists typically reject the idea that causes must always precede their effects in time, favoring instead some sort of simultaneity – though, as we will see, they have quite different ways of making the case for this rejection.

5.1.3 Setting out initial desiderata

What is it that we want a theory of causation to *achieve*? What could make an account of the fundamental metaphysics of causation successful or justified? Partly in the light of the foregoing review, we might set out at least the following objectives.

5.1.3.1 Explanation and prediction

The first desideratum arises from the same general motivation underlying the task of finding a suitable account of powers in general. I take it as a given that there exists a great deal of order and regularity throughout the world – order which we exploit not only to survive in our immediate surroundings but also, e.g., to develop a wide variety of technologies which allow us to manipulate objects and occurrences in the world in a range of highly sophisticated ways. What sorts of things best *explain* this order?

Recall the answer given by my *QT Account of Powers*: objects *do what they do*, alone or in concert with other objects, *because* the specific *ways they are* – intrinsic properties – *enable* them to act, or be acted upon, in appropriate ways in relevant circumstances. The various events and processes which occur throughout the world are, at root, individual instances or else sums or composites of (i) the activities or doings of objects and (ii) changes in their properties and relations which are produced when objects are acted upon by one another. No appeal to, e.g., mysterious governing laws or the activity of a supernatural being is needed to account for the resulting order and regularity; nor are we justified in throwing our hands up in the air and supposing that the seeming order and regularity we observe is always and everywhere a wholly chance or contingent matter. What is needed, rather, is an accounting of the objects which exist throughout the world and the properties (and perhaps also relations) these objects 'have' – i.e., the *ways they are*.

If we have at least prima facie independent reason for supposing that some occurrences in the world somehow involve *production* or *bringing about* – and I argue in

124

section 7.2, following Strawson, that we do – then via the 'initial definition' **CAUSE₁** we have reason for believing that there exists irreducible causation in the world. The objective, then, is to find an account of causation which, among other things, provides the resources needed to explain those occurrences which count as properly causal in nature – that is, to explain those occurrences which involve *production*.

Another way to put the aim is to say that, if there are true causal propositions, then a metaphysical account of causation should shine a light on what the *truthmakers* are, or could be, for these propositions – instructing us, at the very least, on *where* we should be looking for such truthmakers. Identifying the truthmakers for causal propositions – or at least narrowing down where we need to look for them – allows us to acquire a firmer grasp on one place where the appropriate 'terminus of explanation' lies for such propositions.

Regularity in nature can be a sign or hint that there is, to use an apt metaphor, 'causal machinery' at work. Possessing a theory of the metaphysics of causation which facilitates the (at least partial) explanation of some instances of causation in the world would enable us to distinguish those regularities which are causal from those which are not. It would also allow us to identify those phenomena, whether one-off occurrences or instances of regularities, which really do involve *causal* dependence of some sort or other, and to distinguish them from both causal and non-causal phenomena involving other varieties of dependence (e.g., existential dependence) or none at all.

Having the resources needed to explain and understand some range of causal phenomena makes possible *successful* – and not merely lucky – prediction of the occurrence and character, in relevant circumstances, of future instances of causation of relevant types. Unlike Mumford's hypothetical 'Humean with a headache', the causal realist with the right metaphysics has an idea *where to look* to find a 'causal connection' between administration of paracetamol and alleviation of headaches.

What we want, in other words, is an approach which not only tells us where we can find causation in the world, but where we can find an *explanation* for causal phenomena – and all that follows from such an understanding.

5.1.3.2 Making sense of everyday and scientific causal talk

Second, we want a theory of the metaphysics of causation which enables us to *make the clearest possible sense of*, and to *organize*, the many different ways that we deploy talk of causation in both everyday and scientific contexts.

But this desideratum needs to be understood carefully. The idea is not that we need an account which treats with *equal respect* the various ontological commitments built into every possible manner of engaging in causal talk. For instance, although we speak as though things as varied as objects, events, properties, and facts can all serve as *causes*,

we should not just assume at the outset that a satisfactory theory must allow for all such items to literally count as causes (i.e. as *producers*). What we are after, rather, is an account which allows us to carefully distinguish genuine causal from non-causal propositions, and to understand what the truthmakers must be for true causal propositions including statements of 'causal law' – whatever form those propositions might take (e.g., event-causal, substance-causal, etc.). With this, we can understand the kinds of 'roles' played in causation by each of objects, events, properties, and so forth.

5.1.3.3 'Carving at the joints'

As I observe in section 6.2, the variety which is a part of our everyday and scientific causal talk might be taken as a motivation for a variety of types of pluralism about causation, including pluralism about causes. But I will go on to argue that there is good reason to reject all varieties of pluralism save one which is rarely acknowledged (a pluralism about *causings*) – reason having to do with the goal of 'carving reality at the joints'.

What does it mean to carve reality or nature at the joints? The basic idea underlying the metaphor here is that we want our *concepts* about what sorts of things comprise the world to 'divide' the world up in a way that matches, as closely as possible, actual divisions or distinctions in the world between *kinds* of things (i.e., ontological categories). The goal, as Donnchadh O'Conaill points out, is not merely the achievement of true belief about reality, but constructing true belief out of *concepts* which "capture how things themselves are: what exists, what its nature is, how it fits together with everything else"; we want our concepts themselves to "represent reality as it actually is".[188]

O'Conaill proposes that the metaphor of joint-carving suggests precisely that position which is termed 'ontological realism':

> By 'ontology', I mean the systematic study of the most general categories of entity, like properties, events, or substances (or quantum fields, spacetime, etc.). To accept ontological realism is to accept that there is a fact of the matter as to which entities exist and to which categories they belong, and this fact of the matter is independent of how we choose to carve up reality with our different concepts.[189]

To adopt another metaphor, an account of the fundamental metaphysics of causation succeeds in carving reality at the joints when it (i) has the right kinds of existents 'on the

---

[188] O'Conaill (2020), [no page numbers]. As O'Conaill points out in this piece, there are "many true things I can say about the top thirteen-sixteenths of his laptop" – but the concept *the top thirteen-sixteenths of my laptop* is hardly a joint-carving concept, insofar as it is just arbitrarily chosen.

[189] O'Conaill (2020), [no page numbers].

scene' *and* (ii) assigns them to the correct 'roles' in causal phenomena – with nothing missing, nothing extraneous, and nothing in the wrong place.

5.2 Molnar's early version of a 'mutual manifestation' view

In Chapter 2, we encountered Molnar's view of powers, defended throughout his (2003): he regards them as genuine intrinsic properties of objects which are 'directed' toward their distinctive types of manifestation. Molnar is generally understood to accept a 'mixed' or dualist view of properties – though I expressed some skepticism about whether this is the best way to understand his view – since he appears to hold that in addition to powers, there are also non-power properties, namely what he terms the 'S-properties'.

      In Chapter 12 of that same work, Molnar sketches several elements of what he calls a 'dispositional theory of causation' – elements which are shared to some degree with many proponents of the 'mutual manifestation' view covered in section 5.3. These include: (i) the idea that it is properties-cum-powers of objects which are, or at least are somehow ontologically part of, the causes (and perhaps also the effects) in causal interactions; (ii) the idea that there is a certain kind of symmetry or mutuality involved in causation; and (iii) the idea that effects are typically produced by many powers together (while these powers each typically help to cause many different kinds of effects as parts of different combinations of powers).

5.2.1 Mutual-simultaneous causation

Under a short section titled "Denying asymmetry", Molnar discusses the idea of a type of symmetry in causation. Given the title of the section, one might suppose that he means to imply that the relevant sort of symmetry is present across *all* instances of causation; but this is not quite clear.

      Molnar considers the case of two playing cards – call them K for the king card and Q for the queen card – leaning against one another over some duration of time. Such a scenario, he suggests, counts as a case of 'mutual-simultaneous causation': as he seems to be understanding matters, K's standing at any particular moment t_x during that duration is a cause of Q's standing at t_x, *and* Q's standing at t_x is a cause of K's standing at t_x. (In responding to the treatment of this same example by Frankel (1986), Molnar appears to suggest that he is defending the idea that there is, at any moment during the scenario, a 'bidirectional causal chain' that can be represented as Ks ↔ Qs, where 'Ks' refers to K's standing and 'Qs' refers to Q's standing.) The sort of 'mutual' and simultaneous causation

present in such a case, Molnar then says, "consist[s] in the maintenance of a static equilibrium: the mutual causal dependence of two states of affairs" upon one another.[190]

Unfortunately, the details offered here are meager, which makes understanding just what the relata are supposed to be, among other things, rather difficult. Given what Molnar goes on to say about 'polygeny' and 'partial causes' (see below), it does not seem that he means to claim that K's standing at t_x is *the* cause of Q's standing and that Q's standing at t_x is *the* cause of K's standing at t_x; rather, each of these is only *part* of the cause of the appropriate effect (alongside, say, causes having to do with the table upon which the cards stand, the pressure of the surrounding atmosphere, the gravitational pull of the earth, etc.). If the effect is taken to be the relevant card's 'standing', this seems right so far. But what, then, *is* that effect? Is, e.g., the effect brought about (in part) by K's standing at t_x the state of affairs (as he puts it) of Q's standing? This would imply that for this single case of mutual-simultaneous causation which can be represented (in part) by Ks ↔ Qs, there are at least *two* relevant effects – namely those states of affairs referred to by 'Ks' and 'Qs' – rather than a single effect, the 'static equilibrium' which is a state of affairs consisting of *both* cards' standing. Whether this is intended is likewise unclear.

It is worth briefly considering what Molnar says about 'states of affairs'. On the ontology he sets out in Chapter 2 of his (2003), the fundamental categories are objects, properties (both powers and the 'S-properties'), and relations – all three categories understood as being comprised of particulars rather than universals. States of affairs (or 'facts', 'situations', and 'circumstances'), he says, are "not fundamental existents, but logical constructs out of objects, properties, and relations".[191] Events, for Molnar, "are no different from states of affairs, that is, they are not as ontologically fundamental as objects, properties, and relations because they are made out of , or at least depend upon, such things".[192] He also says in places that events *occur*; presumably states of affairs do not themselves occur, though their onsets do.

If Molnar really intends for the playing card situation to be representable (in part) by Ks ↔ Qs, then it looks as though he is committed to saying that the relevant (partial) causes are *states of affairs*, and thus what he has called 'logical constructs' rather than fundamental existents. He later says that "while ontologically there is nothing over and above individuals and their properties (actions), *causally* there is".[193] Two questions might be asked here. First, what does it *mean* to say that there is something 'over and above individuals and their properties' – states of affairs or whatever – *causally* but not ontologically? Second, is Molnar taking the actions of objects to be properties of those

---

[190] Molnar (2003), p. 193.
[191] Molnar (2003), p. 55.
[192] Molnar (2003), p. 37.
[193] Molnar (2003), p. 198.

things – presumably so-called 'dynamic' (rather than 'static') properties? Properties, as I have understood them, are always *ways objects are* – and it is hard to see how a *φ-ing*, for any type of action φ, can itself be a way something is: there is a meaningful difference between *being* a certain way and *doing* a certain something (for explication and defense of this claim, see my Introduction). It is difficult, in any case, to determine what Molnar takes an 'action' of an object to be, if causes themselves are either the properties-cum-powers of objects, or else states of affairs containing those objects and powers as 'parts'. Perhaps for Molnar the 'action' of an object is just the 'contribution' its powers make to relevant effects (see below).

In the light of the playing cards example, we might ask what exactly the 'symmetry' is supposed to amount to. One option would be to say that, insofar as they are each (partial) causes *and* effects of one another, Ks and Qs (or the powers or objects involved in these states of affairs) are both 'causal agents' and 'patients' with respect to one another. This is to say that the 'symmetry' amounts to each *doing* something to the other, while having something *done to it* by that same other. (This doing something might be, say, exerting some magnitude of force on the other in a given direction.) A quite different option – one apparently preferred by many proponents of the 'mutual manifestation' view examined in section 5.3, is to deny that there is *any* sort of agent-patient relationship in causation. But then it is difficult to see where the idea of a 'symmetry' really comes into play, i.e. what makes a causal circumstance 'symmetrical' – a problem I return to below.

5.2.2 Powers as 'pleiotropic' and effects as 'polygenic'

A second important part of Molnar's framework is the claim that effects are typically *polygenic* – by which he means that they are produced or determined by "a number of different powers in combination".[194] (Here Molnar seems to say that effects are "events that have causes"[195]; but then if K's standing at t_x is both a cause and an effect of Q's standing at t_x, and vice versa, this would seem to entail that for Molnar K's standing and Q's standing then are each, at once, both an event and a property-cum-power. Perhaps, being charitable on Molnar's behalf, we should understand events as the onsets of states of affairs and/or properties, and understand the powers-cum-properties which he says produce or determine effect-events as *constituents* of distinct states of affairs, the latter of which have distinct events as their own onsets.) The idea that effects are polygenic seems to suggest that (e.g.) while K's standing at t_x and Q's standing at t_x (or perhaps the powers or objects which are constituents of these states of affairs) are 'mutual-simultaneous'

---

[194] Molnar (2003), p. 194. Although Molnar suggests this is 'typical', he allows that there might be exceptions. He adopts the term 'polygenic' from genetics, where the idea is that in the standard case the development of a particular trait is determined by many distinct genes.
[195] Molnar (2003), p. 194.

causes of one another, each of these *qua effect* has still *further* causes – e.g. states of affairs involving (or properties-cum-powers of) the table on which they stand, the gravitational field, and perhaps others.

Molnar regards properties-cum-powers, meanwhile, as typically being *pleiotropic*, by which he means that they "make a contribution to many effects".[196] Crucially for Molnar, though, "the same power must always make the same contribution … no matter how different the effect".[197] What exactly *is* a 'contribution' by a property-cum-power, such that it would be the same across all instances of causation in which that power is involved? I return to the notion of a 'contribution' momentarily.

Molnar says that it follows from regarding effects as polygenic and powers as pleiotropic that effects must be distinguished from *manifestations* of powers. (This is in contrast to some other proponents of powers-based approaches, who seem to regard manifestations of powers precisely as the *effects* involved in cases of causation. Views on what manifestations are vary widely in the literature, however. I gave my own account of 'manifestations' of powers, including an initial characterization of their relations to causings and effects in the case of causal powers and liabilities, in section 3.2.) A manifestation, Molnar says, "is typically a *contribution to an effect*", while an effect-event "is typically a combination of contributory manifestations."[198] (What he should instead say here, it seems, is that an effect-event is the *result* of such a combination, rather than the combination itself; after all, how can an effect be identical with the relevant *combination* or *sum* of contributions *toward* that very same effect?) He then holds that:

> Each power has one [type of] manifestation, [and] each manifestation is the product of the exercise of one power. Of course, this contributory manifestation does not determine the effect on its own. The effect depends on the exact 'mix' of contributions by *all* the contributing powers.[199]

---

[196] Molnar (2003), p. 194. This term likewise comes from genetics, where to say that a gene is pleiotropic is to say that it contributes to the development of many traits.

[197] Molnar (2003), p. 194.

[198] Molnar (2003), p. 195. My italics. If manifestations are contributions, what are they contributions *by*? For Molnar it seems clear that they are the contributions of properties-cum-powers, rather than the *bearers* of those properties. This accords with most proponents of powers-based approaches to causation say, but stands in contrast to my substance-causal approach in Chapter 7. On my view, there are two quite different kinds of 'contribution' on the scene in causation: that made by individual substances, namely their performing some type of *causal action*; and that made by the qualities of objects involved in causal interactions, namely their *making-true* relevant modal propositions about how those objects would interact in the appropriate circumstances.

[199] Molnar (2003), p. 195.

I do not know what it means to say here that the manifestation of a power is the *product* of the exercise of one power; I use the terms "manifestation" and "exercise" as equivalent, and Molnar gives no clear sense of how he might be using these two terms differently.

In any case, we still need an idea of what a 'contribution' is supposed to be. Molnar says that with respect to at least some effect-events, we can distinguish *partial causes* from the *complete cause*. He illustrates this with an example:

> Two draft horses are pulling a barge by ropes, one from one side of the canal, the other from the opposite side. The direction of the pull by each side is at an angle to the canal itself. The outcome is that the barge moves straight ahead … although nothing pulls it along the straight line. This shows the difference between manifestation and effect neatly: *the manifestation of each horse's power is a force along an angled direction, but no movement along this direction occurs*, only the combined force of the two pulling sides is effective and it results in a straight-ahead movement.[200]

On this picture, each horse's relevant powers apparently make the 'contribution' of a force along an angled direction – where this is, in the end, a contribution to the barge's moving in a straight line down the middle of the canal. (An alternative suggestion would be to regard each horse's *pulling* of the barge as *its* contribution, and also as a 'manifestation' of some power of that horse; but this seems quite different from saying, as Molnar does, that it is that horse's *powers* which make the relevant 'contribution'.) Then that same power(s) of each horse is a 'partial cause' of the movement of the barge, while the 'complete cause' is the combination or sum of these two partial causes plus unnamed (and perhaps unknown) others besides. Although it is far from clear, Molnar appears to be describing the case of the two horses pulling the barge as involving just *one* effect – the barge's moving in a straight line down the middle of the canal. But perhaps he means to allow that there are a range of relevant effects which are part of the scenario: say, effects on the horses and other objects – or rather states of affairs involving or else properties of these various objects – involved in the overall causal interaction. In the latter case, we might then identify some sort of 'mutual-simultaneous causation' on the scene.

Molnar then addresses John Stuart Mill's interpretation of cases of causation involving what the latter calls 'Composition of Causes'. Mill claims that:

> In this important class of cases of causation, one cause never, properly speaking, defeats or frustrates another; *both have their full effect*. If a body is propelled in two directions by two forces, one tending to drive it to the north and the other to the east, it is caused to move in a given time exactly as far in both directions as the two forces would separately have carried it; and is left precisely where it would have

---

[200] Molnar (2003), p. 195. My italics.

arrived if it had been acted upon first by one of the two forces, and afterwards by the other.[201]

Molnar understands what Mill says here as implying that, in the case of the barge:

> … if, in the interval t_1-t_2, horse A pulls the barge at an angle towards the northern shore of the canal and horse B [simultaneously] pulls it at an angle towards the southern shore, then in that time the barge will move first (?) towards the northern shore as if horse B were absent, and then, second, towards the southern shore as if horse A were absent. At t_2, the barge will have reached the point, nearer to C, that results from the *succession* of these two movements. Both component forces result in movements that are real in the sense that they actually take place.[202]

The main problem for Mill's interpretation here, Molnar says, is that "if the forces are exercised simultaneously, then these separate motions *do not* actually take place" – contrary to what Molnar takes Mill to be saying.[203] The idea for Molnar seems to be that while each 'partial cause' makes a contribution to the result of the barge's moving in a straight line down the canal, this is *not* achieved by, or a matter of, each partial cause's 'having its full effect' in the sense of each causing a distinct movement (at an angle toward the relevant shore) separate from another distinct movement toward the opposite short and from the movement in a straight line down the canal. What *is* a contribution, then? Molnar does not appear to say anything more here. (Just as with the other 'mutual manifestation' views considered below, I think this is an inevitability: there is nothing meaningful one *can* say about the 'contribution' of a property-cum-power to causation, *where it is properties-cum-powers which are being regarded as causes*, because this latter idea is misguided in the first place.)

Despite Molnar's reading, it seems clear enough that nothing Mill says in the quotation above implies that, in the barge example, there are separate motions which occur one after another in time; indeed Mill seems to explicitly deny this in the last sentence-clause above (given use of the "if it had been …"). What might Mill mean, then, by saying that each cause has its 'full effect'?

As a preview of things I will say in Chapter 7, my own preference is to say that what is happening in the barge scenario is that each of the two horses is performing a specific causal action which is a type of *pulling*, and each of these two separate causal actions has its own separate effect on the barge – but that these effects, and others besides, 'add up' to what might be called a 'composite effect', namely the movement of the barge in a

---

[201] Mill (1893: Book III, ch. VI). Cited in Molnar (2003), pp 196-197. My italics.
[202] Molnar (2003), p. 197. The "(?)" here appears in Molnar's text – I have not added it myself. (Recall that Molnar's text was edited and compiled by Mumford following Molnar's death, where later chapters of the book were in a less complete state than earlier chapters.)
[203] Molnar (2003), p. 197.

straight line down the canal. "Pulling" should *not*, it seems to me, be taken to mean something like "causing motion toward oneself"; after all, one object A can pull another object B without A's causing any motion of B at all, as when there is a competing and equivalent force pulling B from an exactly opposite direction. (Yet pulling is clearly *acting* or *doing* something to another object – a fact we can appreciate by imagining ourselves straining during a game of tug-of-war, a rope burning our hands as we exert effort trying to keep it from sliding out of our grip.) Rather, it seems that "pulling" is best used to refer to applying some magnitude of force in a particular direction. Each horse succeeds in pulling the barge in just *this* sense, and each horse's causal action of *pulling* is a matter of that horse's producing the effect of *the barge's having the relevant force applied to it (in the relevant direction)*. That effect, it seems, *is* a change of some kind in the properties or relations of the barge. What of the movement of the barge in a straight line down the canal? This I regard as the 'sum' of multiple individual instances of causation – that is, multiple distinct instances of specific forces being applied to the barge by different objects (the horses, the earth exhibiting its gravitation pull, the pressure exert by the atmosphere, etc.). You cannot have the sum here without the individual components that 'add up' to it. But such a sum or composite effect, whether it is a change in something's properties or relations (as in the barge example) or else the maintenance of a static equilibrium (as in the playing cards example), is not *itself* the direct effect of any one object acting upon another; and I reject the idea that objects act 'collectively' or 'jointly' such that there would exist a *single causing*, i.e. *one causal action*, by a certain collection of objects. (This is to deny so-called 'collective agency', in the broadest sense of 'agent'.) I return to this crucial point several times below and again in Chapters 6 and 7.

It is rather uncertain, then, what precisely Molnar's sketch of the basic elements for a 'dispositional theory of causation' comes to. But we will see similar manners of speaking below in other proponents of the 'mutual manifestation' view of causation.

5.3 Martin and Heil: causation as 'mutual manifestation of reciprocal disposition partners'

C.B. Martin and John Heil are architects of the so-called 'identity' or 'powerful qualities' view of properties, which on one formulation holds that all genuine properties of objects are at once 'qualities' and 'powers'. As we saw in section 2.2, those who identify as proponents of this view have a number of different ways of spelling out what the 'identity' amounts to, or explicating the notion of a 'powerful quality'. Martin and Heil are also leading advocates for the replacement of what they call the 'two-event model' or else the 'received view' of causation with a view that begins with the idea that causation is the 'mutual manifestation of reciprocal disposition partners'; their version of a mutual

manifestation view is, it is fair to say, much more developed than Molnar's. As we will see in the remainder of this chapter and then in Chapter 7, however, there are likewise a variety of quite different ways of spelling out what precisely 'mutual manifestation' amounts to.

5.3.1 The 'received view' and the mutual manifestation alternative

What, first, is the 'received view' which is to be jettisoned? Martin (2007)[204] describes what he calls the 'two-event model' as holding that causes and effects are separate and distinct events, with effect-events *succeeding* cause-events in time (i.e., with causal relations involving 'succession' or 'temporal asymmetry'). (There are, of course, a variety of ways of understanding what exactly *events* are. Some distinguish events as *occurrences*, including notably changes in the properties or relations of things; others make them sound like they are *facts* or *states of affairs*; and so on.) In his (2012)[205], Heil's characterization of the 'received view' combines the 'two-event model' and its temporal asymmetry with the idea that causation is a *non-reflexive* (no event causes itself) and *transitive* (if A causes B and B causes C, then A causes C) relation between events. As we saw in section 5.1, this model of causation as a relation between distinct events is a standard feature of the regularity and counterfactual dependence approaches. But as many proponents of powers-based approaches are keen to point out, it extends well beyond neo-Humeanism: Mumford and Anjum assert that the model "has become so orthodox [in contemporary metaphysics] that in most cases it is simply assumed as the required starting point without any discussion" – including even by those *anti*-Humeans who think that event A causes event B just in case there is a 'governing law' to the effect that events of A's type (or sufficiently like A) cause events of B's type (or sufficiently like B).[206]

What is the problem with the 'received view' as a general framework? Martin poses an alleged dilemma for the idea that cause-events precede effect-events in time:

> If the cause is *prior* to and not contemporaneous with the effect then it is 'too early' because there would be a temporal gap in which the cause was not 'brought up' to the effect. If the cause is at any stage *contemporaneous* with the effect then it is hard to see them as separate, distinct existences as Hume and Armstrong wish and also the cause is 'too late' because at that stage the effect is already happening.[207]

---

[204] Martin (2007), p. 46.
[205] Heil (2012), p. 117.
[206] Mumford and Anjum (2018), p. 61.
[207] Martin (1996), p. 136.

Heil pushes the same problem, suggesting first that "an event that has run its course" cannot "*do* anything".[208] Meanwhile, taking cause and effect to be events which *partially* overlap temporally does not seem to help either:

> Consider that portion of [event] *A* that occurs prior to the onset of [event] *B*. This portion of *A* has run its course, so how could *it* play a role in causing *B* [i.e., how could it be *a* cause of *B*]? It appears that only the portion of *A* that overlaps with *B*, *A*2, actually causes *B*. … But unless *A*2 and *B* are temporally coextensive, there will be a portion of *B*, *B*2, that occurs after *A*2 has run its course. How could *A*2 be responsible for *B*2?[209]

Beyond this apparent dilemma for the received view, proponents of the mutual manifestation view typically make a series of dialectical moves: first, suggesting that the 'received view' is usually assumed or inherited uncritically simply because it is a 'default' view in recent metaphysics; and second, posing commonplace examples of (supposed) causation – like the water-salt case, the playing cards example, and others considered throughout this chapter – and claiming that their 'mutual manifestation' alternative handles these much better than any view which takes causation to be a relation between distinct events. It is also claimed that views adopting the framework of the 'received view' (including sophisticated versions of the regularity and dependence approaches briefly summarized above, and various sorts of 'governing laws' approaches) have *repeatedly* failed to offer a fleshed-out account of causation that achieves relevant desiderata – the suggestion then being that such views are *in principle* incapable of doing so, that they deny themselves resources needed to achieve this.

Martin conceives the aim of the 'mutual manifestation' view to be "*replac[ing]* cause and effect by the more basic notions of disposition and manifestation, or, more explicitly, by the notion of reciprocal disposition partners for mutual manifestation".[210] Causation, on such an approach, is not fundamentally a matter of a relation between two (or more) distinct events – nor even, if we take Martin's talk of 'replacement' seriously, a relation between *any* distinct things at all. Rather, causation is understood as the 'mutual manifestation' of two or more 'disposition partners'. This line takes quite a bit of unpacking: what, exactly, is a 'mutual manifestation', and what kinds of things are 'disposition (or power) partners'? The details are not always very clear, though Heil appears to make significantly more effort than Martin to explain them.

---

[208] Heil (2012), p. 122. Notice the implicit suggestion here that causings are *doings*.
[209] Heil (2012), p. 123.
[210] Martin (1996), p. 136. My italics.

5.3.2 Power partners

First, consider the notion of a 'power partner'. (Like proponents of the mutual manifestation view, I will use "power partner" and "disposition partner" as synonyms. Some use "partner powers" instead; presumably these proponents of the mutual manifestation view take the 'partners' to be powers themselves.) Take the scenario of some teaspoon of salt's being stirred into a cup of water and dissolving. One way to describe this case, in line with the 'received view', would be in terms of two distinct events or processes occurring successively in time, the first identified as the cause and the second as the effect: say, the water and salt being brought into contact, and then the salt's dissolving in the water. (Perhaps we then say the first causes the second because it is an instance of an appropriate sort of regularity, or because the second depends counterfactually on the first; or perhaps the situation is 'governed' in an appropriate way by laws of nature.)

The proponent of the mutual manifestation view, on the other hand, sees the situation differently. Rather than there simply being a pair of asymmetries between two events in terms of one (a) *occurring earlier than* and (b) *causing* the second (alongside an appeal to regularity, dependence, governing laws, or whatever else), Heil describes the scenario as involving a *perfectly symmetrical process of interaction* – one missed altogether by the 'received view'. Once the water and salt are brought into contact, he says, "certain chemical features of the salt *interact with* certain chemical features of the water ... [and] this interaction is, or appears to be, continuous [and] ... symmetrical".[211]

Now there *must* be, it would seem, an event or process of the water and salt being brought into contact in some appropriate way (whether from the moment the relevant objects came into existence, such that their contact was immediate, or else later on during their existence). Is such an event – or, perhaps, some further object(s) which acted upon the water and/or salt to bring them into contact with one another – not a cause (or 'stimulus' or 'trigger') of the interaction of the salt and the water that began once they came into contact? Heil allows that this might be so, but then quickly goes on to say that "considered ontologically, causes and effects take a back seat to causings" because "causing is where the action is".[212] Although his language here might just be hyperbole, I am not sure what it means to say that causes and effects take a 'back seat' or – what he might mean – have only a secondary kind of status or importance. Martin offers a seemingly even stronger line – again with nothing clear in the way of explanation – saying that it is "best to replace cause and effect by the more basic and useful concepts of reciprocal disposition partners for mutual manifestations".[213] With this, presumably, the idea of a 'stimulus' of some action or interaction would likewise be jettisoned. But for one

---

[211] Heil (2012), p. 118. My italics.
[212] Heil (2012), p. 120.
[213] Martin (2007), p. 56.

thing, if being 'triggered' in some appropriate way – like being brought into contact with one another – is ever a prerequisite for objects or their properties producing some result, then in such cases we still seem to need causes on the scene to produce the needed conditions. For another, it is hard to make sense of Heil's favored idea of a *causing* – a *causal action*, as I understand it – divorced from the idea of a cause, the latter being understood as the thing *performing* that causing. What are causings if not causal *actions* (of specific types)? And it is far from obvious why embracing the idea of causings or mutual manifestations requires jettisoning the concepts of cause and effect altogether – or at least lowering them to some sort of secondary status (putting them in Heil's 'back seat'). I return to the notion of a 'causing' shortly, and accord it a central role in my substance-causal (substances as causes) approach in Chapter 7. I also argue that there is a place for stimuli or triggers: these are objects which produce so-called 'background conditions' – a notion I likewise defend in Chapter 7 – which are necessary for the relevant 'manifestation' to occur.

Complicating things further, Heil quickly goes on to describe the same water-salt interaction in a rather different way, saying that what we have in such a case is a "continuous process whereby the water and salt *work together* to yield an outcome, salt water".[214] But comparing this with what he just said about *features* of the salt interacting with *features* of the water, we might pause to wonder: *what* exactly is Heil taking to be working together or interacting here – the substances, or else their powers ('powerful qualities')? (Or perhaps both?) What, in other words, are the 'power partners' which interact in the causal exchange? In one place in his (2012), Heil says that "substances do or would do what they do owing to the ways they are"[215]; later in that same chapter he says that "things do what they do because they are as they are, and ways things *are* are qualities"[216]. (My *QT Account of Powers*, of course, wholly embraces this way of putting things – which stands in stark contrast to, e.g., an appeal to 'governing' laws of nature to explain objects' behavior.) In the context of this latter quotation, he gives the example of a bull charging a matador:

> The cape's redness, you think, sparked the bull's anger: in virtue of being red, the cape has the power to attract the attention of aggressive bulls.[217]

So what, for Heil, has the power to attract the attention of bulls – the cape itself (*because of* its redness); or the cape's particular *redness* itself, i.e. a property of the cape; or both? To slide between manners of speaking in this way is to invite the charge of incoherence.

---

[214] Heil (2012), p. 119. My italics.
[215] Heil (2012), p. 62.
[216] Heil (2012), p. 80.
[217] Heil (2012), p. 80.

Other proponents of the view besides Heil likewise often slide between talk of (i) *substances* acting or 'doing work' (i.e., manifesting powers) and (ii) substances' *powers* acting or 'doing work'. Nonetheless, most proponents of the mutual manifestation view do on the whole seem to have in mind the idea that it is the properties-cum-powers ('powerful qualities') of the relevant objects which are really causally 'operative' or doing the 'causal work'; perhaps objects can then be called 'causes' in a kind of derivative sense. (As we first saw in considering conceptions of powers in Chapters 1 and 2, this lack of consistency and precision is a frequent problem in much of the existing powers literature.) This conclusion appears to accord with the insistence, recurrent throughout Martin and Heil, that "one and the same power is capable of *manifesting itself* differently with different kinds of reciprocal partner"[218] – where something's 'manifesting itself' sounds suspiciously like a *doing* or a *being operative*. (Notice that the idea that powers manifest themselves differently with different partners, in turn, conforms well with the thought that powers are 'multi-track', i.e. have more than one type of manifestation; see section 4.1. But it is unclear how it relates to Molnar's claim, seen above, that "the same power must always make the same contribution … no matter how different the effect"[219] – not least because it is hard to make sense of the idea of a 'contribution' by a property-cum-power conceived as a *cause*.)

5.3.3 Mutual manifestations

If causation is fundamentally the 'mutual manifestation of reciprocal power partners', and the partners are the powerful qualities of the objects involved, then what, in turn, is a 'mutual manifestation' (or sometimes 'mutual manifesting') of those powerful qualities supposed to be – and how might this mutual manifestation relate to any effect(s) produced in that instance? In the end, the answer here seems even less clear.

Consider again the playing cards example encountered above. Heil suggests that when two playing cards are propped up against one another on (e.g.) a table in the right way, "the cards work together with the table (and the gravitational field) to produce" the result of their remaining upright. (Notice that the talk here is back to *objects* – cards, table, and perhaps the gravitational field, etc. – jointly doing the causal work.) How does this *result* – what seems like a 'static equilibrium', an 'unchanging' – relate to the relevant 'mutual manifestation', whatever exactly the latter is?

Heil first says that the effect – the cards' remaining upright – "obtains so long, and only so long, as *the causing* does"; but then in the next sentence he says that "the cards' remaining upright *is* a continuous mutual manifestation of reciprocal powers possessed by

---

[218] Heil (2012), p. 121. My italics.
[219] Molnar (2003), p. 194.

the cards and the table".[220] What, exactly, is a *causing* for Heil? He says that "causings are manifestings of powers or dispositions" and also that "causings are typically manifestings of *many* reciprocal powers".[221] He further describes causings as "symmetrical and continuous … instances of interactions".[222] It seems, then, that we are meant to regard the terms "causing", "mutual manifestation", and "interactions" as referring to the same things. It is not entirely clear what an 'instance of interaction' is supposed to be; is it something like a *single collective action* by the set of power partners, or else a *sum* of relevant individual actions by those partners? (Again, this is on the assumption that the 'power partners' are intended to be features of objects, rather than objects themselves; but it must be kept in mind that Heil slips frequently between these two ways of talking.) It is difficult to see what the point could be of Heil's saying that "causes and effects take a back seat to causings" and "causing is where the action is", as noted above, if it is not that in order to really understand causation we must recognize that, at root, it involves *causal actions*. But then this is difficult to square with the idea that the 'power partners' are properties-cum-powers, unless we think that such features of objects can themselves literally *act* – a crucial claim that proponents of the standard powers-as-causes version of the mutual manifestation view appear to provide no argument for. I return to the idea that properties themselves, ways objects are, can *act* or *produce* – as opposed to merely being difference-makers – throughout Chapters 6 and 7.

By describing the effect which is of interest in this example – the cards' remaining upright' – as a 'continuous mutual manifestation', Heil is apparently identifying the effect with the mutual manifestation (causing, interaction) by the power partners. Yet then, despite having said that the effect "obtains so long, and only so long, as the causing does", he goes on to claim that "effects can, but need not, *follow* causings".[223] But if some effect *E* can *follow* (succeed temporally) a causing *C*, then E and C cannot be the same event, process, or whatever – and hence cannot be one and the same 'mutual manifestation' or 'interaction'. Something seems to have gone wrong with the picture on offer.

Consider a summary Heil offers of what this picture looks like on his version of the mutual manifestation view:

> So where are we? We have causes, causings, and effects. Both causes and effects are *themselves* causings. This, I think, is a more perspicuous way of rendering the idea, implicit in the received view, that causes are themselves effects of prior

---

[220] Heil (2012), p. 119. My italics.
[221] In his (2012), Heil says that "Causings are manifestings of powers or dispositions" (p. 117) and also that "causings are typically manifestings of *many* reciprocal powers" (p. 120).
[222] Heil (2012). This description is given in the abstract to Chapter 6 published by Oxford Scholarship Online; it may not exist in the print version.
[223] Heil (2012), p. 120.

causes, effects themselves causes of further effects. Both conceptions settle on a single ontological category: events, on the received view, causings, on the alternative view under consideration. Maybe causings are really events or events really causings. Well and good. In that case, the view under consideration could be taken as a suggestion for improvement on the received view.[224]

Although Heil says in this summary that "causes and effects are *themselves* causings", we should notice that this is quite different from saying that *causings* can be causes and effects (of, say, other causings) – which is perhaps what Heil has in mind by what would be the 'more perspicuous way' of saying that 'causes are themselves effects of prior causes, effects themselves causes of further effects'.[225] The crucial point to bear in mind, in any case, is that even if causings can be causes and effects, a causing *C* – what Heil regards as the mutual manifestation or interaction of some set of reciprocal power partners – cannot be identical with the effect *E which that causing is a causing of*, *even if C* and *E* are simultaneous.

Things thus remain very uncertain for the mutual manifestation view, as Martin and Heil have attempted to explicate it. It is uncertain whether, for instance, Martin and Heil would accept talk of individual properties-cum-powers making a 'contribution' to the 'mutual manifestations' of which they are involved – and if so what this would amount to. (If not, then what is it, exactly, that properties-cum-powers *do* in causation? If powers are causes, then what are *causings*?) In section 5.4, I examine whether any other recent proponents can clean the picture up.

5.3.4 Some implications of the Martin-Heil mutual manifestation view

Despite its uncertain shape, a number of important implications appear to follow from the presentations of the mutual manifestation view offered by Martin and Heil.

5.3.4.1 Transitivity

How, for instance, might we make sense of the idea that causation is or involves a *transitive relation* – that if *A* is a cause of *B*, and *B* is a cause of *C*, then *A* is a cause of *C*? This appears straightforward enough on the 'received view', where both causes and effects are understood as *events* succeeding one another in time. Given (perhaps extremely complex and branching) 'chains' of such events appropriately linked to one another as effects and causes[226], we might go on to argue that the relation(s) these events

---

[224] Heil (2012), p. 122.
[225] Heil (2012), p. 122.
[226] At least, all members of such chains which are not beginning or terminal members of the chain.

bear to one another is (sometimes or always) transitive in nature. In contrast, Heil says that understanding causation in terms of *causings* – understood as 'mutual manifestations of reciprocal powers' – "lessen[s] … the appeal of thinking of causation in terms of causal *chains*"[227]:

> If our interest is in the ontology of causation and not simply in prediction and control, we are better off thinking of causal networks, what Martin (1993, 2008) calls *power nets*. Power nets are evolving, massively cooperative ventures among the powers, constellations of causings, mutual manifestings among intertwined reciprocal partners. Talk of causal chains, no less than talk of 'background conditions', is perspectival. Such talk is explanatorily or instrumentally useful, perhaps, but ontologically ill conceived.[228]

Unfortunately, Heil does not offer an example to illustrate the point. Reference to 'nets' and 'constellations' here is presumably metaphorical, intended to represent what Martin in one place calls the "innumerable interconnectednesses and dispositional reciprocities of properties".[229] But it is quite difficult to clear away the obscurity: what, exactly, *is* a 'constellation of causings' or 'mutual manifestations among intertwined reciprocal partners'? What, precisely, does it mean to say that the properties-cum-powers are interconnected, in a sense that justifies the metaphor of a 'power net' (or 'causal network') or 'constellation'? (A net is a concrete object; networks and constellations are groupings of concrete objects which are related in some way. Properties-cum-powers themselves are not concrete objects, but *modes* or *features* of such things, ways objects are – at least as Martin and Heil understand properties.) And how exactly does thinking in terms of such metaphors warrant abandoning the idea that causation can involve something like 'causal chains' and transitivity? The answers are difficult to identify in either Martin or Heil. I return to the ideas of 'networks' and 'constellations' in examining Neil Williams' account of powers and causation in the next section.

In section 7.4, I observe that there *is* a way of capturing the idea that there is something like transitivity in causation: namely, by distinguishing what might be called 'direct' from 'indirect' causation and suggesting that an object 'indirectly' causes some effect, in the most basic case, by 'directly' causing an effect that was a necessary background condition for the production of the former effect.

---

[227] Heil (2012), p. 123.
[228] Heil (2012), pp. 123-124.
[229] Martin (2007), p. 87.

<u>5.3.4.2 Background conditions</u>

What, then, of so-called 'background conditions' – reference to which Heil claimed above to be likewise 'ontologically ill-conceived'? Martin urges that the idea that a power "exists unmanifested *until a set of background conditions is met*" is "misleading" because:

> … so-called background conditions are every bit as operative as the identified dispositional entity [i.e. property-cum-power]. A more accurate view is one of a huge group of disposition entities or properties which, when they come together, *mutually manifest* the property in question; talk of background conditions ceases, replaced by talk of power nets.[230]

The idea here appears to be that although we might in various contexts privilege certain properties as causally operative while relegating others to the status of mere 'background condition' which must be in place for the manifestation to occur, there is no such distinction to be made ontologically: all of the properties that are relevant for the manifestation are equally 'causally operative'. That manifestation is a 'mutual manifestation' of those 'power partners'. (By saying that the properties are each 'causally operative', does that mean that each relevant property makes its own individual 'contribution' to the 'mutual manifestation'? Martin and Heil are not clear on this point. But without the idea of such a 'contribution', it is hard to see how it is warranted to say that the properties are 'causally operative', in a sense which entails *doing something*, e.g. jointly *causing*. But then what could a 'contribution' by a property-cum-power, understood as a *cause* on a production conception of causation, actually be?)

Suppose Paul strikes a match in ordinary conditions and it lights. What was the cause of the match's lighting – or, to put things in Martin's terms, what was *operative* in the match's lighting? In everyday contexts we might naturally say that it was Paul, or perhaps some action or property of Paul's. But the truth of the matter, say Martin and Heil, is that the relevant effect(s) here involves the 'mutual manifestation' of properties-cum-powers of a (potentially vast and largely unknown) *range* of objects: of Paul, of the match, of the strip across which the head of the match was dragged, of the oxygen present in the room, and perhaps many other things besides. In everyday contexts we might regard, e.g., oxygen being present in the room at the moment of the match's lighting as a 'mere background condition' that had to be in place for the match to light. But any distinction here between what is 'causally operative' and what is a 'background condition', according to Martin and Heil, can only be a difference in perspective, interest, or knowledge, rather than a genuine ontological difference.

---

[230] Martin (2007), p. 50. The quotations from the preceding sentence are also from this page; the italics in that same sentence are my own, to emphasize what it is that Martin takes to be 'misleading' here. (He does, of course, think that powers exist even when not manifested.)

In section 7.5, I hold that there *is* an important distinction to be made between causes and background conditions on a *substance-causal* picture, where causes are substances while background conditions are circumstances or states of affairs (which include properties and relations antecedently *produced* by substances).

5.3.4.3 Agent-patient relationship

Martin and Heil also take it to be an implication of their view that there is no asymmetry in causation in terms of 'agents' and 'patients', where agents are active and *do* something while corresponding patients are passive and have something *done to* them. Martin makes the point in the following way:

> The reciprocity of dispositional states for their mutual manifestations that are their *common* product is deep and complex. This reciprocity should not be expressed in terms of unhelpful distinctions such as power to give *vs.* power to receive, agent *vs.* patient, active *vs.* passive, causal conditions *vs.* standing conditions: what? – standing *by*?! Instead, *whatever* is causally operative should have its full status as reciprocal or collaborative disposition partner for a mutual manifestation.[231]

It is worth briefly noting that in this quotation from his (2007), Martin explicitly speaks of 'mutual manifestations' as the common *products* of 'partner powers'. Earlier in that same book, however, he says that we "should not think of disposition partners jointly *causing* the manifestation", but rather think of the partnering and the manifestation as one and the same thing.[232] As we saw in section 5.3.3, Martin and Heil both seem to run together 'mutual manifestations', which are (somehow) supposed to be *causings*, with *effects*. In any case, the claim here seems to be that there are not agents and patients – things which bring about changes or effects and things which suffer these – but just 'partners' which jointly bring about something further, i.e. an effect, change in properties, whatever.

Take the case of salt dissolving in water. The upshot of understanding causation as the mutual manifestation of reciprocal power partners is that we should not privilege the water as the 'agent' and the salt as the 'patient' – where the water is being understood as exercising an 'active' power to *do something* to the salt and the salt exercising a mere 'passive' power to have something done to it (or vice versa). Rather, each substance possesses one or more 'reciprocal' properties-cum-powers whose 'mutual manifestation' leads to the relevant outcome(s). As we saw above, Heil describes this scenario as follows:

---

[231] Martin (2007), p. 87.
[232] Martin (2007), p. 51.

But look more closely at what happens when you stir salt into a glass of water. Certain chemical features of the salt interact with certain chemical features of the water (Ingthorsson 2002). This interaction is, or appears to be, continuous, not sequential; it is, or appears to be, symmetrical. Both the salt and the water work in concert to yield a certain result: the salt's being dissolved in the water. Think of this interacting as a causing.

There is an event sequence here: your stirring the salt into the water, and the water's becoming saline. But it would be odd, or at least overly instrumentalistic, to regard *this* sequence as the causal nexus. Rather, you have a continuous process whereby the water and salt work together to yield an outcome, salt water.[233]

On this picture, when water and salt come together, 'reciprocal' features of these substances, and perhaps other substances as well, 'interact' – 'mutually manifest' – to yield an outcome(s). It is not that the water does something to the salt only, so that the water is the agent and the salt the patient (or vice versa). Nor for Heil is it the case that the water and the salt interact by doing separate things *to each other*, so that as part of the total, 'composite' interaction the water and the salt are each simultaneously agent and patient with respect to one another. (I join Anna Marmodoro (2017) in making a suggestion along these lines in section 7.3 – and holding that *this* is the only meaningful way to understand a kind of 'symmetry' and 'interaction' in causation.) Rather, the idea seems to be that features of the water and the salt (and perhaps other things besides), by engaging in a 'mutual manifestation', do something jointly – where this manifestation or doing, whatever exactly it amounts to, is a *causing*.

The same thing goes for the playing cards example considered above: features of the cards, and other objects besides (table, gravitational field, etc.), 'mutually manifest' to produce the cards' remaining upright. Likewise for the familiar example of two billiard balls:

One billiard ball approaches another, stationary, billiard ball. The balls collide. The second billiard ball moves off in a particular way. … When the first billiard ball makes contact with the second, *both* balls compress, then decompress. The trajectory of *both* balls is altered. This process is, or appears to be, continuous, symmetrical, reciprocal (Heumer and Kovitz 2003). Its outcome is a change in the velocity of *each* ball.[234]

Of course, this is simplifying matters by focusing on that part of the interaction which is between the two billiard balls, since for Heil the case involves the 'mutual manifestation' of powers not only of the billiard balls, but of Earth (namely its gravitational field), particles in the atmosphere, and so on.

---

[233] Heil (2012), pp. 118-119.
[234] Heil (2017), p. 96.

In section 7.5, I argue that the appropriate way to understand such cases – and the 'reciprocity' involved in them – is not as involving a single 'mutual manifestation' by powers of multiple substances. Rather, what is occurring is an 'ensemble' of interactions comprised of a set of simultaneous *causings*, by the various substances involved, performed *upon one another*; such cases – indeed it would seem most of the cases of concern to everyday and even scientific talk of causation – are thus cases of what I will call 'composite effects', the sums of many individual instances of causation. That is, at its most fundamental, causation *does* involve an agent-patient relationship.

5.3.4.4 Causation by absence and truthmakers for causal truths

As Heil points out, we often speak of absences or privations as *causes*: a lack of food causes starvation, a lack of oxygen causes suffocation, a lack of exercise causes poor health. Even if absences are 'real' in some sense, they are, it certainly seems, *non-entities* – and hence do not bear properties-cum-powers that can be part of 'mutual manifestations of reciprocal power partners'. How, then, might the mutual manifestation view accommodate claims about causation by absence? The key, Heil says, is to look for truthmakers for the relevant causal truths.

Consider Heil's example of the lack of vitamin C – presence of which is a necessary condition for the production of collagen – 'causing' the disease scurvy:

> A living body's healthy condition is a mutual manifestation of myriad finely tuned reciprocal disposition partners. When one of these is missing, you can have a different sort of manifestation, just as you have a different sort of manifestation when you remove one of the cards from a pair of propped-up playing cards. Here, as elsewhere, what you have is not an absence's stepping in and producing a particular kind of effect, but a *different collection of reciprocal powers yielding a different kind of manifestation*. … [C]ertain kinds of manifestation require appropriately propertied somethings as reciprocal partners. When these are missing, the result is a different kind of manifestation.[235]

> If vitamin C is not on the scene, bodily states manifest themselves differently than they would in concert with vitamin C.[236]

Two things are worth briefly noticing here. First, Heil explicitly says that the overall condition of a body is *a* (single) 'mutual manifestation' of many reciprocal power partners – not something like a 'composite' or complex 'ensemble' of manifestations. As I noted above, I will argue in Chapter 7 that this is not the best way to understand causation at its

---

[235] Heil (2012), p. 127. My italics.
[236] Heil (2012), p. 129.

most fundamental. Second, Heil speaks in the above quotations initially of 'reciprocal partners' being 'appropriately propertied somethings' – that is, of the partners as being objects or substances, entities which bear properties. He then goes on to talk of *bodily states* – properties or features of substances – as being things which manifest themselves differently with vitamin C, a substance, than they would without it. In the paragraph preceding the above quotation in his (2012), he likewise speaks of the blowout of a tire as being "a mutual manifestation of *features* of an automobile tire and *features* of the road – in this case the way a particular portion of the road's surface is configured".[237] So again we might ask: are the 'power partners' objects, or are they properties of objects? To slide back and forth without picking a definite position here is to render the view incoherent.

In any case, the intended lesson of the vitamin C-scurvy example seems to be that (part of) the truthmakers for particular (i.e. non-general) claims about causation by absence are not either absences themselves, properties-cum-powers of absences (since neither absences nor their properties are real existents), nor manifestations of these properties-cum-powers of absences. Rather, the truthmakers are relevant powers (or perhaps the event or process which is the 'mutual manifestation' of these) of the particular objects that really are 'on the scene' in the relevant case. The grounds for rejecting causation by absence, on this approach, appear to be the recognition that such absences and their would-be properties are simply not needed as truthmakers for the relevant truths.

In sketching my substance-causal approach in Chapter 7, I lean on my *QT Account of Powers* to identify objects' qualities as the truthmakers for 'maximally specific' propositions about how objects would (or perhaps could) act causally, or be acted upon, in appropriate circumstances. But I go further than this with respect to the question of causation by absence: because I reject any conception of causation as (mere) 'difference-making' in favor of a conception of causation as (*specific types of*) *production*, I ultimately reject the idea that absences can be causes on the ground that non-entities cannot literally *produce* changes in any way, despite our tendency in everyday language to talk as though they can. Absences cannot push, or attract, or dissolve – or be pushed, attracted, dissolved, etc. This, of course, is consistent with allowing that absences of various sorts can indeed *make a difference* to the occurrence and outcomes of causal interactions between substances; see section 7.4.

---

[237] Heil (2012), pp. 126-127. My italics.

5.4 Williams' version of a mutual manifestation view

In his (2019), Neil Williams develops a variety of 'powerful qualities' view of properties (see section 2.2) – or as he calls it, a 'mixed monism' – and then defends a distinctive type of 'mutual manifestation' approach to causation on its basis.

5.4.1 'Constellations' and 'networks'

Powers, according to Williams, are intrinsic properties of objects which have 'dual aspects': they are 'amalgams' of both a 'powerful side' and a 'qualitative character'. They are also, as he puts it, 'sets of abilities' – though we are not told what abilities themselves are, casting doubt on the coherence of the overall picture.

Crucially, Williams explicitly understands properties-cum-powers as powers *for states of affairs*, as opposed to powers *to do something* (or *to* have something done to oneself). (Given the difficulty in understanding what *causings* and 'contributions' are supposed to be for Molnar, Martin, and Heil, we might plausibly suppose that conceiving of powers as powers *for* states of affairs, rather than as powers *to*, is the best that the standard powers-as-causes version of the mutual manifestation view can do.) As we see shortly, there seems, as a consequence of this, to be no room for the notion of *action* or *activity* on Williams' picture – and thus no room for the idea of *causings* understood as *causal actions*. I argue in Chapter 7 that to fail to properly account for causings is to fail to 'carve reality at the joints' given our *experiences* of (specific varieties of) causation.

Powers, Williams says, are typically exercised or manifested, when they are, in relevant circumstances, and these circumstances are themselves "nothing more than localized arrangements of other powers".[238] (Williams uses the word "typically" here to leave room for an "interesting class of powers" which he terms 'unilateral powers'; these are powers which "can operate in the absence of other powers, or perhaps irrespective of the presence or absence of other powers."[239] Such powers, he says, "are capable of producing effects entirely on their own", and thus could be said to "operate in constellations of one"; examples might include "cases of locomotion and particle decay".[240]) As he puts it:

> … a specific effect of the power will only be produced when the power is placed in the required environment for this or that manifestation. This environment consists in a certain arrangement of other powers, and it is owing to the complementary powers of all objects involved that they *jointly* produce the manifestation they do.

---

[238] Williams (2019), p. 49.
[239] Williams (2019), p. 51.
[240] Williams (2019), p. 51.

These complementary powers are what are known as the 'reciprocal partners' of the power. When the power is appropriately arranged with some set of reciprocal partners, they will *jointly produce* what is their *mutual manifestation*.[241]

Williams refers to the circumstances required for mutual manifestations of powers as 'constellations', suggesting that the term is apt because "not only does the power need to find itself in the vicinity of various reciprocal power partners, [but] those partners must be appropriately arranged".[242] Here we might also say that powers belong to 'networks', though Williams is quick to point out that finding themselves amongst appropriately-arranged 'partner powers' is "not the only way in which [powers] form a network".[243] What he says in this context might shed some light on what Martin and Heil have in mind by 'constellations' and 'networks' (see previous section):

I have already indicated that I take all fundamental properties to be powers. It follows that manifestations will involve a set of powers. (I take manifestations to be states of affairs, and therefore powers will be constituents of those manifestations.) Hence we have a picture wherein powers beget powers. But now we see a different sort of network emerging. Any given power type will have as its potential manifestations states of affairs composed of powers. It thus stands in a potentiality relation to those other powers that it would bring about in the right circumstances. (I describe a power as being a power 'for' manifestations of that type.)[244]

Despite this elucidation, I apply here the same criticism lodged against Martin and Heil above. It is difficult to see reference to 'constellations' and 'networks' and the like as anything more than metaphorical, because it is fundamentally objects, not their properties (i.e., *ways those objects are*), which are concrete entities and thus able to participate in structures like constellations and networks. But if the reference is merely a metaphor applied to groups of properties, then it says nothing about the fundamental ontology of causation – nor about what it is that *unifies* the relevant properties in some way in the relevant context. Applying this metaphor to properties (or supposed properties-cum-powers) is therefore unhelpful and misleading. In Chapter 7, I make use of the *QT Account of Powers* defended earlier to argue that the appropriate way to understand the 'role' played by genuine properties in causation is in terms of their serving as the *truthmakers* and (thus) *enablers*, as far as intrinsic features of objects go, for a range of propositions about how the objects which bear them either would or could act causally, or be acted upon, in appropriate circumstances.

---

[241] Williams (2019), pp. 49-50. My italics.
[242] Williams (2019), pp. 49-50.
[243] Williams (2019), pp. 51-52.
[244] Williams (2019), pp. 51-52.

5.4.2 Williams' powers-based approach to causation

In contrast to Heil, Williams' version of a mutual manifestation view does not relegate talk of causes and effects to some (undefined) sort of 'secondary status'. Rather, he embraces the idea that it is properties-cum-powers – typically *collectively* or *jointly* as 'reciprocal partners' – which are causes:

> A key aspect of the powers ontology, and one that most clearly distances it from any account that treats powers as non-fundamental properties, is that when powers are manifested, those powers are the causes of their effects. As indicated, powers are exercised when they appear in the right sort of constellation. The result is the mutual manifestation of the powers involved. But it is not the case that the production of the manifestation can be traced to the actions of some other entities. … [Powers collectively] do the work – nothing else does it for them.[245]

Williams' effects, meanwhile, are states of affairs – themselves constituted by properties-cum-powers. Moreover, in contrast to Molnar (with Martin and Heil being less clear about how they see the relationship between manifestations and effects), Williams explicitly *identifies* manifestations with effects. (This accords with the idea that powers are powers *for* states of affairs. It also seems to have the upshot that there are, for Williams, no 'non-causal' powers of any sort.)

Williams' picture thus has the following shape. Powers – typically jointly, though in the case of 'unilateral powers' perhaps individually – are causes of effects, and effects are states of affairs which have powers as 'constituents'. (These together lead him to embrace the slogan that "powers beget powers".[246]) What a given power *is*, ontologically speaking, is a property of an object one aspect of which is that property's being *for* certain states of affairs when that property finds itself part of appropriate 'constellations', i.e. collections of 'partner powers' arranged in certain ways. (It is of course unclear what an 'aspect' of a property – a *way of being* – is supposed to be; see section 3.2.1.)

What exactly does it mean to be a power *for* some state(s) of affairs? As is clear from the above quotations, Williams embraces the language of 'bringing-about' and 'production'. Indeed he claims to accommodate the mysterious idea of 'causal oomph', saying that his account:

> … assumes that there are aspects of the world that are responsible for the later states of the world, and seeks to provide the mechanism behind this phenomenon. It thus assumes that there is genuine causation in the world; the world is therefore what some call 'oomphy'. States of the world give rise to further states – they

---

[245] Williams (2019), pp. 50-51.
[246] Williams (2019), p. 52.

produce them. This is oomph. Powers will be employed in an account of how this oomphy causal relation operates.[247]

Recall that for Williams, when you have the right properties-cum-powers arranged together in the right way, you get the corresponding resulting state of affairs. Each individual power which is part of that arrangement is a power *for* that resulting state of affairs *if* the power should find itself in such an arrangement. And that, in effect, appears to be the whole story.

The way that Williams understands the kind of 'mutuality' involved in 'mutual manifestation' leads him to explicitly deny two closely-related distinctions: that between 'agents' and 'patients' in causation, and (ii) that between 'active' and 'passive' powers. Consider what he says about an example where a rock smashes a martini glass:

> We say that it is the rock that broke the glass. The rock is the *subject*, it is the one we are interested in; the glass is merely the object of the rock's action. But when powers are the source of causal action, the rock does not act upon the glass, the powers of the two act together. It follows that it was a mistake to single out a single feature and treat it as *the* cause in the first place. All aspects of the cause are involved. This is the essence of mutuality.[248]

Meanwhile, the basic idea behind 'reciprocity' is that:

> … manifestations are an egalitarian affair. Producing manifestations requires the *coordination* of two or more powers, but neither dominates the other. It simply does not make sense on this account of powers-based causation for one power to dominate another. The manifestation is the product of their working together; none does more lifting than any other. There is no quantifying a power's contribution: that set of powers produces that manifestation, and that is the end of the story.[249]

To say that neither power dominates the other is apparently to say that there is no metaphysical – as opposed to merely pragmatic or epistemic – basis for singling out some power(s) as the 'agent', i.e. as the 'active' power, in contrast to a corresponding power(s) which is merely 'passive' and counts as the 'patient'.

The main problem with this picture is that, in the end, all the ambitious talk of accounting for 'production' and 'causal oomph' in the basic ontology of causation – of powers as being "*for* the *generation* of certain manifestations"[250]; of there being a '*mechanism*' for change; of powers as being 'the source of *causal action*' – appears to be entirely unfulfilled. This, I claim, is because Williams leaves no room in his account for the

---

247 Williams (2019), p. 120.
248 Williams (2019), pp. 124-125.
249 Williams (2019), p. 126. Italics in original.
250 Williams (2019), p. 52.

idea that what *bringing about* or *producing* ultimately amounts to, in a causal context, is some or another variety of *causal action* (*causing*) of one thing upon another. My argument in Chapter 7 is that a failure to properly account for causings is not only a failure to account for genuine production, but also a failure to 'carve reality at the joints' – because we really *do* have good reason to believe that there are productive activities in the world (see section 4.2). (Recall that Heil, at least, likewise claimed that *causings* lie at the heart of causation – though it is quite uncertain what these really amount to on his version of a mutual manifestation view. As I see it, causings are a species of action by individual objects, and thus a variety of *event* or *process* – genuine *occurrences*.)

In Chapter 7, I make the case for this last claim, arguing that the only meaningful sense in which any genuine property is 'for' some effect(s) is in terms of its 'bestowing' certain powers upon its bearer, i.e. 'enabling' its bearer *to act*, or *to be acted upon*, in some way in relevant circumstances. And this is a matter of that property's being a truthmaker for propositions about how *its bearer* would or could act causally, or be acted upon, in relevant circumstances. It is only individual objects – not their properties, their *ways of being* – which perform activity or behavior (or have activity performed upon them).

In contrast to Williams, I therefore embrace the natural conception of 'powers' – which on my *QT Account* are not themselves genuine properties or existents – as being powers *to do something*, or *to have something done to oneself*, rather than as being powers *for* certain results or states of affairs. The properties of objects – ways those objects are – certainly *make a difference* to what changes occur, in the properties and relations of objects, when those objects interact with one another; and it would be correct to say that there is no meaningful sense in which, among those properties which make a difference to a given effect, some are 'active' while others are 'passive'. But despite the looseness of our various everyday ways of speaking about causation, 'difference-making' is not itself causation, because causation, I will argue, is fundamentally a matter of one object performing a specific type of *causal action* upon another object – e.g., *attracting* or *dissolving* that object in some quite specific way. Crucially for my account, there is not some *general* relation instantiated in causal interactions which just is 'causing' or producing', but rather a variety of such relations bearing a sort of 'family resemblance' to one another (see section 7.2).

It is worth pointing out that Williams does appear to explicitly reject the idea that causation is simply 'difference-making' – a point that would cohere with his claim to be accommodating the idea of *production*. Consider what he says about the idea of 'causation by absence':

> On the powers-based account of causation, absences cannot be causes, properly speaking, because an absence of a causal power is not itself a power. Only powers can be causally active. But that is not to claim that absences cannot be difference-

makers, nor is it to claim that absences cannot be causally relevant. However, unlike powers, their causal relevance is not born of their doing anything: nothings cannot *do* anything, causal or otherwise. So, is there real causation by absence? Nothing doing. The supposed causal roles of absences are entirely parasitic on actions of the powers.[251]

My answer to this, of course, is that the supposed 'active' causal roles of properties-cum-powers as cited by Williams and many other proponents of powers-based approaches is itself entirely parasitic on actions of individual objects, which are bearers of properties and which might be said, as a 'shorthand', to 'have' powers to act (and to be acted upon). It is only once we adequately account for causings as a family of *actions* that we truly secure a place for 'production', 'causal oomph', and related notions.

In defending my substance-causal version of a 'mutual manifestation' view, I claim that there is indeed a meaningful distinction between 'agents' and 'patients' in causal interactions – but that this distinction applies to *objects* rather than to properties; to suppose that properties (or items from any ontological category other than the category of objects) can literally perform or suffer activity is to commit a category mistake, to lose sight of what these things *are* and how they fit into an overall ontology. There is also, we might say, a corresponding distinction between 'active' and 'passive' powers, or as I prefer between 'causal powers (to act)' and 'liabilities (to be acted upon)'. But the existence of an 'asymmetry' of this sort in causation is not to deny that there might still exist, at least in some cases, a type of 'mutuality' or 'reciprocity' – for some (composite) instances of causal interaction might be cases where, *necessarily*, each of the objects involves simultaneously serves as agent *and* patient with respect to the other.

5.5 Summary

In this chapter, after identifying two different conceptions of causation – and opting for the 'production' rather than the 'difference-making' conception – I briefly summarized complaints against regularity and dependence approaches in order to set out some prima facie desiderata for a theory of causation. I then evaluated a range of approaches to causation offered by recent proponents of powers, each of which may be understood as a version of the 'mutual manifestation view'. I concluded that these views aim, but fail, to accommodate the idea that genuine causation involves *production* or *bringing-about*. One primary problem for these versions of the mutual manifestation view is that they take properties-cum-powers (powers understood as properties), individually or jointly, to be the real causes of relevant effects, i.e. to do the 'causal work'. This way of understanding

---

[251] Williams (2019), p. 146.

causation introduces a number of conceptual difficulties which cast serious doubt on the coherence of the views on offer.

Over the next two chapters, I argue that a different sort of mutual manifestation view is available: one which can be understood to regard causation as the manifestation, *by substances*, of their causal powers and liabilities. To *cause* is to act in some way, and it is only individual objects, rather than their properties (or, for that matter, events, facts, etc.), which are capable of acting or being acted upon.

Chapter 6 - Moving Toward Substance Causation

Having just examined powers-based approaches to causation which regard properties-cum-powers as causes but fail to do justice to the essential idea of *production*, I turn now toward the idea that it is *individual substances* which are causes. Before sketching and defending my own substance-causal view in Chapter 7, I consider in the present chapter several of the very few recent cases advanced in favor of substance causation: Whittle's 'simple argument' (and Buckareff's response on behalf of a version of the standard mutual manifestation view), Steward's pluralism about causes, and Lowe's argument for the 'ontological priority' of substance causation. Although I believe none of these positions go quite far enough, all three are important influences on the account I will offer.

6.1 Whittle's argument for substance causation

6.1.1 The shape of the argument

Whittle's aim in her (2016) is to argue against "the negative claim that substances aren't causes"[252] – a thesis whose contrary, the idea that substances *are* at least sometimes causes, evidently strikes so many as 'mysterious' that even those who accept substance (or agent) causation in the literature on philosophy of action often regard such causation as 'atypical', with 'ordinary' causation being causation by events (or perhaps properties).

Whittle poses what she calls a 'simple argument' from the idea of causal powers to the conclusion that at least some actual substances are causes:

> *POWER*: Some actual substances possess causal powers.
>
> *EFFICACY*: If a substance possesses a causal power, then it is efficacious.
>
> *CAUSE*: If a substance is efficacious, then it can be a cause.
>
> *MANIFEST*: Some actual substances' causal powers are manifested.

Therefore,

> *SC*: Some actual substances are causes.[253]

As we will see, Whittle's defense of *SC* is primarily negative and thus quite modest: taking her four premises as by and large uncontroversial, she claims that there are no good reasons on offer for rejecting the inference to the conclusion that substances are at least sometimes causes. In the end, however, I will argue that Whittle's argument on its own is

---

252 Whittle (2016), pp. 1-20.
253 Whittle (2016), p. 3.

much *too* simple, and that the real work lies in explicating and justifying the claim that substances possess 'causal powers'.

Whittle intends for her conclusion *SC* to be neutral in several important respects. First, while it assumes for simplicity that there is a single 'causal relation' instantiated in all genuine cases of causation, it allows that there might instead be a plurality of (actual or possible) causal relations.[254] Second, it is not committed to the claim that *only* substances are causes, as Whittle allows that items comprising other ontological categories – e.g. events, properties, or facts – might sometimes count as genuine causes as well. Indeed she notes that *SC* is consistent with the claim that, necessarily, every instance of (irreducible) causation by a substance *also* involves (irreducible) causation by one or more events – perhaps with the two kinds of causation being somehow mutually dependent upon one another. (For one way that this might work, see discussion of Steward's causal pluralism in section 6.2.)

What of the four premises? Whittle takes the first premise *POWER* to be "supported by our standard attributions of causal powers" – by which she apparently means our everyday practices of saying that, e.g., it is "the sugar that is soluble; the arsenic that is poisonous; the vase that is fragile; the electron that is negatively charged, and so on".[255] Further, she notes, it is *substances* which are "the entities that manifest the responses constitutive of these paradigmatic causal powers", because it "is *they* that break, dissolve, etc."[256]

Talk by some of the 'powers of properties', Whittle observes, might be read as the view that it is properties – perhaps *rather than* substances – which have powers. But such a view is hard to square with the standard idea, adopted by most proponents of powers (but explicitly rejected in my *QT Account*), that properties of objects just *are* powers: one cannot coherently say that genuine properties *are* powers while going on to claim that such properties-cum-powers themselves *have* powers, at least not without introducing further complications in need of justification. (Recall my complaints from Chapters 1 and 2 against those proponents of powers who slide causally between talk of objects having powers and talk of properties being 'powerful'.) An alternative would be to claim that properties are not themselves powers, but are instead the things to which powers to act are properly attributed; I rejected this approach in Chapters 2-4, and do so again below in

---

[254] It is not entirely clear what Whittle has in mind by a plurality of relations. One suggestion might be that there is one type of causal relation where substances are the causes, another type where events (or facts, properties, etc.) are the causes. Another might be that, say, producing is one time of causal relation, preventing another. On the other hand, in section 6.2.1 I argue that while all genuine causes are individual substances, there is in fact no one 'causal relation' instantiated in all cases of causation, but rather a family of *productive activities* which are united only in virtue of bearing a 'family resemblance' to one another.

[255] Whittle (2016), p. 4.

[256] Whittle (2016), p. 4. My italics.

Chapter 7, as committing a category mistake. In any case, Whittle thinks that even if other kinds of item besides individual substances *can* be attributed causal powers in a way that is not 'derivative' or 'elliptical', this would be no reason to reject *POWER*. Nor for that matter do reductive accounts or analyses of powers pose any obvious threat to *POWER*, as she sees it, at least inasmuch as such views "allow that causal powers can be correctly *attributed to objects*", whatever powers themselves might be.[257]

We must therefore keep in mind that the justification for *POWER* – the claim that some actual substances possess causal powers – is intended to be neutral regarding the ontology of powers, other than requiring that our 'standard attributions of causal powers' to objects can at least oftentimes be *true*. But why should we think such attributions are ever actually *true*? Although Whittle does not appear to say, perhaps the idea is that our thinking and speaking in terms of objects' causal powers clearly is oftentimes quite *successful*. We learn about how objects behave and interact, and appropriate use of our own powers to interact with other objects and to respond to their behavior leads to success in interests as varied as basic survival – feeding ourselves, avoiding danger – and the development and use of sophisticated tools and technologies. One might thus suggest that the best explanation for such successes is that our attributions of powers (or "dispositions", "abilities", "tendencies", and so on) at least sometimes 'approximate' the truth – even if, say, we sometimes have no idea what the *truthmakers* might be for such truths.

Whittle supposes that her second premise *EFFICACY* should be uncontroversial, saying that "the notions of causal power and efficacy are so closely related that they are often used interchangeably".[258] She likewise regards the third premise *CAUSE* as "intuitively secure", suggesting that the notion of efficacy used in everyday language is "not clearly distinguished from that of cause" and citing the *Oxford English Dictionary*'s definition of 'efficacious' as "That produces, or is certain to produce, the intended or appropriate effect".[259]

Despite this citation of the *OED*, it takes some work to get clear about just what Whittle means by "efficacious" here, as the term appears to have at least two relevant senses which appear in everyday and scientific language. In one, to say that something is causally efficacious is to say that it has the power or ability to produce some specific effect (or perhaps type of effect) – that is, to say that it either *would* or *could* produce that effect in appropriate circumstances. In the second sense, to call something causally efficacious is to say that it actually *is now* (or *has been*) effective or successful at producing some

---

[257] Whittle (2016), p. 4. My italics.
[258] Whittle (2016), p. 4.
[259] Quoted in Whittle (2016), p. 5. She provides the following link for the relevant *OED* entry: <http://www.oed.com/view/Entry/59732>.

particular effect of interest. Whittle seems to have in mind the first of these senses, since reading *EFFICACY* in the second sense would fail to recognize that powers need not always be manifested – indeed that there might be some powers which are never manifested. (Moreover, this second sense would turn the premise *CAUSE* into the trivial claim that 'If a substance actually is effective at producing some effect, then it can be a cause [of that very effect]'.) Given this first sense of 'efficacious', then, the premise *EFFICACY* amounts to the claim that 'If a substance possesses a causal power, then it can be a cause'. But then we might wonder what point there is to the premise *CAUSE*, since it would become the wholly trivial claim that 'If a substance can be a cause, then it can be a cause'. (As we see momentarily, however, Whittle herself is concerned with a further distinction one might think to draw between senses of "efficacious". We can presume that this further distinction – one which I regard as involving an abuse of the term "efficacious" – constitutes the motivation for Whittle's including the third premise *CAUSE* in her argument.)

Whittle takes the final premise, *MANIFEST*, to be fairly obvious, suggesting that once we "grant that there are objects with causal powers in the actual world, it seems manifestly false to claim that none of the manifestation conditions of these powers" – that is, whatever conditions must be in place for the relevant manifestations – "ever do or ever have obtained throughout [all of history]".[260] This premise appears unobjectionable in light of the successes mentioned above.

If I am correct to regard the third premise *CAUSE* as redundant given the second premise *EFFICACY*, then it appears that Whittle's argument can be simplified in the following way:

1. Some actual substances have causal powers.

2. If a substance has a causal power, then it can be a cause (namely, when that causal power is manifested).

3. Some actual substances' causal powers are manifested.

4. Therefore, some actual substances are causes.

Having set out her argument and what she regards as the grounds for its premises, Whittle's concern is with whether there exist any good objections to it.

---

[260] Whittle (2016), p. 5. Here I substitute "throughout all of history" for Whittle's "throughout the earth's entire history".

6.1.2 A general form of objection: substances can only 'noncausally contribute' to causation

Above I noted that there seem to be at least two senses of the term "efficacious" relevant to causation: one referring to having a *power* or *ability* to produce an effect, another referring to *actually* producing an effect. Although Whittle makes no explicit mention of the second of my two senses, she goes on to identify a different distinction someone might think to make:

> *Efficacy₁*: An entity is efficacious$_1$ if and only if it can be a cause.

> *Efficacy₂*: An entity is efficacious$_2$ if and only if it can noncausally contribute to causation.

I presume that the phrase "can be a cause" in *Efficacy₁* means the same thing as having an ability to *produce* an effect. What, then, does it mean to 'noncausally contribute to causation', as in *Efficacy₂*? Whittle does not say explicitly, but we perhaps the idea is something like merely being *relevant to* an instance of causation in a way which involves somehow being an important or essential feature of an explanation of the production of that effect (say, being a difference-maker).

To my mind, it is simply an abuse of the term "efficacious" to use it to mean "can noncausally contribute to causation". The latter phrase, if any clear sense can even be made of it, at best only serves to obscure matters, making it more difficult to set out the ontology of causation in a way which has some hope of 'carving at the joints'. To be efficacious is to be a cause, nothing else; indeed this is just what the *OED* definition Whittle herself cites says ("that produces …"). In any case, what really matters for Whittle's argument is not how we use the word "efficacious", but rather the objection that substances can only 'noncausally contribute' to causation – so that what would really count as *causes* (producers) are events or properties (including properties-cum-powers).[261] (As a result, in evaluating objections to Whittle's argument, including Buckareff's, I will continue to talk in terms of her distinction between being *efficacious₁* and *efficacious₂*.) As she puts it:

---

[261] Whittle herself employs the distinction to suggest that an opponent might claim that her argument fails in the following way: while *CAUSE* requires *Efficacy₁*, *EFFICACY* can only be true if it employs *Efficacy₂*. This is just a more complicated way of making the claim that substances can only 'noncausally contribute' to causation. As I pointed out above, notice that reading *CAUSE* as using Whittle's *Efficacy₁* – which she explicitly says is the right way to read it – turns it into the claim that 'If a substance can be a cause, then it can be a cause.' What purpose does such a premise then serve?

In broad outline the idea is that since substances are efficacious only *in virtue of* events or property instantiations, it is those events or property instances that are the causes.[262]

She then considers a variety of ways of arguing that only events or properties – not substances – can really be causes.

6.1.2.1 Events as causes

Take events first. One argument might begin with the claim that substance-causal sentences are 'elliptical' for event-causal sentences. Whittle quotes Menzies (2009):

> A sentence such as 'The building caused the shadow', in which the noun phrases in the cause and effect positions refer to physical objects, is grammatically well-formed. So, ordinary language clearly recognizes physical objects as causal relata. But this sentence is most naturally interpreted as elliptical for a more complex sentence such as 'The building's obstructing the light caused the shadow to form', in which the noun phrases denoting cause and effect are both quasi-sentential in form. Given that causal statements relating physical objects are properly seen as elliptical in this way, I shall not treat physical objects as genuine causal relata. (1989: 59–60; also see Rosen 2009, §3.2)[263]

Presumably by "elliptical" Menzies means that substance-causal sentences are something like incomplete abbreviations of event-causal sentences – i.e., that they are a 'shorthand' which leaves out important details about the relevant case. But even if substance-causal sentences *are* 'elliptical' for event-causal sentences in this way – a claim I reject below – it is unclear how this is supposed to lead to the conclusion that substances are not causes.

Whittle suggests one way that the reasoning might proceed: (i) substance-causal sentences are 'elliptical' for event-causal sentences; (ii) if one sentence is elliptical for another, then the two sentences must have the same truthmakers; (iii) the truthmakers for event-causal sentences are the very 'event-causes' named in those sentences; and (iv) it is those truthmakers, the relevant events, which are the 'true' causes (rather than the 'substance-causes' named in substance-causal sentences)[264] But she objects to this line of reasoning by noting that substances "usually [are held to] participate in, or [be] parts of, events"[265]:

---

262 Whittle (2016), p. 6. My italics.
263 Menzies (2009), p. 7.
264 Like Menzies, Whittle speaks in terms of sentences; my preference, as noted in giving my *QT Account of Powers*, would be to speak in terms of propositions, understood as the items *expressed by* sentences of natural languages.
265 Whittle (2016), p. 7.

On the Aristotelian view of events as changes in substances, a substance is part of an event if it is (among) the substance(s) that change. On the Quine-Lewis view of events as regions of actual (and, on Lewis's view, possible) space-time, a substance is part of an event if it (or a temporal part of it) is located within that region. On the Kimean view, a substance is part of an event if it is the substance that exemplifies the relevant property.[266]

If this is right, Whittle suggests, then it seems that substances are *among* the truthmakers for both substance-causal and event-causal statements after all – so that some other argument would be needed for the claim that it is events alone, and not substances, which are causes.

But this response from Whittle strikes me as misguided. Setting aside for the moment the question whether substance-causal sentences are 'elliptical' in the relevant way, it is inappropriate in the first place to suppose that the search for truthmakers just is the search for *causes*. As I argue in Chapter 7, there *are* always events or processes 'on the scene', so to speak, in causation: there is always, at a minimum, (i) an event which is a type of *productive activity* of one substance upon another, and (ii) a distinct event which is a *change* in the properties or relations of the substance being acted upon. In accordance with my *QT Account of Powers*, there are also always relevant *properties* (of objects) on the scene: namely, those ways of being which enable the substances involved to act (causally) or be acted upon. These items – events (or processes) and properties – are the truthmakers for different types of causal proposition. Consider two examples:

(1) The water is dissolving the salt.

(2) Water has a power to dissolve salt.

The truthmaker for sentence (1), I claim, is the activity of *the water's (presently) dissolving the salt* – a causal action performed by the water upon the salt. The truthmakers for (2), on the other hand, are ultimately[267] certain qualities – intrinsic properties – of water, in virtue of which it is able to dissolve salt in appropriate circumstances. But as I will argue in Chapter 7, to regard such events or properties themselves as causes is to conflate causation with causal explanation: to mix up causes and items relevant to causation in a way which fails to 'carve at the joints' and thus obscures the correct fundamental metaphysics of causation.

---

[266] Whittle (2016), p. 7, fn. 4.

[267] The proposition that *water has a power to dissolve salt* is not itself a 'maximally specific proposition', but rather a generalization or 'shorthand' which glosses over an indefinite number of maximally specific propositions. Truthmakers for such generalization are the maximally specific propositions over which they gloss; truthmakers for maximally specific propositions, in turn, are objects' qualities.

A similar way of arguing that it is events (or perhaps properties), not substances, which are causes – one leaving out any appeal to truthmakers – is to appeal to the idea that substances are not by themselves *sufficient* for relevant effects. Whittle offers the following to illustrate the idea:

> Compare situation *A*, in which the poison has been administered to the king, and situation *B* in which the poison is left in the bottle. Since the king only dies in situation *A*, not *B*, the cause is only present in *A*. Given that the poison is present in both, the poison cannot be the cause of the king's death, rather it is the administering of the poison that is the cause.

Whittle regards the argument here as unconvincing, offering a contrasting set of cases:

> Take, for example, two other situations: *A** the striking of the match (when oxygen is present), and *B** the striking of the match (when oxygen is not present). Since the effect of the match's lighting occurs only in *A**, the cause is only present in this situation. As the striking of the match is present in both, it is not a cause. What is a cause is the striking of the match in the presence of oxygen (when the match is dry, when there is no strong wind present, etc.). The previous argument, like this one, wrongly (or, at least, extremely controversially) assumes that a cause of the effect must be sufficient for the effect to occur.

As best I can tell, Whittle is supposing here that in order to accommodate cases *A** and *B**, the proponent of the view that events (rather than substances) are causes would move to identify the event-cause in a more fine-grained way: namely, as *the striking of the match in the presence of oxygen (etc.)*, rather than merely as *the striking of the match*. Such a move would strike me as ad hoc and dubious. Although there is a lengthy literature on the appropriate way of individuating events, it seems clear enough that what we have here, with respect to case *A**, are two 'descriptions' concerning one and the same match-striking event – the first simply naming the event itself in a quite general way, the second naming the event *plus* adding information about the circumstances in which that event occurred. Adding further details about the circumstances in which the match-striking event occurred – or further details about the match-striking event itself – does not somehow generate a *further*, distinct match-striking event.

In any case, I certainly agree that if substances are causes, then substance-causes *by themselves* – 'abstracted', as it were, away from the various *ways they are* (qualities) at any given moment – would be insufficient for relevant effects to occur (and, for that matter, to occur at the specific times they occur), and indeed would be insufficient for there to be any possibility at all of relevant effects occurring. As I argue in the next chapter, this is because (i) substances can only be causes, or undergo effects in causation, if they have *suitable* intrinsic properties; and (ii) substances *causing* relevant effects consists in their performing some variety of *productive activity* upon another substance, and many such

161

'causings' are plausibly only possible when the substances, with their suitable qualities, find themselves in *appropriate circumstances*. In section 7.4 I show how causes – the substances which perform causal actions upon one another – should be distinguished from a variety of so-called 'background conditions' which must be in place for a relevant type of causal action to occur.

The problem in the poison example is that in situation *B* – as opposed to situation *A* – the poison is not present in the situation *in the right ways*: for instance, it has not come into 'contact', in the appropriate ways, with relevant parts of the king's body (e.g. certain cells which are parts of his certain of his internal organs). In other words, at least one crucial 'background condition' required for the poison to help to cause the king's death is missing from that situation. The same sort of problem plagues situation *B**, the striking of the match *when oxygen is not present*.

A final related way of rejecting *SC* on behalf of a strict event-causal (or perhaps property-causal) view is to appeal to ellipticity alongside what Whittle calls a 'principle of no overdetermination', arguing first that substance-causal sentences are 'elliptical' for event-causal sentences and then claiming that "since both [substances and events] cannot be causes of the same effect, we must choose between them and, given that substance causal sentences are elliptical, events are the obvious front-runners".[268] Whittle regards such an appeal as dubious:

> Careful formulations of this principle state that overdetermination involves two (or more) *sufficient* and wholly *distinct* causes of the same effect. Being nonidentical is insufficient for being wholly distinct. In particular, entities are not wholly distinct from their parts (cf. Lewis 1987: 215 and Schaffer 2003). … If some parts of a cause are themselves causes of the same [effect], then a number of different causes can stand in the causal relation to the same effect.[269]

But this response likewise seems to miss the mark. For one thing, I regard it as fully inappropriate to understand substances as literal *parts* of events: as I have conceived them, events are fundamentally either *doings* by substances or else *changes* undergone by substances. The substances themselves do not somehow *compose* events thus understood; they perform or suffer them. Moreover, the approach I offer in Chapter 7 implicitly rejects the idea that substance-causal sentences are 'elliptical' for event-causal (or, for that matter, property- or fact-causal) sentences. This is because, on that approach, there are always substances, their qualities, causing-events, and change-events – and typically a range of further 'background conditions' as well – on the scene in causation. To get a *complete* explanation of some instance of causation, we must correctly cite the 'role'

---

[268] Whittle (2016), p. 8.
[269] Whittle (2016), pp. 8-9.

played by each of these factors in that instance; simply naming the substances involved is hardly enough. But whereas properties *enable* substances to act (causally) or be acted upon and events feature in causation *as causal actions* and *as effects*, it is only substances themselves which literally *act causally*. (That is, among the various 'roles' played by objects, their properties, events of various kinds, and so on in causation, it is only the role of objects which legitimately described as 'active', i.e. as being or involving a *doing* of some sort.)

6.1.2.2 Properties (or properties-cum-powers) as causes

Those who embrace the production conception of causation (section 5.1.1) and argue that it is properties (or properties-cum-powers), rather than substances, which are the true causes must be claiming that it is properties which 'do the causal work' – whatever exactly doing causal work is supposed to amount to. As we saw in Chapter 5, this is the dominant view among proponents of powers, and the standard version of the 'mutual manifestation' view of causation adopted by most such proponents. Whittle puts the reasoning as follows:

> Because the substances' causal powers are *had in virtue of their properties*, the substance's role as cause is *usurped* [by the properties]. Substances are powerful only insofar as they instantiate causally powerful properties standing in causal relations. So substances never actually cause anything. They are efficacious$_2$ but not efficacious$_1$.[270]

In other words, the reasoning here proceeds from the claim (i) that substances can only be "efficacious" (in any sense of the term) insofar as they possess certain properties to the claim (ii) that substances can only noncausally contribute to causation, rather than serve as causes themselves.

Whittle's response on behalf of *SC* is to argue that accepting that (a) substances only have their causal powers *in virtue of their properties* is perfectly consistent with the conclusion that (b) at least some actual substances are causes. Indeed, alongside something like Whittle's premise *MANIFEST*, (a) would seem to *imply* (b) – at least insofar as causal powers are understood as powers *to act* causally, as opposed to being conceived as powers *for* some result (as, e.g., on Williams' view of powers encountered in sections 1.1 and 5.4). Note that while *SC* is meant to be compatible with a pluralism about causes, Whittle seems to suggest here that properties (or properties-cum-powers) themselves – perhaps in contrast to events – are *never* correctly regarded as causes:

> According to [the combination of (a) and (b) above], although the substance's causal powers are rightly thought of as standing in a relation of dependence to its

---

[270] Whittle (2016), p. 13. My italics.

properties, this is not understood in terms of those properties causing particular [effects]. The function of properties is not to stand in causal relations, but rather to 'enable' their bearers to be causes. They are what make substances powerful, but it is the substance that does the causing. Properties, by contrast, are causally relevant by being those entities in virtue of which substances have the powers they do. … Properties are the kingmakers, substance is king.[271]

Saying that properties *enable* their bearers to be causes, as Whittle does here, is of course exactly consistent with my *QT Account of Powers* (Chapter 3). But as I pointed out in earlier chapters, it is *not* consistent with the claim made by many powers theorists that properties themselves are *powerful*: that which is powerful is 'enabled' rather than being the 'enabler'.

Whittle acknowledges that nothing she has said "shows the *falsity* of the claims that [i] substances are merely efficacious$_2$, and that [ii] it is only properties that enter into causal relations".[272] Her explicit aim here is just to defend *SC* by "show[ing] that we have *not been given sufficient reason* to accept the claim that substances are merely efficacious$_2$".[273] Despite this modest goal, however, Whittle is onto something critical with respect to the question of whether properties (or properties-cum-powers) are properly identified as causes. As I argue in section 7.2, to regard properties items as *causes*, on a *production* conception of causation, is to misunderstand either what properties are, what production amounts to, or both. Properties are indeed kingmakers, substances kings.

6.1.3 Buckareff's response to Whittle: powers, not substances, as causes

Buckareff (2017) challenges Whittle's argument for *SC* on behalf of the standard version of the mutual manifestation view, holding that "the real productive work in causal processes is accomplished by the causal powers of substances" working in concert with one another.[274] Substances' causal powers, he says, do not play the role of 'enabling' substances to be causes; rather it is causal powers themselves to which "all the work of causal production is attributable".[275] It takes some work to unpack why Buckareff thinks this is so.

First, notice that Buckareff, like other proponents of the mutual manifestation view, commits himself at the outset to a *production* – rather than mere difference-making – conception of causation. In Chapter 5 I argued that standard versions of the mutual

---

[271] Whittle (2016), p. 14.
[272] Whittle (2016), p. 14. My italics.
[273] Whittle (2016), p. 14. My italics.
[274] Buckareff (2017), p. 1019.
[275] Buckareff (2017), p. 1021.

manifestation view defended by Molnar, Martin and Heil, and Williams – *because* they regard properties-cum-powers as (joint) causes – are incapable of making good sense of the idea of *production*. My aim in what follows, then, is to consider whether Buckareff can somehow do better in the context of his response to Whittle's 'simple argument'.

Buckareff begins his challenge by laying out some assumptions which he thinks "should be acceptable to those like Whittle who defend substance causation".[276] First, he endorses the view that "causal powers of substances are *identical with* the dispositional powers [substances] possess" – i.e., the identity or powerful qualities view of properties examined in section 2.2.[277] Second, he adopts terminology from Molnar (section 5.2), describing substances' causal powers as 'pleiotropic' (make a 'contribution' to many effects) and effects as 'polygenic' (produced or determined by many causes). More specifically, he regards causal powers as "being directed at various manifestations with different partners, which are other causal powers", and "assume[s] that the manifestation of each causal power in a causal process contributes to an effect that is the *polygenic* outcome of the combined manifestations of the interacting causal powers".[278] (Notably, Buckareff is not specific here about what manifestations of causal powers *are*, or about what the 'contribution' of a causal power to an effect might be.) Buckareff regards this pair of assumptions as officially neutral with respect to the possibility of causation by substances, since "one might hold that when a causal power is manifested the substance of which the power is a property is thereby enabled to cause or contribute to the causing of an outcome".[279] (Of course, the substance causalist might object that talk of causal powers 'interacting' – even though hopelessly vague without some idea of what a 'contribution' is supposed to be – sounds rather ontologically loaded after all. And as I noted in the previous chapter, I will ultimately reject in section 7.5 the idea that effects produced in 'simple' or fundamental instances of causation are polygenic.)

Consider, then, a case initially posed by Whittle. You place a pear on a (normal, properly functioning) scale and the scale's pointer moves to the 150g mark. Whittle acknowledges that citing the pear's weight gives a better causal explanation of the pointer moving to the 150g mark than not doing so; after all, if they pear had a different weight, then other things being equal the pointer would not have moved to that mark. (Set aside for now the complication that mass, not weight, is an intrinsic property of objects; the example could be reformulated easily enough, and Buckareff correctly makes reference to mass below.) But this, Whittle says, does not mean that it was not *the pear* which caused the pointer to move – for, as she puts it, the fact that the pear's weight might not be mentioned in a causal explanation "does not remove [that weight] from the pear in

---

[276] Buckareff (2017), p. 1019.
[277] Buckareff (2017), p. 1022. My italics
[278] Buckareff (2017), p. 1022.
[279] Buckareff (2017), p. 1022.

question".[280] (I find this response fairly vague and uncompelling, but go on to discuss the role of objects' properties in causation in section 7.4.) For the substance causalist it is the pear, not the pear's weight, which does the 'real causal work' – but the pear does this, in part, in virtue of its intrinsic properties, including its weight (mass).

But for Buckareff, neither the pear itself nor the weight (or mass) of the pear is, strictly speaking, causally efficacious$_1$, i.e. is a cause of the movement of the pointer. Rather, it is "the *constellation of mutually manifesting causal powers* of the pear and the scale [and other objects besides] that is causally efficacious$_1$", i.e. that is the (collective or joint) *cause* of the pointer's moving to the 150 gram mark.[281] (It is not, presumably, that *each* powers which are 'part' of that 'constellation' is a cause among others – at least not in any non-derivative sense. Rather, only the constellation as a whole is causally efficacious$_1$.) Citing either the pear's weight or the pear itself, Buckareff says, is nothing more than a "useful shorthand for something much more complicated".[282] For consider that what we have on the scene in this case: not only the pear's mass, but also the Earth's acceleration of gravity – which, when combined with the pear's mass, gives us its pseudo-property of 'weight'[283] – and the restoring force of the spring in the weight, among other things. Each of these things, he says, is a property-cum-power which is "directed at specific manifestations with [one another]".[284] Thus the pear's mass and the Earth's acceleration of gravity "are mutually manifested when the pear comes into existence [on Earth] with the effect of their interaction being a specified force of gravity (weight) that, in turn, is paired with the force of the spring"; each power is understood here to manifest "in response to [the] presence" of the other(s).[285] If substances can be considered 'causally active', it is only in a derivative sense: although Buckareff explicitly regards properties as "ways the substances are", he holds that the "causal efficacy of the substances is only owing to the work of *certain* of their causal powers that are manifested in the causal process, *not all of them*".[286] ("Not all of them" here is to be read as referring to those properties of an object which are not manifested in the relevant causal process.)

Buckareff suggests that the substance causalist "may concede that, yes, constellations of causal powers do interact in causal processes", yet still hold that it is substances which properly count as the causes of relevant effects – i.e. that the pear, the

---

[280] Whittle (2016), p. 18.
[281] Buckareff (2017), p. 1023. My italics.
[282] Buckareff (2017), p. 1023.
[283] Why 'pseudo-property' as opposed to, say, 'extrinsic property'? Because I see no reason to regard reference to weight as reference to a *way something is*: weight is the gravitational force applied to one object by another in relevant circumstances. If "weight" refers to any actual existent of some sort, then it refers to a type of *activity* – and thus a type of event or process – rather than a property.
[284] Buckareff (2017), p. 1023.
[285] Buckareff (2017), p. 1023.
[286] Buckareff (2017), p. 1023. My italics.

earth, the scale, and perhaps more count as substance-causes which produce the pointer's movement jointly, "in virtue of the manifestations of their relevant causal powers".[287] Although this plainly tells us more about the complexity of the case at issue compared to only mentioning the substances involved, Buckareff nonetheless insists that:

> … [a] perfectly coherent story can be told about a causal process involving the constellation of interacting causal powers of the substances manifesting with the movement of the scale's pointer being the outcome.[288]

According to such a story, any identification of the substances as the causes of this outcome "involves the substances *depending upon* the activity of their causal powers".[289] What does this sort of dependence involve – and what 'activity', exactly, of causal powers? Buckareff attempts to answer these questions by giving a type of 'causal exclusion argument' – one which he thinks provides reason for thinking that "the causal powers [of substances] have a sort of *priority* in causation that suggests that they are efficacious$_1$ and the substances are merely efficacious$_2$ in the production of the outcome".[290]

> Consider the following principle:
>
> **Principle of causal exclusion**. If c is causally efficacious$_1$ in the production of e at t, nothing at t distinct from c is causally efficacious in the production of e (unless this is a genuine case of causal overdetermination).

Take e to be the movement of the scale's pointer. For Whittle and the substance causalist, c would refer to any of the substances (or perhaps all of these jointly) 'manifesting' the powers which enable them to produce e[291]; while for Buckareff "c would denote the constellation of interacting mutually manifesting causal powers that are the cause of e".[292]

> The 'exclusion argument' Buckareff offers on the basis of this principle then begins as follows:
>
> When some substances are said to cause an outcome, there are the substances and the manifestations of the causal powers of the substances and *both* appear causally efficacious$_1$ in the production of the outcome. Assuming this is right, if we have a genuine case of causal overdetermination, then, by exclusion, the substances alone should be causally efficacious$_1$ to produce the outcome and the causal powers of the substances should be causally efficacious$_1$ in the production of the outcome. But the substances cannot be efficacious$_1$ in the production of the

---

[287] Buckareff (2017), p. 1023.
[288] Buckareff (2017), pp. 1023-1024.
[289] Buckareff (2017), p. 1024.
[290] Buckareff (2017), p. 1024.
[291] At least, this is so for a strict substance causalist, which Whittle is not (since she is neutral about whether items other than substances might be causes).
[292] Buckareff (2017), p. 1024.

outcome apart from the activity of the relevant causal powers possessed that are manifested at the time the outcome is generated. So the causal efficacy$_1$ of the substances depends upon the causal activity of the causal powers of the substances.[293]

In contrast, Buckareff says, the causal powers of substances – which, again, he regards as "dispositional properties of the substances", that is "ways the substances are" – can be "causally active and efficacious" in a way which "does not depend upon some further activity of the substances" which 'have' them.[294] And if this is right, then "the causal powers are doing the heavy lifting", such that "if we are looking for where any causal "oomph" or efficacy$_1$ is located we should look to the causal powers, not the substances" – for the latter merely "occupy a supporting role".[295] Thus for Buckareff "it is the activity of the causal powers of substances that make sentences about substance causation true" – or, in other words, substance-causal sentences are 'elliptical' for *power-causal* sentences, so that we should regard properties-cum-powers, rather than the substances which 'have' them, as the real causes.

One point worth noticing again is that, on standard versions of the mutual manifestation view like that assumed here by Buckareff, substances' powers apparently cannot be understood as powers *to act* (or *to be acted upon*), except perhaps in some 'derivative' sense. For if substances can even be regarded as acting or doing in any sense, it is only in virtue of the activity of their causal powers, when those powers are 'mutually manifested' in the presence of their 'reciprocal partners'. Talk of objects' powers would therefore have to be understood as talk of powers *for* such-and-such: powers for some effect, or perhaps for the 'activity' of their properties-cum-powers in relevant circumstances. This is not on its own an objection to the mutual manifestation view, though it is intended to highlight how far that view seems to require us to depart from everyday talk about the powers of objects. (We do not normally say or mean, for instance, that the vase has a power *for* breaking or becoming broken.)

The main problem with Buckareff's argument should be familiar from Chapter 5: it is that standard mutual manifestation theorists, like Buckareff, make important promises which they ultimately fail to keep. Buckareff explicitly refers to 'production' and 'causal oomph', and to 'activity' and 'interaction' by powers, but never gives the slightest idea here what these phenomena are supposed to amount to; we get little more than empty gesturing. Recall that he began his causal exclusion argument above by suggesting that "when some substances are said to cause an outcome", *both* the substances and (mutual) manifestations of their powers "appear causally efficacious$_1$ in the production of the

---

[293] Buckareff (2017), p. 1024.
[294] Buckareff (2017), p. 1024.
[295] Buckareff (2017), pp. 1024-1025.

outcome".[296] But why should we think, in the first place, that either powers or their (mutual) manifestations are or appear to be causally efficacious$_1$? And why think, as he goes on to say, that substances "cannot be efficacious$_1$ in the production of the outcome *apart from the activity of [their] relevant causal powers*"? He asserts these claims with no obvious attempt to justify them – and indeed fails to explain what the 'activity' of causal powers or their manifestations, individually or jointly, could even *be*.

As we saw above, Whittle made the claim that objects cause effects, in appropriate circumstances, *in virtue of* relevant properties of theirs – i.e., that properties *enable* their bearers to be causes. It is plainly a separate thing entirely to assert, as Buckareff does, that properties enable their bearers to be causes – at least in a merely derivative sense – *by the properties' somehow performing activities*. In the next chapter, I lean on P.F. Strawson and others to make sense of the idea of (specific varieties of) productive activities by *substances*, arguing that to suppose that properties, events, and other items besides substances can literally *act* is to commit a category mistake. Whereas Buckareff claims that substances are merely causally efficacious$_2$, i.e. causally relevant – and note we might reasonably ask what *this* is supposed to amount to – I argue for the reverse: it is substances which are causes, properties and events which are causally relevant. A cause is whatever produces the appropriate result in some way or other. Items which are causally relevant – including properties of the objects involved in causal interactions as well as any necessary 'background conditions', themselves produced by prior causal interactions between objects – are those things in virtue of which the cause produced that result.

6.1.4 Evaluating Whittle's 'simple argument'

Where does all of this leave Whittle's 'simple argument' for substance causation? Recall my simplification of her argument (taking the third premise as redundant) from above:

> 1. Some actual substances have causal powers.
>
> 2. If a substance has a causal power, then it can be a cause (namely, when that causal power is manifested).
>
> 3. Some actual substances' causal powers are manifested.
>
> 4. Therefore, some actual substances are causes.

Although the conclusion of the argument is that substance causation is a genuine phenomenon, Whittle's focus after setting out the argument turned to claiming that existing views have not succeeded in establishing the *falsity* of that conclusion. Indeed we get from

---

[296] Buckareff (2017), p. 1024.

Whittle very little positive reason to suppose that the argument is sound: although it certainly appears deductively valid, there is scarcely any justification for the premises beyond an appeal to our 'standard attributions' and the meaning of the concepts we use when making these. But our everyday (and even scientific) attributions of powers to objects can be true, supposing they are, without us having any idea about what *makes* them true (i.e., in virtue of what they are true) – indeed without our ever pausing to consider the fundamental metaphysics of causation, including the question of what production amounts to, what kinds of items produce relevant effects, and so on. Most notably, nothing Whittle says really tells us why we should regard substances as *producers*. She does however briefly come close to a central idea I defend in Chapter 7: in providing her justification for the first premise *POWER*, she mentions in passing the idea that it is *substances* which are "the entities that manifest the responses constitutive of these paradigmatic causal powers", since it "is *they* that break, dissolve, etc.".[297]

Thus while there is nothing objectionable about the argument, the real positive work lies in making clear sense of, and then justifying, the first premise – the claim that (at least some) substances have causal powers and liabilities, and that it is substances which *produce* and *suffer* change. This is what I aim to accomplish by combining my *QT Account of Powers* with some key further suggestions about the nature of causation in Chapter 7. My contention is that once the first premise is suitably established, the other premises as well as the conclusion follow rather trivially. While Whittle is explicitly neutral about whether items other than substances might sometimes be causes as well, I will argue that the correct account of causal powers entails that nothing besides substances have such powers – because causing is a matter of *acting* in some specific way (i.e. causing is a species of acting), and nothing besides substances can literally *act* or *do*.

6.2 Causal pluralism

Because it thus holds that *only* substances can really be causes, the account I sketch in the next chapter amounts to a monism about causes. Proponents of the standard version of the mutual manifestation view likewise adopt monism here, insisting that it is properties-cum-powers which deserve the label. And what might appear to be default approach outside of the powers literature – what Heil calls the 'received view' – regards events as the real causes, presumably committed, implicitly or explicitly, to a difference-making rather than production conception of cause.

In offering her 'simple argument' for substance causation, on the other hand, Whittle explicitly sought to remain neutral about two types of pluralism: first, whether

---

[297] Whittle (2016), p. 4. My italics.

causation might involve a plurality of relations rather than a single relation; and second, whether items other than individual substances might count as genuine causes. In section 6.2.2, I consider Steward (2012)'s three-fold pluralism about causes, according to which substances, events, and properties might all be reasonably regarded as causes. I regard what I say in response as generalizable to any version of pluralism about causes. Then in Chapter 7, I adopt insights from Anscombe, Strawson, and others (including Steward) in offering a pluralism about *causings* – roughly the view that causation is a family of *productive activities*, by objects and upon other objects, bearing a kind of 'resemblance' to one another; I leave open whether this might also entail a pluralism about causal relations, corresponding in some way with types of productive activity.

Before discussing these two varieties of pluralism (about causes and about productive activities), however, it is worth pausing to identify a few other possible kinds of causal pluralism. (What follows is a quick survey of 'ontological' varieties of pluralism, as opposed to a mere pluralism about our *concepts*.)

6.2.1 Varieties of causal pluralism

In addition to pluralism about causes, there is also pluralism about the other side of the causal 'relation', *effects*: the view that the items produced across the many various instances of causation comprise more than one ontological category. One might suppose, say, that while events and processes of certain kinds can be effects, so can facts or perhaps even substances themselves. Lowe (2008), for instance, distinguishes causation of events from causation of facts, suggesting that ordinary physical causation is the former while (free and intentional) mental causation is causation of *the fact that an event of such-and-such type occurred*.[298]

For the sake of simplicity and space, I will remain neutral about whether items other than *changes in the properties or relations of objects* – which themselves comprise a species of events or processes – can be fundamental or 'direct' effects in causation. I do not, however, regard facts – that is, states of affairs which are actual – as fundamental; they are instead circumstances 'constructed out of' objects, their properties and relations, and the various occurrences which are actions by objects or changes in their properties and relations. (By a fundamental or 'direct' effect, I mean to rule out what I will call *composite effects* in section 7.5. Very arguably, most of the effects we are concerned with in both everyday and scientific contexts are composites – complex circumstances which are 'comprised' of a set of more basic circumstances, including genuine (direct) causal effects. Indeed despite the name, I do not think that composite effects are really effects at

---

[298] See Lowe (2008), pp. 110-112.

all; they are not themselves caused or produced, but rather are the 'sums' or 'composites' of genuine causal effects and perhaps other things besides.)

A quite different type of pluralism concerns causal relations themselves, rather than the causal relata. Whereas a monist about causal relations would hold that there is just *one* such relation which is instantiated in all instances of genuine causation, the pluralist about causal relations allows that different relations might be instantiated in different 'types' of causation. One way of being a pluralist about relations might be to hold that causation is a group or family including not only (say) *producing effects*, but perhaps also *making a difference* with respect to (would-be) effects. Or, we might get more specific and distinguish varieties of difference-making, e.g. *interfering* with effects or *preventing* would-be effects from occurring altogether. In section 7.4, I sharply distinguish causation from (something's being relevant to) causal explanation – arguing that in order to really 'carve reality at the joints', when concerned with the fundamental metaphysics of causation we should resist the urge to count anything besides production as an instance or aspect of causation. The same sorts of items which are necessary features of causal explanations are likewise features of explanations of interference, prevention and the like: they thus have a 'role' to play, though it is not itself a *causal* role (i.e., they are not themselves causes, or involved in causes, etc.).

But there is perhaps a further way of being a pluralist about relations – one which might be thought to accord well with the account of causation-as-production I offer in the next chapter. There I defend the idea that causation is, at root, a matter of specific varieties of productive activity performed by objects upon one another: specific varieties of, say, pushing, pulling, dissolving, and so forth. If this is right, then perhaps we should accept into our fundamental causal ontology a variety of corresponding causal relations: the various specific pushing relations, the pulling relations, the dissolving relations, etc. Although my *SP Account of Causation* does indeed amount to a pluralism about productive activities, i.e. *causings*, I will remain neutral regarding the question whether there are also (varieties of) irreducible specific causal *relations* which obtain whenever some object acts causally upon another. Crucially, though, I will explicitly reject the idea that there is some single relation which is *the* causal relation; either there are a plurality of causal relations corresponding to types of productive activity, or else the correct position is to reduce or perhaps eliminate causal relations altogether. (This would not be to say that propositions about causal relations are not true – just that their truthmakers are existents other than supposed causal relations.)

6.2.2 Steward's pluralism about causes

What, then, of pluralism about causes? In her (2012), Steward advocates the adoption of such a pluralism on the grounds that we seem to need "a plurality of irreducible distinct ontological categories to do justice to the totality of causal phenomena".[299] She proposes a "three-fold ontological categorization" in order to "capture and account for the different types of thing we call 'causes' (and, relatedly, the different sorts of relationship we recognize as causal)"[300]: these are the categories of (i) 'movers', i.e. objects; (ii) 'makers-happen', i.e. (Davidsonian) events; and (iii) 'matterers', which she regards as facts.

'Movers' are *objects* – by which Steward means Aristotelian individual substances (see my Introduction), though perhaps also more than these: she leaves room for the possibility that "less familiar sorts of endurant, such as fields, might also be movers of a sort".[301] Movers are the "possessors *par excellence* of causal powers and liabilities" – and thus the "primary doers of so-called 'causal work'".[302]

As Steward notes, the production of an effect by an object (mover) typically requires a trigger(s) of some sort, rather than being wholly spontaneous. Such a trigger, Steward suggests, would be a "*particular event* that initiates a causal process within the object or which constitutes or effects the removal of some barrier to the exercise of one of its causal powers".[303] These triggering events, in turn, are Steward's 'makers-happen'. Although triggers are frequently "the impact of some *other* substance such as a kick, a blow, a heating, etc.", we should not be misled into thinking that what such occurrences themselves do is "kick an *essentially inert* bit of matter into motion or change" – presumably because this invites mistakenly regarding objects as somehow passive rather than as themselves *doing* something, *acting* in some way, in causation.[304]

'Matterers', finally, are *facts* – and these are "the causes we advert to by means of basically sentential expressions and which we link together with their effects by means of sentential connectives like 'because'".[305] Whereas movers (objects) are the *doers*, the *agents* in causation, matterers are *difference-makers*: their occurring or being present makes a difference to whether or not the relevant effect occurs. Movers, on the other hand, are not plausibly regarded as difference-makers: unlike facts, the *mere presence or not* of movers is not enough to make the difference between the effect's occurrence and non-occurrence. (Makers-happen, it would seem, must likewise be difference-makers,

---

[299] Steward (2012), p. 210.
[300] Steward (2012), p. 210.
[301] Steward (2012), p. 212.
[302] Steward (2012), p. 212.
[303] Steward (2012), p. 212. My italics.
[304] Steward (2012), pp. 212-213.
[305] Steward (2012), p. 213.

since they do not themselves *produce* effects, but only serve to 'kick-start' objects into producing effects.)

To illustrate, consider a simple example where a rock breaks a window. If we want to know what the *causes* are of the window's breaking, Steward suggests, then we should look to three different ontological categories. It is the rock, an individual substance, which does the primary 'causal work' of breaking the window – not merely by *being present* in the circumstances, but rather as a matter of its *acting upon* the window in a specific way. Nor do rocks break just windows spontaneously; they must be brought into contact with them at a sufficient level of force. Presumably, then, some occurrence(s) like the rock's coming into contact with the window, the rock's moving toward the window in the air, or the event of my throwing the rock at the window – or perhaps all of these – counts as the triggering event(s) of the rock's breaking the window. But in addition to the particular rock and the particular event(s) which triggered the rock's activity, there are also a range of facts which *matter*, i.e. make a difference, to the rock's breaking the window: e.g., the fact that the rock impacted the window at a sufficient level of force, the fact that the rock had the mass it had (or a sufficient amount of mass), and presumably many others besides. On Steward's pluralism, all of these things – the appropriate movers, makers-happen, and matterers – are properly understood as *causes* of the relevant effect(s).

But what is it that *unifies* these three categories of causes – that is, what warrants counting all of active objects, triggering events, and relevant facts as *causes*? It seems true enough that, as Steward points out, in both everyday and scientific discourse "items in almost all the ontological categories it is possible to think of are spoken of as causes: objects, persons, events, facts, states, properties, and so on".[306] On this basis she goes on to suggest that causation:

> … is best thought of as a *category*: a large and ontologically flexible umbrella concept under which we bring a wide diversity of ontologically various relations and relationships, unified only by their connections to our interests in the explanation, prediction, and control of phenomena.[307]

But the question here is whether and why we should allow everyday talk – though it certainly informs our starting-point beliefs and intuitions about causation – to firmly direct our ontological conclusions. Moreover, Steward herself distinguishes movers, i.e. objects, as (i) the items which are the 'possessors par excellence of causal powers and liabilities' and as (ii) the items which do the 'primary' work in causation. What, we might ask, could it mean for something to do the 'primary' versus, say, 'secondary' work in causation? Perhaps the idea is related to Whittle's recognition, mentioned above, that it is *substances*

---

306 Steward (2012), p. 210.
307 Steward (2012), p. 210.

– Steward's movers – which manifest powers *to break* (or *to be broken*), *to dissolve* (or *to be dissolved*), *to push* (or *to be pushed*), etc.

Regarding everyday and scientific talk of causation, Steward refers to a claim defended in Lakoff and Johnson (1999):

> … namely that the relatively sophisticated talk of causation in which we engage as seekers of knowledge in disciplines as diverse as chemistry, history, and economics is a cognitive achievement that builds on the simpler grasp embodied in our basic understanding of *the transitive verbs we use to express agent-patient relations*.[308]

In Chapter 7, I follow Steward's suggestion that *causation* is an 'umbrella concept' – not because I believe that items other than individual objects can be causal agents (i.e. causes), but because the ideas of causation, production, cause, and so forth seem to be generalizations or abstractions from the *specific varieties of productive activity*, by and upon objects in particular, of which we become aware in both everyday and scientific contexts. Although it is easy enough to extend the very general 'agent-patient' distinction to properties, events, and other sorts of items, this is only properly understood as a kind of 'shorthand', a metaphorical use of causal concepts underlying which are the specific activities of objects *upon one another*. Only objects can literally act or be acted upon; items such as properties and events, on the other hand, feature in causation in their own ways. The intended upshot is that pluralism about causes – though it accords well with everyday talk about causation – places too much weight upon everyday talk and consequently fails to really 'carve at the joints' when it comes to the fundamental metaphysics of causation.

6.3 Lowe on the ontological priority of substance causation

In his (2008), Lowe defends substance causation against the broadly Humean idea that all causation is causation by *events* (whether events are conceived as Davidsonian, Kimean, whatever). He begins by observing that we frequently speak, in ordinary language, of causation by both events (e.g., "The explosion of the bomb caused the collapse of the bridge") *and* objects (e.g., "The bomber caused the collapse of the bridge") – to which we might add that we often make reference to causation by properties and facts as well. And these diverse ways of speaking about causation might be thought to support the idea that there are numerous *species* of causation:

> … there is no doubt that the verb 'to cause' may take, as its grammatical subject, a noun-phrase referring to a persisting object … quite as well as a noun-phrase

---

[308] Steward (2012), p. 211. My italics.

referring to a particular event. Moreover, since events and persisting objects are entities belonging to quite distinct ontological categories, it is strongly arguable that the verb 'to cause' must have a *different sense* when a term referring to a persisting object figures as its grammatic subject from the sense it has when a term referring to a particular event plays that role. This is brought out by the fact that … it would indeed be incongruous to say 'The explosion of the bomb and Jones together caused the collapse of the bridge'.[309]

But although it is often possible – subject to epistemic constraints, at least – to 'analyze' or simply reformulate substance-causal sentences and event-causal sentences in terms of one another, Lowe argues that causation by individual substances has both a *conceptual* and an *ontological* priority.

Lowe's case for the conceptual priority of substance causation runs as follows. Suppose there exists a purely passive being – one that could observe its environment but was unable to act upon or move within it. Although such a creature could perhaps "register the existence of certain regularities or uniformities amongst types of events occurring in its observable environment", Lowe suggests that it would be incapable of distinguishing between those sequences of events which are *causal* sequences and those which are purely coincidental.[310] This, he thinks, is because such a creature would be incapable in principle of *doing* what we might *do* when we want to establish whether or not a given sequence is genuinely causal: namely, "attempt[ing] to resolve that doubt by means of *active intervention and experimentation*".[311] If this is right, then while we are aware of our ability to "intervene in and manipulate the course of nature in various ways" – on which basis we presumably acquire at least a vague understanding of ourselves as substance-causes – a purely passive being would not even come to acquire a concept of *event* causation, since it "would have no empirical basis upon which to apply that concept".[312] The upshot, Lowe thinks, is that acquiring a concept of agent (or substance) causation is a *prerequisite* for acquiring a concept of event causation.

Of course, even if it is true that substance causation has a conceptual priority over event (or property, fact, etc.) causation, this does not establish that substance causation has an *ontological* priority – i.e. that it is metaphysically fundamental. Lowe makes a case for the ontological priority thesis by first proposing, for the sake of argument, an analysis of statements of event causation:

---

[309] Lowe (2008), p. 122. My italics.
[310] Lowe (2008), p. 135.
[311] Lowe (2008), p. 135.
[312] Lowe (2008), pp. 134-135.

Event *c* caused event *e* if and only if there was some substance, *S*, and some manner of acting, φ, such that *c* consisted in *S*'s φ-ing and *S*, by φ-ing, caused *e*.[313]

But the problem, Lowe recognizes, is that even if such a schema could enable us to analyze *all* possible statements of event causation, this would not suffice to show that the analysis really succeeds at establishing the ontological priority of substance causation. For it might well be that substance-causal statements and event-causal statements can always in principle be 'analyzed' or reformulated back and forth into one another. (Why should we think this is so? For one thing, if I am right that causation is fundamentally a matter of objects performing specific causal actions upon one another, then we will always have present on the scene both objects *and* events or processes of various sorts. See section 7.4.)

In the end, Lowe makes the following quite brief proposal on behalf of the ontological priority of substance causation. We should take care to notice here the similarity to Whittle's 'simple' argument for substance causation:

> It seems proper to say that *events of themselves possess no causal powers*. Only *persisting objects* – that is, individual 'substances' – possess causal powers and, indeed, causal liabilities. It is such objects that we describe as being magnetic, corrosive, inflammable, soluble, and so forth. Objects manifest or display their causal powers and liabilities by acting on things, or being acted upon, in various appropriate ways – by attracting, corroding, burning, dissolving, and so forth. In describing such activities we use, of course, the language of substance causation, rather than the language of event causation. We resort to the latter, I suggest, primarily when we are at least partially ignorant about the causal agents that are at work.[314]

But *why* should we suppose that only objects have (causal and non-causal) powers to act and liabilities to be acted upon? (Recall from Chapter 5 that Williams, among others, conceives of powers as powers *for* relevant states of affairs, rather than powers *to* act or be acted upon. For Lowe as for my *QT Account of Powers*, on the other hand, powers are powers *to perform activities*, liabilities are liabilities *to have activities performed upon oneself*. I discussed why we should believe that there really is *activity* in the world in section 4.2, and consider the parallel question about *causal activities* throughout the next chapter.) Like Whittle, Lowe does not give us any clear answer to this question; indeed

---

[313] It is important to note that the word "by" in "*S*, by φ-ing, caused *e*" can be read in two ways: one where "by φ-ing" means the same thing as "in φ-ing", and one where it does not. On the former reading, *S*'s causing *e just is* its φ-ing. On the latter, we might be misled into thinking that *S*'s causing *e* is something separate from its φ-ing – perhaps something which follows from its φ-ing. I would endorse only the first of these two readings, and I believe the same is true of Lowe.

[314] Lowe (2008), pp. 138-139. Italics in original.

when push comes to shove he pays little attention to the metaphysics of powers, in effect deflecting the question of how powers are related to properties by focusing on distinguishing dispositional from occurrent *predication* of property- (and relation-) universals.

Thus while I endorse the strict substance causalist claim that only substances are causes *because* only substances possess causal powers and liabilities, it takes quite a bit of work to justify the premise here. Indeed it is worth noticing that there is a quite commonplace practice of describing powers-based approaches to causation as holding that causation is 'the exercise of causal powers'. Thus Kuykendall (2019) – in the course of arguing that substances are causes because powers are 'non-self-exemplifying'[315] – says that:

> Proponents of substance causation argue that substances are causes because substances are the bearers of causal powers and substances cause by exercising such powers.[316]

This is, of course, exactly right – but it is utterly unilluminating in advance of a careful explication of (causal) powers and liabilities plus some key claims about the nature of causation itself. I turn to this task in the following chapter.

6.4 Summary

In this chapter, I evaluated Whittle's 'simple argument' for substance causation and Buckareff's response on behalf of standard versions of the 'mutual manifestation' view, which regard properties-cum-powers, rather than the objects which 'bear' those properties, as the real causes. I concluded that while there is nothing *wrong* with Whittle's argument, she has not yet done the worked needed to make sense of and justify her crucial first premise.

I then examined Steward's pluralist proposal, according to which we might causes as comprising three different ontological categories: those of objects, events, and facts. I argued that although Steward is right that we should think of causation as involving an

---

[315] A self-exemplifying property would be a property which *is*, itself, the way its bearer is in virtue of having it: e.g., if the property of sphericity is self-exemplifying, then both objects having that property *and the property itself* are spherical. Kuykendall provides a number of examples intended to show that powers are non-self-exemplifying: e.g., it is not a vase's fragility that breaks, but the fragile vase itself. Although I find the argument sound and the examples persuasive, I believe that the better way of explaining why it is substances, rather than properties (or events, facts, etc.) which *act* attends carefully to *what* the items in different ontological categories *are*. Once we appreciate, e.g., that properties are *ways objects are*, we can see that (i) powers are not themselves properties, (ii) properties do not themselves act or become acted upon, and (iii) properties are not 'self-exemplifying'.

[316] Kuykendall (2019), p. 339.

'umbrella concept', it is only objects which can produce effects, as opposed to be relevant to instances of causation in some other way. I closed with a brief look at Lowe's case for strict substance causation – that is, for the claim that it is individual objects alone which are causes. Although Lowe's claim that only objects can be causes *because* only objects have causal powers is correct, much like Whittle's first premise we need more reason for believing this to be true. In the next chapter, I set out to offer this justification.

Chapter 7 - The Substances as Producers (SP) Account of Causation

In this chapter, I sketch and defend my positive approach to causation. Like the variety of 'mutual manifestation' views considered in Chapter 5, it is intended as an approach which builds quite naturally upon a particular account of powers – namely, the *QT Account* presented in Chapter 4 – and aims explicitly to account for the idea of *production* or *bringing-about*. Unlike those views, it rejects the idea that properties or powers (or properties-cum-powers) are causes, whether individually or jointly as involved in 'mutual manifestations'.

The shape of the primary, overarching argument to be found in this chapter is as follows. First, if there are ultimately *any* sort of interactions or phenomena worthy of the name "causation", then it must be individual substances – the things which bear properties, and to which powers to act and to be acted upon can be ascribed – which are the real causes. (Perhaps only the 'fundamental objects', whatever exactly these are.) This is because causation, understood as the production or bringing-about of effects, must be a matter of acting or doing: to cause is to perform a *causing*, and causings are not mere happenings or occurrences but *activities*. And as I argued beginning in section 2.1.3, it is only objects which can literally perform or suffer activities. Second, we really do have good, at least prima facie, reason to believe that *productive activities* exist in the world: namely, our *experiences* of performing, and having performed upon us, various specific types of 'productive activity', i.e. various specific types of 'causing' or 'causal action'.

7.1 Overview: causation as varieties of productive activities by objects

The approach to causation which I defend here – what I will name the *Substances as Producers (SP) Account of Causation* – is built upon two basic elements: the *Qualities as Truthmakers (QT) Account of Powers* (Chapter 4) plus the idea that causation-qua-production is, at root, a matter of causal actions, i.e. causings understood as doings or activities.

Recall that on the *QT Account of Powers*, objects' qualities – their intrinsic properties – make true a range of 'maximally-specific' propositions about how those objects either could or would act, or be acted upon, in appropriate circumstances. Only objects can truly be said to 'have' powers to act and liabilities to be acted upon, because only objects are capable of literally *acting* or *being acted upon* – and, for that matter, of undergoing change, whether such change is caused or not.[317] To suppose that items from

---

[317] As I argued in section 2.1.3, properties and events do not undergo change, because they do not themselves bear properties: properties and events do not themselves have *ways of being*. A change in, e.g., the color or mass of some object is not – despite how we might speak in

other ontological categories – events, properties, facts, and so on – can act or be acted upon is, on the neo-Aristotelian substance ontology I adopt as foundational, to commit a category error, to lose track of precisely *what* those things are. But, crucially, reference to powers and liabilities is nothing more than a 'useful shorthand' for the aforementioned truthmaking relation, rather than the predication of properties or features which are either further to or else identical with objects' qualities. To conceive of powers themselves as genuine existents is to invite a range of confusions (Chapters 2 and 3, as well as sections 5.2 to 5.5).

Once we combine the *QT Account* with the idea that causation itself is fundamentally a matter of acting and being acted upon – that is, once we take more seriously the idea of causings understood as *activities* or *doings* – we get the result that causation is a matter of *objects* acting upon one another, and in so doing, we might say, 'manifesting' their causal powers and liabilities.

Here, then, is the *SP Account of Causation* in summary form:

Substances as Producers (SP) Account of Causation: Causation consists in objects' producing change in one another in various particular ways. An agent-object's producing change in a patient-object is a matter of the agent-object's performing some specific type of causal action (causing) on the patient-object. The general concept *causation* is best understood to refer to this 'family' of particular varieties of causal action.

On this approach, causation is, at its most fundamental, always a matter of objects performing specific types of causal actions upon one another – that is, causing one another to change in various specific ways. Objects – rather than properties, events, and items of any other ontological category – are therefore both the causes and the sufferers of change, where by a 'sufferer' I mean that item which *undergoes* change (or that which 'experiences' the relevant effect). Objects cause changes of relevant sorts, or are caused to change, when they find themselves in appropriate circumstances – and it is their qualities (intrinsic properties), in concert with specific circumstances in which those objects find themselves, which together *explain* this. Put another way, objects' qualities are truthmakers for maximally-specific propositions about how those objects either could or would act causally, or be acted upon, in appropriate circumstances.

In what follows, I lay out some of the main elements and implications of the *SP Account*. The first crucial component, essential for making clear sense of the notion of a *causing* or *causal action*, is the idea that causing always consists in performing some *specific variety* of 'productive activity': not just attracting, repelling, dissolving, etc., but

---

everyday language – literally a change *in* or *to* its color or mass or anything else, but is instead a change in or to the object itself, a change from one property (way of being) to another.

some *fully specific* variety of such types of action. I argue in the next section that only by acknowledging this important point can we hope to make good sense of causation as involving production or bringing-about – a desideratum that, as we will see, we have strong prima facie reason to try to meet. There are also several useful ontological distinctions to be drawn: one between agents (or doers) and patients (or sufferers) in causation, and another between causes and 'conditions' – the latter being items which are, in some way or other, relevant or necessary to causation. Most proponents of powers-based approaches to causation, including standard versions of the 'mutual manifestation' view surveyed in Chapter 5, explicitly reject both distinctions – though the grounds for such rejection, I claimed, are also the root of their inability to deliver genuine production.

The *SP Account* is a realist approach to causation, since it does not attempt either to 'reduce' causation to something else or to eliminate or explain it away. Crucially, however, it is intended as an account of what causation consists in most fundamentally, in the following sense. Although our interests in causation most often concern macro-level objects, I want to remain neutral about whether any such objects, and their properties, are really *fundamental,* i.e. not ontologically reducible to something else (such as, say, collections of more fundamental objects arranged in relevant ways). The operative idea here is that *whatever* the fundamental substances are, if there really is anything worth calling "causation" in the world, then it must consist in productive activities by those fundamental substances – that is, must consist in their performing causal actions of various specific types upon one another. As we will see, we have compelling prima facie reason to think such productive activities are a ubiquitous part of reality.

7.2 Productive activities, i.e. 'causings'

The core insight of the *SP Account* is the idea that any instance of what we correctly call 'causation' is, at root, *some or another specific variety of productive activity* of one object upon another – or, in the case of many (if not the great majority) of the phenomena we describe as 'effects' in everyday and scientific talk, sums or composites of such activities (see section 7.5). This idea, or at least the inspiration for it, has notably been identified in various ways by Anscombe, Strawson, Lowe, and Steward – but, it would seem, few others besides.

7.2.1 Anscombe, Lowe, and Steward: "cause" as an umbrella term

In her (1971), Anscombe suggests that understanding the English term "cause" – or any equivalent term in either English or a different natural language – requires a *prior* understanding of terms referring to *more specific* causal concepts:

182

The word "cause" itself is highly general. How does someone show that he has the concept *cause*? We may wish to say: only by having such a word in his vocabulary. If so, then the manifest possession of the concept presupposes the mastery of much else in language. I mean: the word "cause" can be *added* to a language in which are already represented many causal concepts. A small selection: *scrape, push, wet, carry, eat, burn, knock over, keep off, squash, make* (e.g. noises, paper boats), *hurt*. But if we care to imagine languages in which no special causal concepts are represented, then no description of the use of a word in such languages will be able to present it as meaning *cause*.[318]

The claim here seems to be that in order to even begin to understand the meaning of the English term "cause" and its cognates (or equivalent "highly general" terms in other natural languages), we must first have an understanding of the meaning of some range of terms referring to "special causal concepts" – concepts like Anscombe's examples of *push*, *carry*, and *squash* and many, many others; we then come to understand what the *general* term "cause" makes reference to (or at least 'gestures toward') on the basis of our grasp of these more specific causal concepts. What is crucial to notice about such concepts, in turn, is that they concern *varieties of action* – that is, specific ways which *objects* might act upon one another in relevant circumstances. A pushing or squashing is type of a doing, and more specifically a production of some change in another object; and only individual objects – not their properties or events or facts involving them – can push or be pushed, squash or be squashed.

Redirecting our attention from "highly general" concepts like *cause* to "special causal concepts" referring to varieties of productive activity (i.e., specific types of 'causal action') – when combined with the claim that only individual objects can act or be acted upon – thus leads quite naturally to the view that it is substances or objects which are 'producers', i.e. causes. Steward (2012) makes this same point, proposing first that the term "cause" is a:

… general umbrella term for a range of transitive verbs[319] [e.g., "turn", "push", drag", "open", and others] that serve to specify *the nature of an action* brought to bear by an agent on a patient: an action that appears to involve the existence of a causal

---

[318] Anscombe (1993 [1971]), p. 93.

[319] Some verbs admit of both transitive and intransitive uses, and can be ambiguous if it is not made clear which use is intended in a particular context. Consider the verb "dissolve". We might suppose that "A dissolved$_T$ B" implies that "A caused B to dissolve$_I$" – where "dissolved$_T$" involves the transitive use of the verb, and thus the verb in what might be called its 'action' sense (i.e., "dissolve" used an an 'action verb'), while "dissolve$_I$" involves its intransitive use ("dissolve" used here to refer to an effect in B brought about by A).

relation – between [substances] on the one hand and such things as events or states on the other … .[320]

Following this, she makes clear what is achieved by attending carefully to such transitive action verbs:

> If one looks primarily to explicit occurrences of the word 'cause' for one's understanding of the sorts of things we regard as causes, one is likely, I think, to underestimate the importance of substances in our everyday causal thinking. … [One might argue] that it is not in these relatively sophisticated and explicit explanatory usages of the concept of 'cause', but rather in the use of basic transitive verbs like 'turn', 'push', 'drag', 'open', etc., that we really find the heart of our concept of causality. If we focus instead on these, the linguistic evidence for a serious everyday commitment to substance causation looks immediately far more significant. In these verbs, it might be claimed, we find clear evidence of a commonsense metaphysics that accords to substances … a capacity to wreak effects in the world.[321]

Along these same lines, Lowe (2008) suggests that:

> … the direction of semantic explanation … [runs] from a multiplicity of quite specific notions of substance causation [e.g. *killing*, *pushing*, *stretching*, *attracting*, *corroding*, and others], bearing various overlapping family resemblances to one another, to an *abstract generic* notion of substance causation, conceived as being the common residue of these more specific notions.[322]

Talk of a 'common residue' here is potentially misleading, however, as Lowe is clear that he thinks there is "*no* common and clearly definable 'essential core'" shared by those action concepts bearing the relevant 'family resemblances' to one another.[323] This seems to me entirely right: the concepts *producing* and *bringing about* are, like *cause*, nothing more than 'umbrella terms' which serve to flag the (brute) similarity which various types of causal action bear to one another. The generic concept of substance causation – by which I take Lowe to mean something like *causation as consisting in production or bringing-about by individual objects* – he says, is a "distillation"[324] of our grasp of these "more specific action-concepts"; but there is no way of *analyzing* these specific action-concepts

---

[320] Steward (2012), pp. 201-202. My italics.
[321] Steward (2012), pp. 202.
[322] Lowe (2008), p. 144. My italics (of the words "abstract" and "generic").
[323] Lowe (2008), p. 140. My italics.
[324] Of course, the term "distillation" also suggests a common element to all instances of productive activity; but this is not what Lowe means despite his choice of wording.

reductively in terms of the general concept because the latter is unintelligible independent of the more specific concepts.[325] He goes on to suggest, notably, that:

> … [the fact that] there is no such *independently intelligible* generic notion of causation would explain … why it is that philosophers have so signally failed to provide a satisfactory analysis of what it means to say that one thing (whether it be a substance or an event [or property, fact, etc.]) was a 'cause' of, or 'caused', another.[326]

As I remarked in giving my 'initial definition' **CAUSE₁** in section 5.1.1, to say that a cause is something which *produces* an effect is hardly an analysis, since this is just a generalization, abstraction, or 'glossing over' the (brute) similarity shared by the many various specific varieties of productive activity.

7.2.2 Strawson: experience of varieties of production

But why *should* we suppose that concepts like *cause*, *produce*, *bring about*, and so on are generic 'umbrella' terms, unintelligible without a prior semantic grasp of some range of specific action-concepts like the examples named above? And why think that these more specific action-concepts refer to, or at least gesture at, specific varieties of causal action conceived as irreducible (types of) events[327]? We may find assistance here from P.F. Strawson, who in his (1992) makes an insightful appeal to our various *observations* and *direct experiences* of causal transactions of certain kinds. He begins by noting an important point which what he calls the "received view" of causation, inherited from Hume (see section 5.1.2)[328], gets *right*:

> It is true that there is no single natural relation which is detectable as such in the particular case, which holds between distinct events or conditions and which is identifiable as the causal relation. Neither is there a plurality of relations observable in particular cases, holding between distinct events or conditions and identifiable as specific varieties of a general type of relation, namely the causal.[329]

---

[325] Lowe (2008), p. 140. My italics.

[326] Lowe (2008), p. 144. My italics. The idea here, of course, is that such analyses have mistakenly supposed there *is* some such independently intelligible generic notion of causation.

[327] Recall from section 1.3.2.5 that I distinguish events and processes into two sub-categories: (i) actions or doings, including both causal and non-causal actions; and (ii) changes in objects' properties (or perhaps relations, if relations are irreducible).

[328] In section 5.3.1, we saw Heil use the phrase "received view" rather differently, to refer to the combination of the 'two-event model' – the idea that causes and effects are separate and distinct temporal events, where effects succeed causes – with the idea that causation is a non-reflexive and transitive relation.

[329] Strawson (1992 [1985]), pp. 114-115.

It is worth pausing here to ensure that Strawson's point, inherited from Hume, is clear. The "received view" of interest to Strawson conceives causation as a relation between distinct events or conditions. But, as Hume emphasized, we *observe* no single natural relation, or plurality of relations, as obtaining between distinct events or conditions; for the Humean empiricist, this means that we can have no reason to accept the existence of such a relation or plurality of relations (as obtaining between distinct events or conditions). Instead, any talk by the Humean of a 'causal relation' in the world is talk of something with, as Strawson puts it, a "quite unique character" – something which is not 'present' in particular situations but is instead a "dependent of generality"[330]:

> … [on the 'received view' from Hume] causal generalizations are not generalizations of particular instances of causality; rather, particular instances of causality are established as such only by the particularizing of causal generalization.[331]

The Humean's conclusion is thus that there is *no* single relation, or plurality of relations, which obtains between distinct particular events or conditions. (Set aside the complication that it is something of a leap from the empiricist conviction that we can have no reason for *believing in* such a relation(s), to the conclusion that no such relation(s) *exists*.)

But it is a "grave error", Strawson warns, to take this conclusion as a "starting point in the elucidation of the concept of cause" – for the "notion of *causation in general does* find a … secure foundation … in the observation vocabulary"[332]:

> There is an enormous variety … of kinds of *action* and *transaction* which are directly observable in the particular case and which are properly to be described as causal in so far as they are varieties of *bringing something about*, of producing some effect or some new state of affairs. … Nothing … could be more commonplace than the observation, in particular cases, of specific varieties of bringing about of effects by things."[333]

What we do sometimes directly observe in 'causation', in other words, are *causal actions themselves*: the various specific varieties of *bringing about* of changes which objects perform on one another in appropriate circumstances. The Humean's mistake, then, is to suppose that *if* causation or causal relations were 'present' in particular situations, then it must be in the form of either a single causal relation, or else a plurality of causal relations, which obtain *between distinct events or conditions*. For what we really have, Strawson says, are a variety of productive activities performed by objects upon one another. (Whether there are, in addition, specific causal relations corresponding to each of these

---

[330] Strawson (1992 [1985]), pp. 113-114.
[331] Strawson (1992 [1985]), pp. 113-114.
[332] Strawson (1992 [1985]), p. 115. My italics.
[333] Strawson (1992 [1985]), pp. 115-116. Italics in original.

specific kinds of productive activity is a further matter on which I will remain neutral, as I see nothing of importance which hangs on it once we have productive activities, causings, on the scene.) To adopt his own examples, we *see* the boulder roll down the hillside and then *flatten* the hut; and we *observe* the man *pick up* the suitcase and then lift it onto the rack.[334] Although he is not explicit, in the light of these examples I take the word "things" in the last quotation above to be intended by Strawson to refer to individual objects, and thus consistent with the substance-causal account I am sketching here.

Indeed, not only do we have experiences of *observing* varieties of causing from a third-person point of view, but we also have a range of first-person experiences of *performing*, and having *performed upon us*, various specific types of causal activity:

> If we concentrate on the trio [of concepts] 'power', 'force', and 'compulsion', and ask from what impression the idea discernible in all of them is derived, the most obvious answer relates to the experience we have of exerting force on physical things or of having force exerted on us by physical things … . We push or pull, or are pushed or pulled, and *feel* the pressure or the tugs, the force, compulsion, or power that we exert or have exerted upon us. Here is as immediate an experience as could be desired: an impression of force exerted or suffered."[335]

Imagine running up to someone and giving them a hard shove with both arms that knocks them to the floor. In such a case, it seems that we experience, 'from the inside' so to speak, a causal action(s) of our own: not something which can be adequately specified under the general concept *causing* or *bringing about*, but a particular variety of action, namely a quite specific type of *pushing*. There is something very different to the experience of shoving another person with both our arms as compared to, say, the experience of picking up a small dog off the floor or pulling on a door handle. In such cases we can truly and meaningfully 'abstract away' or 'generalize' and say that we have *caused* or *produced* some effect(s); but the *kind* of causing in each case is qualitatively different, and this is something which can sometimes be *felt* from the first-person perspective. (Indeed we can also 'feel' the difference between shoving another person with both our arms, on the one hand, and attempting but failing to shove them, say because they stepped out of the way at the last second. In both cases, we might say, we perform a certain series of actions and cause a certain series of effects, but the first case involves a *feeling* of the application of force upon another person – as well as a specific causing – which the second lacks.)

Strawson's claim appears to be that we sometimes have direct epistemic access, via observation, to various specific varieties of productive activity. But there is certainly no

---

[334] Strawson (1992 [1985]), p. 118.
[335] Strawson (1992 [1985]), p. 117.

suggestion that we *always* have such access, even in principle. What if, say, someone manages to observe the *outcome* of a causal exchange (i.e., the effect produced), but not the *specific action* which was the bringing about of that outcome? Strawson suggests that to this person the outcome might be explained:

> … by mentioning the observable, but by him unobserved, action of bringing about the outcome. In these cases, then, the explanation rests directly on observable relations in nature.[336]

But as Strawson points out, some varieties of causation might be well beyond our observational capacities. In such cases, the explanation of outcomes or effects is "not always so easily had":

> And when it is not, there begins, or may begin, the search for causes; guided partly by those models of bringing about, of the exercise of causal power, which nature presents to gross observation, and partly by that observation of regularities of association of distinct existences which is dear to the holder of the received view. If, by theoretical construction or minuter observation we can discover or postulate copies or images or analogies of our grosser models to link the mere regularities of conjunction, then we are satisfied, or at least provisionally satisfied, that we have reached the level of explanation; that we have found the cause. Even in those cases where the observation vocabulary supplies us with verbs of action or undergoing, so that in a sense we already understand effects by observation of their grosser modes of production, we may have motives for seeking a deeper, or more general, understanding and hence for investigating the micro-mechanisms of production, the minuter processes which underlie the grosser.[337]

There is a lot to unpack here. Strawson appears to be saying that where typical forms of observation fail to reveal causal actions, less ordinary types of observation – e.g., using sophisticated imaging equipment able to reveal occurrences at various microphysical levels – might succeed. Or, if these are inadequate, then we might come to have sufficient – even if only prima facie – grounds for positing, absent any direct observation, the existence of relevant objects and varieties of action in our empirical theories.

We might wonder, however, whether Strawson is correct to suppose that our epistemic access to causings – at least by and upon things besides ourselves – ever really is quite as direct or immediate as he supposes. In cases where we ourselves bring about some particular effect, our action of producing that effect is something we can quite literally *feel*, as in the shoving case above. But, more than this, our own causings are at least sometimes occurrences which we not only *observe*, but which we have introspective

---

[336] Strawson (1992 [1985]), p. 120.
[337] Strawson (1992 [1985]), p. 120.

grounds for recognizing *as (our) causings*: e.g., when we consciously *choose* and *intend* to cause these effects, we have inferential grounds for understanding that very causal action of ours *as a (specific variety of) causal action*. When I shove another person deliberately, I not only 'feel' or observe the occurrence of my shoving them, but I recognize it consciously as a causal action of my own – as my production of the specific intended effect.

But we obviously have neither a 'feeling' nor introspective grounds with respect to causings by things besides ourselves. In such cases, what grounds might we have for believing that some observed occurrence is or involves a type of *causal action*? My suggestion is that, contrary to Strawson, we never really observe occurrences of any sort *as causings*, but instead must infer this status based upon whatever – if anything – we know about the objects involved in the observed occurrences and about, if applicable, that occurrence's participation in a relevant type of 'regularity'. Regularities, as Strawson notes, can be a sign or clue to causation – but the obtaining of a regularity is neither necessary nor sufficient for an instance of causation (qua *production*) to occur.

Consider the case of salt dissolving in water – setting aside the question of whether this is really a fundamental instance of causation[338] – and suppose that such a case really does involve some specific variety(s) of productivity activity, i.e. that a type of *causing* by an object really is on the scene. The suggestion I make in section 7.5.1 is that manifestations of causal powers – causings, or causal actions – are distinct from but simultaneous to the *changes* which 'agent-objects' produce in 'patient-objects'. (I address the idea of an 'agent-patient' relationship in causation momentarily.) What, exactly, are we observing when we watch salt dissolve in water – the causing, the change (or process of changing, undergoing change), or both? My proposal is that we observe *both* distinct occurrences, but only recognize the causing *as a causing*, and the effect *as an effect*, either by (i) mere supposition or hypothesis (perhaps on the basis of an observed pattern or regularity) or else (ii) via inference from *prior* knowledge of the properties of the salt and the water (with the 'strength' of this inference being a product of the strength of our beliefs about those properties). (Of course, such prior knowledge would itself be built out of observation of objects' behavior in relevant circumstances.)

This minor disagreement with Strawson aside, the main upshot of his appeal to our observation of the behavior of objects, including in particular *ourselves*, is that we have strong prima facie grounds for accepting the existence of a wide variety of *productive activities*, i.e. *causings*, performed by objects upon one another. We begin with our own experiences of causing and being caused in *various specific ways*, then extend this

---

[338] Perhaps any causal interaction(s) between salt and water are not fundamental precisely because they are ontologically reducible to causal interactions between the molecules of which salt and water are 'composed'.

'model' to inanimate objects. In doing this we quite naturally group a wide variety of actions together under such generic or 'umbrella' concepts as *cause* and *causation*, among other parallel notions. From here, of course, it is a short step to extending these generic notions to items other than objects and causings – opening the door toward regarding events, properties, facts, and other items as causes (and effects). In many everyday contexts this is harmless as a kind of (perhaps naïve) 'shorthand'; but if our concern is to get the metaphysics of causation right – including succeeding in accommodating the notion of *production* – then we must be careful not to let the model or metaphor mislead. Genuine production, as it turns out, really is sometimes right before us: most notably, as consisting in a wide variety of causal actions that we ourselves perform, or have performed upon us. Not only regularity and dependence theorists influenced by Hume, but even many powers theorists – who do explicitly aim to find a place for production – miss this crucial starting-point in the quest for an account of causation.

Moreover, by generalizing from our own cases to those strictly involving inanimate objects, we know *where to look* for both (i) *causation* and (ii) *explanation* of why objects perform, or have performed upon them, relevant varieties of productive activities. We find such causal explanations partly in the circumstances in which the relevant objects find themselves and partly in the properties 'had' by those objects – i.e., the specific *ways they are*. The key to all of this is to take serious the idea of causings, i.e. causal actions, as being a 'family' of fully specific productive activities bearing a kind of brute resemblance to one another – a resemblance captured in **CAUSE₁** by means of the generic notion of *production* or *bringing-about*. A causing is a specific type of producing some change – where this producing is done by an 'agent-object' upon a 'patient-object'. I examine idea of an agent-patient distinction in the next section, then return to the topic of causal explanation in section 7.4.

7.3 The agent-patient relationship in causation

7.3.1 Agents and patients on the SP Account

The idea that there exists an 'agent-patient relationship' in causation – or some appropriate sort of asymmetry even if not a *relation* – follows naturally from the claim that causation consists in individual objects performing varieties of productive activity upon one another. When a given object performs a causal action in appropriate circumstances, we may call it the 'agent' of the relevant change; the object which has that causal action performed upon it is, in turn, the 'patient' (or, equivalently, 'sufferer') of that same change. Using the 'shorthand' of powers-talk, we may say that the agent-object 'exercises' a power to act causally, while the patient-object 'manifests' a liability to be acted upon.

An alternative to accepting an agent-patient relationship in causation might be to suppose that objects involved in causal exchanges sometimes or always *jointly* act to produce effects – say, in one another. This might lead us to reject 'privileging' one object over the other as the 'agent', regarding causation as a 'two-way' interaction between objects which is 'mutual' and 'simultaneous'. But I believe there is a much clearer and simpler way of accommodating the idea that causal exchanges can be 'two-way' – namely by rejecting the mysterious idea of 'joint action' and instead regarding what might be called *inter*actions as composites or sums of individual instances of causation (by one object upon another) – that is, as involving dual agent-patient relationships (or even a set of agent-patient relationships). See discussion of the water-salt example, as well as section 7.5, below.

What of the 'causal relation'? Although I wish to remain neutral about whether any relations, including causal relations, are really irreducible existents – because among other things I am unsure whether they are really needed as *truthmakers* for relational truths – I do accept that we can meaningfully and usefully speak of relations between distinct existents. I have just said that, on the *SP Account of Causation*, it is individual objects which are both the agents (or causal 'doers') and the patients (sufferers) of change. But if we understand 'causal relations' as obtaining between *causes* and *effects*, then we must be careful not to confuse the relevant causal 'relata' with the agent-patient distinction. Causes, on my account, are objects, while the effects brought about by causes are changes in objects' properties (or perhaps relations) – that is, events or processes (which are not themselves properties or states of objects, but may be the 'onsets' of such things). In other words, although it is objects which are the agents and patients of those changes which are produced causally (as opposed to any changes which are merely spontaneous or stochastic), objects do not comprise both sides of so-called 'causal relations'. (Though, again, we must remember events or processes which are effects are *changes in* patient-objects.)

It may be noticed that my approach to causation, as well as Marmodoro's below, could be described as a 'non-standard' mutual manifestation view. This is because I accept that causation always involves the manifestation of 'powers' to act causally and corresponding 'liabilities' to be acted upon. Of course, unlike Marmodoro and other powers theorists I regard reference to (causal and non-causal) powers and liabilities as nothing more than the aforementioned 'useful shorthand'.

7.3.2 Marmodoro on the agent-patient distinction

As we saw in Chapter 5, proponents of standard versions of the 'mutual manifestation' view reject any real agent-patient distinction, holding that it is properties-cum-powers

191

(rather than objects) which are *joint* or *collective* causes of effects (or, equivalently for Williams and others, of 'manifestations'). In considering the familiar example of salt dissolving in water, Heil follows Ingthorsson (2002) in understanding the scenario as involving an *inter*action where "the salt and the water *work in concert* to yield a certain result: the salt's being dissolved in the water".[339] We might think of this 'continuous' and 'symmetrical' interaction, Heil suggests, as a *causing*. (Presumably what Heil refers to as the causing here is the 'working together to yield a certain result', rather than the interaction considered as a whole to *include* the salt's being dissolved in the water. But then we might ask: in what does a *working together* consist? Is it something like an irreducible *joint action*?)

Against Heil and Ingthorsson, Anna Marmodoro (2017) asserts that those who reject the agent-patient distinction "provide no *argument* in support of their claim that causation needs to be symmetric with respect to the activation of powers", but instead only manage to appeal to the *appearance* of supposed 'symmetry' in certain examples of causation.[340] Yet if we look more carefully at what happens what water and salt come into contact, Marmodoro urges, we see that:

> … polarized water molecules break the bond between the negative chloride ions and the positive sodium ions; whereas salt does not break the water molecules. This is what makes the chemical reaction *asymmetrical*. Heil's and Ingthorsson's account fails to capture the *directionality* of the causal process, which is underpinned by the different 'actions' of salt on water and water on salt respectively.[341]

Although Marmodoro speaks here of distinct actions of water upon salt and salt upon water, she moves to speaking in terms of *powers* as interacting with one another:

> The fact that water dissolves salt, but not vice versa, is scientifically informative. It expresses a law of nature. The law is no less informative because it governs an interaction between macro-level entities, such as water and salt, which do not figure at the micro-level (where it is *the interactions between the fundamental powers* that are operative).[342]

Indeed it appears that for Marmodoro the agent-patient distinction is really meant to be applied not to objects but to *powers*. To see why this is so, we must spend some time trying to understand her particular non-standard version of a mutual manifestation view.

---

[339] Heil (2012), pp. 118-119. My italics.
[340] Marmodoro (2017), p. 72.
[341] Marmodoro (2017), p. 73. My italics.
[342] Marmodoro (2017), p. 73. My italics.

A power, for Marmodoro, "is the potentiality to bring about a change, or the activity of bringing about that change", and there is nothing more to a power than what it *can* do, or else what it *is* doing: either engage in an activity of a specific type (doing something), or else engage in a suffering of a specific type (having something done to it).[343] A power is 'activated', and thus either acts or else suffers action, in a way which involves a kind of 'reciprocity', depending on the activation and thus exercise of 'partner-powers':

> The reciprocity may be illustrated for example with a causal scenario where *A* causes *B* to become hotter. *A*'s power to heat is activated; it manifests by heating *B* up. But *A*'s heating up *B* can take place only if *B*'s power to be heated is activated too, and manifests itself in *B*'s getting hotter. *A*'s heating and *B*'s being heated are mutually dependent in a variety of ways, and each activity lasts as long as the other lasts.[344]

The activation of a power is what Marmodoro calls "an internal 'transition' from one state to another of the very same power". We might pause here to ask: if *A*'s activation requires *B*'s activation *and* *B*'s activation requires *A*'s activation, then how does anything ever actually get activated? Presumably there is some further 'trigger' of the mutual activation of *A* and *B* – say, their being 'brought together' in an appropriate way.

Marmodoro's 'partner-powers' interact with one another by means of a "*mutual and simultaneous manifestation* (e.g. heating and being heated)".[345] What distinguishes her approach from standard mutual manifestation theorists is the claim that powers have either an 'active' or else 'passive' role to play in causation – though one which is not *essential* to them:

> Powers 'take on' an active or passive causal role when engaged in causal interaction. These causal roles are the roles of the 'doer' and the 'sufferer'. A power is a doer when it is described as doing something on something else; and a sufferer when it is described as suffering the causal activity of another power. As 'doer' and 'sufferer' are roles that powers play, rather than features of their natures, in some cases each causal partner power can be both *active and passive*. Thus for example a power (or its bearer) may be heating while being cooled, and hence changed, at the same time.[346]

When partner-powers are mutually activated, she says, their "two manifestations occur *simultaneously* in one event, but they are two *different types* of activity".[347] This distinguishes her from Martin, Heil and others, who see, as Marmodoro puts it, "the mutual

[343] Marmodoro (2017), p. 58.
[344] Marmodoro (2017), p. 58.
[345] Marmodoro (2017), p. 70.
[346] Marmodoro (2017),, p. 74.
[347] Marmodoro (2017), p. 71.

manifestation of two powers as their mutual identification into a single event", where we "should not seek to find the activity of a *single* power in a causing [i.e. mutual manifestation]".[348] But the idea that two powers interacting in a mutual manifestation "do the same thing, as Martin (and also among others, Heil, Mumford, and Anjum) appear to think", strikes Marmodoro as implausible:

> Many counterexamples are available from our everyday experience: the stove *heats* while the pot *is heated*, the sense organ *hears* while the guitar *sounds*, etc.[349]

The upshot of such counterexamples, as she seems to understand it, is that – dependent on the circumstances, namely the other powers in the vicinity – some powers *bring about* change while others *suffer* change. And this in turn appears to provide the metaphysical grounds needed to understand the former (*when* they bring about change) as agents, and the latter (*when* they suffer change) as patients.

But notice that, with respect to the 'counterexamples' just mentioned, Marmodoro slid back from (i) speaking of *properties-cum-powers* as doers (including causes of change) and sufferers to (ii) speaking of *objects*, the bearers of properties, as doers and sufferers. For one thing, it is not clear how the fact that, e.g., the stove heats while the pot is heated is compatible with, let alone leads to, the conclusion that it is *properties-cum-powers* which are doers and sufferers – the supposed basis for drawing the agent-patient distinction. More importantly, I have already suggested that to regard properties-cum-powers as capable of acting and undergoing change is to commit a category mistake – to lose sight of properties as *ways objects are* (and also to illicitly reify powers themselves). Indeed, the fact that it is objects rather than properties which are capable of acting and being acted upon seems borne out by the very 'counterexamples' Marmodoro employs above: e.g., it is the pot, rather than some property of the pot, which is heated. By being heated, the pot undergoes change in respect of one or more of its properties. It is not the case that those properties themselves undergo change: it is not literally true that, say, the pot's temperature itself undergoes some change. Rather, the pot itself undergoes a change – or, better, a series of changes – from one temperature, one way of being, to another.

Nonetheless, I do want to highlight a crucial insight in Marmodoro's approach: the idea that something involved in a 'causal interaction' can be *both active and passive* at the same time (or, at least, during the same overall 'interaction'). For example, when water and salt come into contact with one another, perhaps it is not just the case that the water (or individual molecules of water, or whatever) acts upon the salt by breaking relevant bonds; perhaps in addition to this the salt also acts causally, in some distinctive way, upon

---

[348] Marmodoro (2017), p. 72.
[349] Marmodoro (2017), p. 72.

the water. If this is so, I want to suggest, then what we have is a kind of 'composite' causal exchange – an 'interaction' which involves at least *two separate and distinct, irreducible* varieties of productive activity: that of the water upon the salt and that of the salt upon the water. Whether this is so with some or perhaps all individual instances of causation is an empirical rather than an a priori matter. But my point here is that the *SP Account* offers the resources to accommodate the idea of a genuine causal *inter*action of this sort – and does so in a way that does not require positing mysterious, irreducible 'joint' or 'collective' productive activities. I take this conclusion to hold against the examples cited by Heil (above) and Ingthorsson (2002)[350] – examples which were intended to show that there is no real, metaphysical distinction between agents and patients in causation.

7.4 Causes versus conditions (the 'roles' of events, properties, and other items in causation)

If it is individual objects alone which are *causes*, producers of effects, then what exactly are the 'roles' played in causation by events, properties, and other items?

7.4.1 An overview of the 'causal scene' on the SP Account

Consider what is present during a given (simple and fundamental) instance of causation, according to the *SP Account*. We have, first, *two objects* – one the agent, the other the patient. The agent-object's performing some type of productive activity upon the patient-object is precisely its bringing about a change of some relevant sort in the patient-object. Hence we have, in addition to the objects, at least two distinct events or processes on the scene: the *causal action* performed by the agent-object, and the event or process of the patient-object's undergoing the relevant sort of *change* in its properties (or perhaps relations). (This assumes that change-events really are irreducible existents in their own right; recall discussion in section 1.3.2.5.) A causing and a corresponding change in properties or relations are, of course, intimately connected: neither of these can occur without the other occurring at the same time (or over the same duration of time). But the two events or processes, though simultaneous, nonetheless appear to be distinct from one another, not only conceptually but metaphysically: one of them is a doing, a form of activity, the other a purely 'passive' change in the sense that the object suffering that change is not itself doing anything (so far as that change is concerned). Unlike causal agents, patients in causation do not literally *do* anything; whereas to exercise a 'causal

---

[350] See Ingthorsson (2002), pp. 87-119. There Ingthorsson attempts to analyze 'causal production', in much the same way Heil and other standard mutual manifestation theorists do, as the "mutual and equal action of two things upon each other" (p. 91).

power (to act)' is thus to perform a productive activity of some specific sort, to manifest a 'liability (to be acted upon)' is simply to undergo a change which is produced by another object acting upon oneself (as opposed to being a change which happens to one randomly or without cause).

In addition to the objects themselves, the causal action the agent-object performs, and the change undergone by the patient-object, there are also the various *causally relevant properties* of each of the objects – i.e. their qualities, their intrinsic *ways of being*. Objects do not produce changes in one another, and are not caused to undergo change, in some haphazard or purely random way for which there is no explanation at all available. Alongside any spontaneity or indeterminism which might exist in the world (see section 4.7.2), there is also a great deal of order and regularity which is readily observed, through both 'outward' observation and indeed introspection of our own conscious mental states, in the causal exchanges and interactions of objects in the world. Where does this order come from? It is *explained*, to adapt Heil's slogan, by the fact that objects do what they do – and have done to them what they have done to them – (i) because they are as they are *and* (ii) because they find themselves in conditions of appropriate sorts. In accordance with my *QT Account of Powers*, objects' properties – their various specific *ways of being* – are truthmakers, as far as their intrinsic features go, for a range of maximally-specific propositions about how those objects would act (including act causally), or be acted upon, in relevant circumstances. As truthmakers of this sort, objects' properties are enablers and therefore *explainers*. I return to the idea of causal explanation momentarily.

7.4.2 Background conditions and 'triggers' or 'stimuli'

I have just said that when objects cause (and undergo) changes of relevant sorts, they do so not only in virtue of their intrinsic properties, but also – at least in many cases – because of the circumstances in which they find themselves. Water does not dissolve salt when there is no salt around; an electron does not exert an attractive force upon a proton when there is no proton in its vicinity; etc. Causation occurs, we might say, only when certain *background conditions* are in place: not only must objects have qualities, intrinsic ways of being, which enable them to take part in a causal exchange of the relevant sort, but oftentimes circumstances (or states of affairs) 'outside of' the objects – that is, their immediate environment, at a minimum – must be a certain way in order to be conducive to the occurrence of such an exchange. Water and salt must, among other things, be brought into contact in an appropriate way (at least, assuming the relevant objects did not just begin to exist already in contact with one another). But though their *being* in contact is a necessary background condition for their interacting causally, this condition or state – or any event or process which was their being *brought into* contact, the 'onset' of such a condition – is not a *cause* of their interaction. Background conditions do not themselves

act upon objects to produce change; rather, they are conditions which are necessary for objects to act upon *one another* in appropriate ways. Nevertheless, background conditions – whether intrinsic features of objects (i.e., their qualities) or circumstances (states of affairs) in which objects find themselves – can themselves be *causal effects*, as when I act upon a handful of salt to bring it into contact with a glass of water (e.g., by placing it in the water, and then perhaps also by stirring it around with a spoon).

For standard 'mutual manifestation' theorists, any distinction between background conditions and causes is merely conceptual or linguistic rather than metaphysical – a product of our privileging some condition over others in our thinking about some instance of causation. This is because, for the mutual manifestation view, all such conditions – whether intrinsic to objects or having to do with their 'external' circumstances – ultimately get subsumed under the set or collection of properties supposedly involved in a 'mutual manifestation', where it is those properties, jointly or collectively, which count as the 'cause' of the effect of interest. But as I argued in Chapter 5, the mutual manifestation view, in its standard form, fails on the whole primarily because it fails to make any clear sense of the idea of *production* or *bringing-about*. On the *SP Account*, on the other hand, causings are precisely *productive activities* – and it is individual objects which are causes, because it is only individual objects which can literally act (or be acted upon). Neither the properties (ways of being) nor the activities of individual objects, or collections of objects, are themselves causes, because such things are incapable of themselves acting or doing.

For the substance causalist, the distinction between causes and 'background conditions' of various sorts – including both objects' properties and the external circumstances in which they find themselves – is therefore a genuine metaphysical distinction (i.e., one which 'carves at the joints'). The upshot is that, in addition to objects, their properties, and both causal actions and changes in objects' properties or relations, there are also typically a range of further relevant conditions, external to objects, which are 'on the scene' in causation. These conditions might themselves be the effects produced by objects in separate instances of causation – whether prior to or even simultaneous with the causal exchange of interest – or they might be wholly *uncaused*, e.g. because they are spontaneous in origin. (This is an empirical matter to be resolved on a case by case basis.)

Although we might privilege some part or subset of these background conditions as the 'trigger' or 'stimulus' of some further instance of causation, we should not be misled into thinking that a trigger or stimulus is literally *a cause of a causing*. Although I might 'trigger', say, a causal action by water upon salt by bringing the water and salt into contact with one another, I am not myself a cause of this causal action (by water upon salt) – for that causal action is not *itself* caused, i.e. produced or brought about. A causing, the bringing-about of an effect by an object, is not itself a change in the properties or relations of anything at all (including the object performing it), and thus is not an *effect*. To suppose

this means that causings are unexplainable, however, is to confuse causation with *causal explanation*. When a causing – a causal action, a specific variety of productive activity – occurs, this *is* explainable: namely, by the properties of the objects involved and by the circumstances in which they find themselves.

Notice that the distinction between causes and background conditions allows us to identify something that resembles a kind of *transitivity* in causation. When one object produces a change in another object, the causation involved here might be called "direct": it is a basic, fundamental instance of causation, a particular type of activity of one object upon another. But as we have just noted, background conditions that might be required for some object to exercise a causal power can themselves be effects produced in instances of direct causation. Insofar as one object *x* produces a change in another object *y*, where this change in *y* is a condition required for the exercise of some causal power of a further object *z*, we might say that an effect produced by *z* when it exercises that very power (in part because the relevant background conditions were in place) is produced 'indirectly' by *x*.

7.4.3 Causation versus causal explanation

The *SP Account* thus distinguishes causes, which are individual objects, from a variety of items which are relevant, in their own distinctive ways, to whether or not causation occurs – and thus are relevant to causal explanation. By "causal explanation" I mean to capture any explanation of the *whether* and the *why* concerning some variety of productive activity, i.e. some specific action of one object upon another. Causal explanations can be explanations of events which are now occurring or failing to occur, or else did or will occur or fail to occur. Or they can be explanations of modal propositions – propositions to the effect that some type of causing might or must, or else cannot, occur in relevant circumstances.

Taken together, the *QT Account of Powers* and *SP Account of Causation* tell us that when we want to know *why* one object performed (or is performing, or might or must perform, etc.), or failed to perform (etc.), some variety of causal action upon another object at some particular moment(s) in time, there are *two* places to look: first, at the intrinsic properties (qualities, ways of being) of the objects involved in that would-be causal exchange; and second, at the circumstances in which the objects were situated at the relevant times.

It should be noticed that this last point provides a straightforward answer to one of the main objections to substance causation cited in the literature – what is commonly called "Broad's objection". The objection starts by noticing that, being events, effects occur *at times*, and so must be caused *at times* to occur when they do. But substances persist

through times rather than occurring at times; hence, the objection goes, substances themselves cannot be causes. The *SP Account* answers this objection by appealing to its central notion of *causings*, which are themselves events or processes occurring at times – indeed occurring exactly simultaneous with the changes produced in causation, i.e. relevant effects. If we want to know why a causing occurred (or might or must occur, etc.) *at a particular time* (instead of, say, some other time), we need only look to the circumstances in which the agent-object and patient-object found themselves. For instance, the water began to cause the salt to become dissolved – this sort of causal action being a *process* – at t_1 *because* t_1 was the moment at which water and salt molecules came into contact with one another in appropriate circumstances.

Although causation does not consist in difference-making or counterfactual dependence, features of objects or their circumstances might well be difference-makers, such that whether an instance of causation (a relevant type of causing) occurs might 'depend counterfactually' upon whether those features were present in the appropriate way (e.g., whether the objects had the relevant properties, whether the requisite background conditions were in place, etc.).

7.5 Effects

7.5.1 Manifestations and effects

How, exactly, are manifestations of causal powers and liabilities related to the *effects* brought about in causation? A causal power (to act) is a power whose manifestation *consists in*, just is, its bearer's acting upon some other object, i.e. its causing or producing a change in the latter object. A non-causal power (to act), in turn, is a power whose manifestation does not so consist. When z acts upon y, z manifests a causal power (to act) while y manifests a causal liability (to be acted upon), and y thereby undergoes a change of an appropriate type. This change to y's properties (or perhaps relations) is itself an event, the event produced by z in this particular instance of causation – and this event is *distinct from* the event which is z's acting causally upon y. That is, z's causal action (upon y) and y's change (produced by z) are ontologically distinct occurrences, rather than difference descriptions of one and the same occurrence – though they are necessarily wholly simultaneous with one another: at any time when z is *causing y* to undergo some change in its properties or relations, b is and must be *undergoing* ('suffering') that very change.

7.5.2 'Simple' versus 'composite' effects

A further important distinction at which I have, to this point, only gestured is the distinction between (i) the effects which are produced by agent-objects in particular instances of causation and (ii) what might (somewhat misleadingly) be called 'composite effects'. Recall that the purpose of the *SP Account of Causation* is to make clear sense of the fundamental metaphysics of causation – of what causation amounts to *at root*. With this in mind, two points should be recognized concerning most of our everyday and perhaps even scientific talk about causation.

First, most such talk, even in the sciences, concerns 'macro-level' objects and phenomena: interactions between water and salt, rocks and windows, etc. As I have presented it, the *SP Account* is intended to be neutral with respect to whether or not purported causal exchanges involving these objects and phenomena are really *fundamental*, in the sense of being genuine and irreducible instances of causation. Perhaps, for instance, what we describe as water dissolving salt – even setting aside whether this might be a 'two-way' causal interaction, rather than only featuring the action of water upon salt – is really ontologically reducible to water molecules acting causally upon salt molecules in the relevant way (see the quotation from Marmodoro in section 7.3.2); or perhaps it is reducible even further than this, to the actions of, say, subatomic particles of the water molecules upon subatomic particles of the salt molecules. (The question here is, I would claim, metaphysical in nature; but answering it plainly relies upon understanding what the best fundamental physical theorists have to say about the matter.) Either way, what the *SP Account* does is provide a model or schema for understanding causation: it tells us to look for causation in the productive activities of objects, and to explain the occurrence (or non-occurrence) of this activity by appeal to both (i) the qualities of the objects involved and (ii) the circumstances in which those objects find themselves.

Second, whatever the correct position is regarding 'macro-level' causation, it seems plausible that many, if not most, of the causal 'effects' which are of interest to us, in both everyday and scientific contexts, are in fact really just complex *composites* or *sums* of causal effects (and perhaps other circumstances besides), as opposed to being 'simple' or 'fundamental' effects. (A 'composite' or 'sum', as I am using the terms here, is *not* something over and above the individuals involved – not a genuine 'addition of being', so to speak.) Consider Molnar's example of two horses pulling a barge down a canal, from opposite sides, from section 5.2.2. For Molnar, apparently, some relevant property-cum-power(s) of each horse makes a 'contribution' to the effect of the barge's moving in a straight line down the middle of the canal. My suggestion, however, is that a much better way of understanding the situation is as involving separate causal actions performed *by each horse*, with the outcome of the barge's moving down the canal being a 'composite'

not only of the separate effects produced by each horse independently, but also of the effects of a variety of other objects acting upon the barge: the pressure exerted by the atmosphere, the gravitational pull exerted by the earth, the upward buoyancy force exerted by the water in the canal, and perhaps more besides.

Put another way, the barge's moving in a straight line is not *itself* a fundamental (or 'simple') causal effect, because it is plainly not a change produced by a single object acting upon it (since multiple objects are acting upon the barge in different relevant ways). But, crucially, neither is the barge's moving down the canal a change produced *jointly* or *collectively* by multiple objects. The idea of 'joint' or 'collective' causal action, I submit, is likewise best understood as referring to a sum or composite of singular actions by individual objects, because this is ontologically simpler – yet just as explanatorily powerful – as attempting to make sense of the idea of a fundamental, irreducible instance of *production* or *bringing-about* by objects working together.

The same sort of conclusion might be drawn concerning any causal interaction of water and salt (or water molecules and salt molecules, etc.). Suppose that when water and salt come into contact in appropriate circumstances, each necessarily performs a causal action upon the other – so that the overall 'interaction' is a 'two-way', 'reciprocal' affair. We might refer to the outcome of this two-way interaction as, say, 'salt-water'; my claim is that this 'result' is a composite or sum of the individual actions of *each of* the water and the salt upon each other – rather than, say, a single, irreducible effect produced by the two objects acting 'jointly'.

7.6 Summary and appraisal of the SP Account

In this chapter, I joined my *QT Account of Powers* to the idea that causation-qua-production is, at root, a matter of specific varieties of *causal actions* of objects upon one another – generating an approach that I call the *Substances as Producers (SP) Account of Causation*.

This approach appears to meet the desiderata set out in section 5.1.3. First and foremost, it finds a real place for the notion of production in causation: there is not some one type of activity or relation which is production, but rather a family of types of activities which bear a resemblance to one another: they each consist in one object's acting upon another so as to produce a change in the properties (or relations) of the latter. The *SP Account*, in other words, makes sense of production or bringing-about by reference to specific varieties of *causal action*. As discussed in sections 4.2 and 7.2.2, we have good prima facie reason for believing that there really are activities, including causal activities, in the world – reasons that start from our own first-person experiences of performing and suffering causal actions of various specific types.

The *SP Account* also tells us where, precisely, to look for causal explanations: namely, in the intrinsic qualities of the objects involved and causal exchanges *plus* the circumstances in which those objects find themselves. In relation to this, by pointing us to the *truthmakers* for modal propositions concerning how objects either could or would act causally, or be acted upon, in appropriate circumstances, the account offers the resources needed to organize our disparate everyday ways of speaking about causation in a manner that can succeed in 'carving reality at the joints'. Although it might be innocuous to speak, in various everyday and scientific contexts, in terms of properties or events as causes, the account reminds us that, insofar as causing means *producing*, it is only individual objects which can count as causes, because it is only objects which are capable of literally acting and being acted upon. In this respect the *SP Account* conforms with both the 'neo-Aristotelian' substance ontology assumed in Chapter 1 *and* with our commonplace experiences of performing and suffering various types of productive activity.

Conclusion

My primary aim in this thesis was to begin to defend what I call the *Qualities as Truthmakers (QT) Account of Powers* – a 'quasi-realist' approach which regards reference to powers as a convenient 'shorthand' for a special kind of truthmaking relation. Starting with basic elements of a neo-Aristotelian substance ontology as the needed ontological foundation, I argued that the *QT Account* can successfully account for power-ascriptions strictly in terms of objects' properties without suffering any of the conceptual difficulties faced by the realist, who supposes that powers themselves must be genuine existents of some kind. In addition to this substance ontology, according to which individual objects have a kind of priority over existents from any other ontological category, two other elements are central to the defense of the *QT Account* offered here. The first of these is a commitment to the idea that there really is genuine *activity* in the world – a claim supported, in the first place, by our own first-person experiences of performing and suffering activities, including causal activities, of different specific types. The second is the belief that at least some propositions – and in particular, what I call 'maximally specific' propositions about how objects either could or would behave in appropriate circumstances – require *truthmakers*, existents in virtue of which they are true, when they are.

After outlining and beginning to make the case for the *QT Account*, I applied that account, in concert with the substance ontology and the two elements just named, to the question of what causation consists in. The result is the *Substances as Producers (SP) Account of Causation*, according to which causation is always, at root, a matter of one object's performing some particular type of productive activity upon another. If the *SP Account* ultimately succeeds in meeting relevant desiderata for a theory of causation, this would boost the overall, 'holistic' case for the *QT Account* and the commitments (substance ontology, activities, and truthmaking) upon which it is built.

A more comprehensive defense of the *QT Account* would not only do more to explain and justify these important commitments, but would go on to show how the approach can be usefully applied to issues further 'downstream' in metaphysics, including modality and laws of nature. To this end, we might begin by noticing that the propositions of primary interest to the account – 'maximally specific' propositions, which specify relevant actions and circumstances in the most fine-grained ways possible – are precisely *modal* propositions, i.e. propositions which concern how objects either (merely) could or else would behave in appropriate circumstances. This suggests a way of accounting for modality, i.e. for possibility and necessity: namely, in terms of the qualities, genuine intrinsic properties, of those objects involved in some way in the various specific circumstances of interest.

Moreover, it hints at one possibility for building laws of nature 'from the ground up', so to speak: by understanding laws in terms of maximally specific propositions applied not

to individual objects, but to *types* or *classes* of objects – objects unified in various ways, say, in terms of certain of the properties they possess. Thus whereas a maximally specific proposition of the form <*x* would ϕ in *C*> is true of some *particular* object *x*, a quite specific law of nature might take a form along the lines of <for any object *x* of type *T*, *x* would ϕ in *C*>, where to be an instance of type *T* is to possess certain specific properties, i.e. to *be certain ways*. These would not be mysterious 'governing' laws, but rather laws of nature understood as propositions concerning what objects of the relevant *types* either could or would do, including how they might interact with one another, in various kinds of specific circumstances – the explanation for such behavior ultimately consisting in an appeal not to the laws themselves, but to qualities of the relevant objects.

Bibliography

Anscombe, G.E.M. (1993 [1971]), "Causality and Determination", in *Causation*, Ernest Sosa and Michael Tooley (eds.) (Oxford: Oxford University Press), pp. 88-104.

Armstrong, D.M. (2005), "Four Disputes about Properties", *Synthese* Vol. 144 No. 3 (Dispositions and Laws of Nature), pp. 309-320.

Armstrong, D.M. (2010), *Sketch for a Systematic Metaphysics* (Oxford, Oxford University Press).

Bird, Alexander (2007), "The Regress of Pure Powers?", *The Philosophical Quarterly*, Vol. 57, No. 229, pp. 513-534.

Bird, Alexander (2016), "Overpowering: How the Powers Ontology has Overreached Itself", *Mind* Vol. 125, pp. 341–383.

Broad, C.D. (1926), *The philosophy of Francis Bacon: An address delivered at Cambridge on the occasion of the Bacon tercentenary* (Cambridge: Cambridge University Press).

Buckareff, Andrei (2017), "A Critique of Substance Causation", *Philosophia* 45 (3), pp. 1019-1026.

Carnap, Rudolph (1936), "Testability and Meaning", *Philosophy of Science* 3, pp. 420-471.

Carnap, Rudolph (1937), "Testability and Meaning (cont'd)", *Philosophy of Science* 4, pp. 1-40.

Cartwright, Nancy and John Pemberton (2013), "Aristotelian Powers: Without Them, What Would Modern Science Do?", in *Powers and Capacities in Philosophy: The New Aristotelianism*, Ruth Groff and John Greco (eds.) (New York: Routledge), pp. 93-112.

Choi, Sungho (2006), "The Simple vs. Reformed Conditional Analysis of Dispositions", *Synthese* 148, pp. 369-379.

Choi, Sungho (2008), "Dispositional Properties and Counterfactual Conditionals", *Mind* 117, pp. 795-841.

Choi, Sungho and Michael Fara (2018), "Dispositions", *The Stanford Encyclopedia of Philosophy* (Fall 2018 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/fall2018/entries/dispositions/>.

Dodd, Julian (2002), "Is Truth Supervenient on Being?", *Proceedings of the Aristotelian Society* 102, pp. 69-85.

Ellis, Brian (2010), "Causal Powers and Categorical Properties", in *The Metaphysics of Powers*, Anna Marmodoro (ed.) (New York: Routledge), pp. 133-142.

Godfrey-Smith, Peter (2010), "Causal Pluralism", in *The Oxford Handbook of Causation*, Helen Beebee, Peter Menzies, and Christopher Hitchcock (eds.) (Oxford: Oxford University Press), pp. 326-337.

Gundersen, Lars (2002), "In Defence of the Conditional Account of Dispositions", *Synthese* 130, pp. 389-411.

Hall, Ned (2004), "Two Concepts of Causation", in *Causation and Counterfactuals*, John Collins, Ned Hall, and Laurie Paul (eds.) (Cambridge, MA: MIT Press), pp. 225-276.

Heil, John (2003), *From an Ontological Point of View* (Oxford: Oxford University Press).

Heil, John (2004), "Properties and Powers", in *Oxford Studies in Metaphysics*, Vol. 1, Dean Zimmerman (ed.) (Oxford: Oxford University Press), pp. 223-254.

Heil, John (2005), "Dispositions", *Synthese* Vol. 144 No. 3, pp. 343-356.

Heil, John (2010), "Powerful Qualities", in *The Metaphysics of Powers*, Anna Marmodoro (ed.) (New York: Routledge), pp. 58-72.

Heil, John (2012), *The Universe as We Find It* (Oxford: Oxford University Press).

Heil, John (2017), "Real Modalities", in *Causal Powers*, Jonathan D. Jacobs (ed.) (Oxford: Oxford University Press), pp. 90-104.

Heil, John (2020), "Ontology of Powers", in *Dispositionalism: Perspectives from Metaphysics and the Philosophy of Science*, Anne Sophie Meincke (ed.) (Cham, Switzerland: Springer), pp. 13-26.

Hoffman, Joshua (2012), "Neo-Aristotelianism and Substance", in *Contemporary Aristotelian Metaphysics*, Tuomas Tahko (ed.) (Cambridge: Cambridge University Press), pp. 140-155.

Hume, David (1975), *David Hume Enquires Concerning Human Understanding and Concerning the Principles of Morals*, L.A. Selby-Bigge (ed.) (Oxford: Clarendon Press).

Illari, Phyllis and Federica Russo (2014), *Causality: Philosophical Theory Meets Scientific Practice* (Oxford: Oxford University Press).

Ingthorsson, R.D. (2002), "Causal Production as Interaction", *Metaphysica* 3, pp. 87-119.

Jacobs, Jonathan D. (2011), "Powerful Qualities, Not Pure Powers", *The Monist*, Vol. 94, No. 1, pp. 81-102.

Jacobs, Jonathan D. (2017), "Introduction", in *Causal Powers*, Jonathan D. Jacobs (ed.) (Oxford: Oxford University Press), pp. 1-6.

Kuykendall, Davis (2019), "Powerful Substances Because of Powerless Powers", *Journal of the American Philosophical Association* Vol. 5, Issue 3, pp. 339-356.

Lewis, David K. (1973), "Causation", *The Journal of Philosophy*, Vol. 70, No. 17, Seventieth Annual Meeting of the American Philosophical Association Eastern Division (Oct. 11, 1973), pp. 556-567.

Lewis, David K. (1986a), *On the Plurality of Worlds* (Oxford: Blackwell).

Lewis, David K. (1986b), *Philosophical Papers* Volume II (Oxford: Oxford University Press).

Lewis, David K. (1997), "Finkish Dispositions", *The Philosophical Quarterly* 47, pp. 143-158.

Lewis, David K. (2001), "Truthmaking and Difference-Making", *Noûs* 35, pp. 602-615.

Lombard, Lawrence (1986), *Events: A Metaphysical Study* (London: Routledge & Kegan Paul).

Lowe, E.J. (2006), *The Four-Category Ontology: A Metaphysical Foundation for Natural Science* (Oxford: Oxford University Press).

Lowe, E.J. (2008), *Personal Agency: The Metaphysics of Mind and Action* (Oxford: Oxford University Press).

Lowe, E.J. (2010), "On the Individuation of Powers", in *The Metaphysics of Powers: Their Grounding and their Manifestations*, Anna Marmodoro (ed.) (Routledge: New York), pp. 8-25.

Malebranche, Nicolas (1997), *Dialogues on Metaphysics and on Religion*, Nicholas Jolley and David Scott (eds.) (Cambridge: Cambridge University Press).

Manley, David and Ryan Wasserman (2008), "On Linking Dispositions and Conditionals", *Mind*, 117, pp. 59-84.

Marmodoro, Anna (2017), "Aristotelian Powers at Work: Reciprocity without Symmetry in Causation", in *Causal Powers*, Jonathan D. Jacobs (ed.) (Oxford: Oxford University Press), pp. 57-76.

Martin, C.B. (1992), "Power for Realists", in *Ontology, Causality, and Mind: Essays in Honour of D.M. Armstrong*, John Bacon, Keith Campbell, and Lloyd Reinhardt (eds.) (Cambridge: Cambridge University Press), pp. 175-186.

Martin, C.B. (1996), "Replies to Armstrong and Place", in *Dispositions: A Debate*, David M. Armstrong, C.B. Martin, and U.T. Place, Tim Crane (ed.) (London: Routledge), pp. 126-146.

Martin, C.B. (2007), *The Mind in Nature* (Oxford, Oxford University Press).

Martin, C.B. and John Heil (1999), "The Ontological Turn", *Midwest Studies in Philosophy* 23, pp. 34-60.

Mayr, Erasmus (2011), *Understanding Human Agency* (Oxford: Oxford University Press).

Menzies, Peter (2009), "Nature's Metaphysics" (review), *Analysis* 69, pp. 769-778.

Millican, Peter (ed.) (2002), *Reading Hume on Human Understanding* (Oxford: Oxford University Press).

Molnar, George (2003), *Powers: A Study in Metaphysics*, Stephen Mumford (ed.) (Oxford: Oxford University Press).

Mumford, Stephen (2004), *Laws in Nature* (London: Routledge).

Mumford, Stephen (2008), "Powers, dispositions, properties or a causal realist manifesto", in *Revitalizing Causality: Realism About Causality in Philosophy and Social Science*, Ruth Groff (ed.) (New York: Routledge), pp. 139-151.

Mumford, Stephen (2009), "Causal Powers and Capacities", in *The Oxford Handbook of Causation*, Helen Beebee, Christopher Hitchcock, and Peter Menzies (eds.) (Oxford: Oxford University Press), pp. 265-287.

Mumford, Stephen (2013), *Causation: A Very Short Introduction* (Oxford: Oxford University Press).

Mumford, Stephen (undated), "Hidden Powers", interviewed by Richard Marshall for *3:AM Magazine*, <https://316am.site123.me/articles/hidden-powers/>.

Mumford, Stephen and Rani Lill Anjum (2011), *Getting Causes from Powers* (Oxford: Oxford University Press).

Mumford, Stephen and Rani Lill Anjum (2012), "Causal Dispositionalism", in *Properties, Powers and Structures: Issues in the Metaphysics of Realism*, Alexander Bird, Brian Ellis, and Howard Sankey (eds.) (New York: Routledge), pp. 91-107.

Mumford, Stephen and Rani Lill Anjum (2018), "Dispositionalism: A Dynamic Theory of Causation", in *Everything Flows: Towards a Processual Philosophy of Biology*, Daniel J. Nicholson and John Dupré (eds.) (Oxford: Oxford University Press), pp. 61-75.

O'Conaill, Donnchadh (2020), "Carving Reality at the Joints", Donnchadh O'Conaill and Naomi Thompson, online discussion on *Letter*, <https://letter.wiki/conversation/723>.

Prior, Elizabeth, Robert Pargetter, and Frank Jackson (1982), "Three Theses about Dispositions", *American Philosophical Quarterly* 19, pp. 251-257.

Psillos, Stathis (2009), "Regularity Theories", in *The Oxford Handbook of Causation*, Helen Beebee, Christopher Hitchcock, and Peter Menzies (eds.) (Oxford: Oxford University Press), pp. 131-157.

Rodriguez-Pereyra, Gonzalo (2005), "Why Truthmakers", in *Truthmakers: The Contemporary Debate*, Helen Beebee and Julian Dodd (eds.) (Oxford: Oxford University Press), pp. 17-31.

Shoemaker, Sydney (1999), "Causal and Metaphysical Necessity", *Pacific Philosophical Quarterly*, Vol. 79, pp. 59-77.

Shoemaker, Sydney (2003 [1980]), 'Causality and Properties', in *Identity, Cause and Mind*, expanded edition (Oxford: Oxford University Press), pp. 206-233.

Steward, Helen (2012), *A Metaphysics for Freedom* (Oxford: Oxford University Press).

Strawson, P.F. (1992 [1985]), "Causation and Explanation", in *Analysis and Metaphysics: An Introduction to Philosophy* (Oxford: Oxford University Press), pp. 109-132.

Swinburne, Richard (1980), "Properties, causation, and projectability: Reply to Shoemaker", in *Applications of Inductive Logic Proceedings of a Conference at the Queen's College*, L.J. Cohen and M. Hesse (eds.) (Oxford: Clarendon Press), pp. 313-320.

Taylor, Henry (2018), "Powerful Qualities and Pure Powers", *Philosophical Studies* 175, pp. 1423-1440.

Vihvelin, Kadri (2013), *Causes, Laws, and Free Will: Why Determinism Doesn't Matter* (Oxford: Oxford University Press).

Whittle, Ann (2016), "A Defense of Substance Causation", *Journal of the American Philosophical Association* 1, pp. 1-20.

Williams, Neil E. (2011), "Putting Powers Back on Multi-Track", *Philosophia* 39, pp. 581-595.

Williams, Neil E. (2019), *The Powers Metaphysic* (Oxford: Oxford University Press).