

## INTRODUCTION

### The importance of properties

*A.R.J. Fisher and Anna-Sofia Maurin*

#### Abstract

In this chapter, we introduce the perennial and sometimes sprawling topic of properties, with a brief historical sketch from Ancient to Modern philosophy throughout various cultures and traditions. We argue that the importance of properties can be shown by explaining what explanatory work they can do in philosophical theorising across many areas of philosophy. The chapters in this volume do just that in their specific ways. We also outline the structure of the volume and summarise each Part, first describing the larger context of each Part and then the upshot of each chapter.

Properties are everywhere. When Edith May Smith says this lemon is yellow, she has thereby attributed the property *being yellow* to the lemon. When a physicist references a law of nature she has picked out properties that exhibit some sort of instantiation pattern. When an ethicist talks about an action being right or wrong she presupposes that there are moral properties attributable to actions. When a philosopher of mind wonders about the causal efficacy of the mental state of pain she presupposes that there are mental properties. If properties are everywhere, questions about them need to be addressed at some point: do properties really exist? If they exist, what are they? What roles do they play in our theorising? How do properties figure in and impact debates in philosophy?

Properties is one of the oldest topics in philosophy. It appears in various intellectual traditions and cultures – East and West – dating back to the birth of philosophy. In Ancient Greek thought, Plato proposed a theory of forms as eternal existents, while Aristotle argued that universals exist only in their instances. The Nyāya school of Hindu philosophy argued for the existence of universals over and above their instances; since instances are understood as particular qualities (tropes) the Nyāya are read as positing tropes with universals. Buddhist philosophers such as Dharmakīrti pushed back against Nyāya-Vaiśeṣika realism, advocating a nominalist ontology of transitory particulars (see Kumar 1997). In the Islamic tradition, Ibn Sina and Ibn Rushd

developed various Aristotelian insights about properties within their own novel frameworks. In the Latin West, medieval Scholastics such as Abelard, Aquinas, Ockham, and Duns Scotus debated and occupied differing positions on the reality of universals (Spade 1994), not to mention later Scholastics such as Francisco Suarez (Ross 1962), all of whom offered theories of relations (see Henninger 1989). The Early Modern period is no different. It had its own preoccupation with universals sometimes framed in terms of general *ideas*; think here of such British Empiricists as Locke, Berkeley, Hume, and Mary Shepherd (see Weinberg 1965).

In the nineteenth century, F.H. Bradley, in the British Idealist tradition, analysed the concept of quality and relation as given in experience and found trouble placing such things in his Absolute idealism, with the main problem being dubbed Bradley's regress (Bradley 1893: ch. 2). In Bertrand Russell's realist phase, he first postulated universals to account for a priori knowledge (Russell 1912: chs. 9-10) and later a bundle theory of universals according to which substances are complexes of universals (Russell 1940: 97-98). Russell's influence forwarded discussion of properties in the Western tradition and kept alive an interest in the problem of universals. G.F. Stout's theory of abstract particulars also proved influential in England and America (Stout 1921), impacting Donald C. Williams's theory of tropes (Williams 1953a, 1953b), and generating further exploration of these concepts. For instance, Helen Knight's defence of resemblance nominalism is a result of her criticism of Stout's theory (Knight 1936), which prompted Stout to restate his theory (Stout 1936). In American philosophy, C.S. Peirce's three category system included qualities and relations. Other American philosophers, who are sometimes described as doing speculative philosophy, also treated these questions with importance. W.P. Montague, to give one example, argued for Platonic universals (Montague 1940: ch. 6). As we progress into the middle of the twentieth century and into the world of analytic philosophy, we reach key concepts that continue to impact philosophy today such as W.V. Quine's conception of ontology and his efforts to salvage some coherent understanding of the debate about universals in light of ridicule from logical positivism and ordinary language philosophy (Quine 1948; for one overlooked criticism, see de Laguna 1951: 19). From this, along with the recovery of metaphysics, more and more articles and books on properties begin to appear (e.g., Loux 1970). In the second half of the twentieth century and now in the twenty-first century, the topic of properties continues to be taken seriously in the analytic tradition.

The heart of the topic falls within metaphysics, but it has wide-ranging impact on and relevance to most areas of philosophy. The roles that properties play demonstrate the importance and relevance of properties. Let us distinguish between the use-question and the nature-question. The use-question asks after the way that properties are *used* in philosophical theorising. The nature-question asks after the *nature* of properties, that is,

what properties are. As David Lewis remarked, a conception of something can be individuated in terms of its theoretical role. He even made this general remark in the context of properties (Lewis 1986: 55). There is not just one property-role, but rather several of them. A property-role can be specified according to explanatory interest, content or purpose. We can specify the property-role as the role of grounding resemblances among things or as the role of something that is the semantic value of an abstract, singular term. Each specified role corresponds to a distinct conception of properties. A study of the various roles that properties play and a development of a specific role in some domain of inquiry is fruitful for appreciating the explanatory pervasiveness of properties and also for shedding light on what properties are like. This in turn allows us to meet the nature-question halfway, because by filling a role a property needs to be or behave in a specific way. Thus certain candidate properties are suitable for some jobs but perhaps not for all. Finally, by showing how properties fill a variety of roles properties explain (in some sense of ‘explain’) phenomena that other philosophers beyond metaphysics find interesting. If properties (say) serve a purpose in constructing a theory of laws of nature or if properties play a crucial role in explaining social structures or processes in the social world, properties (and relations) become more relevant and even more interesting (Swoyer 1999: 101).

This volume collects new essays on this perennial and sometimes sprawling topic by philosophers specialised in the field. It aims to survey and investigate properties from a methodological, conceptual, and ontological point of view. It also aims to explore what role properties play in other areas of philosophy such as philosophy of science, language, mind, ethics, aesthetics and the social world. In so doing this volume doesn’t just tell you *that* properties are relevant it shows you *how* properties are relevant and thereby important for contemporary philosophy. This volume is divided into nine parts. The first part concerns methodological issues about the *existence* of properties, covering metaontological principles that lead to positing properties (e.g., quantification, truthmaking). The second part is about conceptual issues, specifically the following key distinctions: universal/particular, abstract/concrete, property/relation, intrinsic/extrinsic, essential/accidental, determinate/determinable. The next three parts investigate the *nature* of properties, exploring the best ways to answer the nature-question: properties as universals (Platonic or Aristotelian), nominalism and its variants (from ostrich nominalism to class nominalism), and properties as tropes (varieties of trope theory). In the remaining parts of the volume, applications of properties are considered by interacting with another prominent topic in metaphysics (causation, time, and modality) or by entering an established area of philosophy: philosophy of science, language, mind, ethics, aesthetics and the social world. These latter parts of the volume address the use-question, thus explaining what work properties can and must do in philosophy.

Part 1 covers methodological and metaontological considerations that arise in debates about properties. Some arguments for the existence of properties employ Quine's criterion of ontological commitment. If to be is to be the value of a bound variable, whatever we quantify over in a suitably regimented language will be among the entities we are ontologically committed to. This cuts a number of ways. Traditionally, the nominalist has argued that since we do not need to quantify over properties to account for predication we do not need to admit properties into our ontology. The statement that  $a$  is  $F$  is regimented as there is an  $x$  such that  $x$  is  $F$ . But we might turn to the behaviour of quantifiers in other settings and find that certain claims motivate a quantificational approach to reasoning about properties after all. In Chapter 1, Nicholas K. Jones explores departures from the Quinean paradigm by probing the quantificational phrase 'what there is' and looks at ways in which predicates might be a source of ontological commitment.

The nominalist not only has a Quinean criterion of ontological commitment in her toolbox but also the method of paraphrase. When a sentence seemingly commits us to the existence of something, say some biological species, we might offer a paraphrase such that the meaning of the seemingly committal statement is preserved in a new statement that lacks the original quantification. Paraphrasing away claims that quantify over properties allows us to avoid a commitment to properties. In Chapter 2, John A. Keller evaluates various ways that paraphrase might be used to block the existence of properties. Paraphrase raises its own questions such as how does the paraphrased statement relate to the paraphrasing statement? Why is one statement preferred when the two supposedly have the same meaning? The discussion by Keller goes some way in offering a general interpretation of the method of paraphrase that can be applied to debates beyond properties.

Another metaontological tool has since been developed, stemming from the truthmaker principle first proposed in analytic metaphysics by D.M. Armstrong (1989, 2004). The intuition behind this principle is that truth depends on reality. The principle that captures this intuition usually turns out to be a principle about all truths, stating that every truth has a truthmaker. The truthmaker principle has been developed as a metaontological principle at the hands of Armstrong such that the entities admitted into our ontology are the truthmakers. In Chapter 3, Bradley Rettler considers the notion of truthmaking and the corresponding truthmaker principle when used in the service of positing properties. It seems that one use of the truthmaker principle implies that properties should serve as truthmakers.

Yet another methodological breakthrough that has impacted the metaphysics of properties and beyond is the distinction between natural and non-natural properties. Armstrong argued for a break between predicate and property such that it is not the case that for any predicate there is a corresponding property (Armstrong 1978b: 12). One

motivation for this is *a posteriori realism*: science tells us the specifics of the kinds of entities that exist in our ontology, not language. With this break between semantics and ontology he realised that universals play certain roles in our theorising. For instance, universals account for genuine resemblance among particulars and account for the causal powers of things. He also used universals to explain the nature of a law. The law that all Fs are Gs is explained in part by the fact that the universals *F* and *G* are related by necessitation relation *N* (Armstrong 1983). Lewis noticed that the work that Armstrong's universals do 'must be done' (Lewis 1983: 343), even if one holds fast to a nominalist theory. For Lewis, then, properties are classes of things (as per class nominalism) and universals are entities that carve nature at its joints. If universals are not admitted, natural properties are elite classes of things. Lewis's goal was to systematise the concept of a natural property, thereby showing that the distinction is highly serviceable. If so, the distinction should be taken as real and as joint-carving. In Chapter 4, Eleanor Taylor surveys the landscape of this fundamental distinction in theorising about properties, including the consideration that the distinction is, after all, not an objective one.

Part 2 encompasses questions about basic concepts in debates about properties as well as key distinctions that are used to construct theories of properties. In debates about properties philosophers often use terms of art with distinct meanings from different perspectives. Words like 'universal', 'abstract', and even 'property' (along with 'quality', 'attribute', 'character', 'kind') do not always have the same meaning. As a result, terminology is a mess. If terminology is a mess, so too are the meanings of the concepts that answer to the terms. Hence, cleaning up some of the mess will go some way towards improving clarity on the topic of properties.

In Chapter 5, Daniel Giberman explores different ways in which universals can be distinguished from particulars. He argues that it is difficult to say what makes a universal distinctive, because the standard proposals such as that only universals can be instantiated and that only universals can be multi-located are subject to counterexamples. In Chapter 6, Sam Cowling looks at the abstract/concrete distinction in a similar vein, concluding that it is difficult to find a trouble-free analysis of it. He also discusses whether a property if abstract is essentially abstract, which raises more complications for what is typically regarded as a less controversial distinction in debates about properties. In Chapter 7, Fraser MacBride discusses the existence and nature of relations. He argues that relations are genuine items in the world distinct from properties and that relations play a crucial role in explaining the fact that things in the world manifest relatedness. This leads to an investigation into focused topics on internal relations and asymmetric relations. In Chapter 8, Vera Hoffmann-Kolss addresses the distinction between intrinsic and extrinsic properties. She is concerned with finding an analysis of the distinction in terms of the notion of a natural property or the grounding relation. Her ultimate conclusion is that the

intrinsic/extrinsic distinction is hyperintensional and vague. In Chapter 9, Fabrice Correia explores leading approaches to the distinction between essential and accidental properties: the modal and the (Aristotelian) essence approach. He provides a nuanced discussion centred on the question of whether A-essential properties are M-essential, surveying reactions to the highly discussed objection (due to Kit Fine) that certain necessary properties of an object are not, intuitively, part of the essence of that object. In Chapter 10, Eric Funkhouser examines the relation between a determinable (red) and its determinates (crimson, scarlet, etc). He considers competing theories of this relation, namely, asymmetric necessitation accounts, property space or determination dimension models, and causal subset accounts.

Part 3 consists of chapters on the realist answer to the nature-question: what is a property? The realist says that properties (and relations) are universals. Starting with the very old problem of universals, also known as the one over many, some headway can be made on the nature-question. Consider two lemons. Admittedly, they are two tokens of the same type. When we look around for other examples, we notice that the type/token distinction is everywhere and so cries out for explanation. A straightforward, perhaps intuitive, way to explain the distinction is to say that there are many tokens of the same type, where the type is a universal, a one over many (Armstrong 1978a: xiii). Realism comes in two main variants: transcendent (Platonic) realism and immanent (Aristotelian) realism. Part 3 presents standard motivations for transcendent and immanent realism as well as recent defences and criticisms of these variants. Chapters in this part also consider new routes to the existence of universals and new work on how universals are multiply located.

In Chapter 11, Chad Carmichael discusses varieties of transcendent realism and defends the modal argument that the logical form of necessary truths indicates that there are Platonic universals. In Chapter 12, Bo R. Meinertsen focuses on immanent realism. On this view, universals are not subsistent in some abstract realm of being, but instead are wholly present in their instances. Such a view involves reference to the notion of a state of affairs. The state of affairs of *a's being F* has an immanent universal as one component, inside the state of affairs, as it were. For someone like Armstrong, this universals theory is less problematic than others (such as Platonic variants) because the explanation for why *a* is *F* is in terms of internal, intrinsic components of the particular. If there are states of affairs, questions remain about how the components are united together. This leads to debates about relational and non-relational immanent realism. Meinertsen presents competing theories of immanent realism with the notion of a state of affairs in full view. In Chapter 13, Nikk Effingham analyses the ways in which a universal might be located. For any theory of universals this question needs to be answered, especially because one reason that philosophers have given for arguing that universals cannot exist is that it is

unclear how they exist. Compared to the locative behaviour of particulars, universals have an unfamiliar way of being located, but if it can be made more familiar then the realist about universals has batted away one line of criticism. In Chapter 14, Jiri Benovsky tackles theories of universals that attempt to construct a one-category ontology of universals. The traditional way to do this is to propose that a particular or a substance is a bundle (somehow) of universals. If each substance is a bundle of universals, there is no reason to posit substance as a fundamental ontological category. Instead there is one fundamental category, namely, that of universal, and substances are built out of universals. One lingering question for this theory is how universals come together to ground the ‘substantial unity’, to use a phrase from A.E. Taylor (1946: 133), of the things familiar in ordinary experience such as that car or this chair.

Part 4 is on the nominalist answer to the nature-question. Nominalism is the classic response to realism about universals. Nominalism either denies that there are properties at all (ostrich nominalism) or says that properties are classes, where a class is not a universal. There are many versions of nominalism, but nominalists are united behind the thesis that there are only particulars. A central motivation for nominalism is Ockham’s razor and the naturalist/empiricist reaction to universals. If nominalism works, it is in good stead against realism. Part 4 deals with arguments for varieties of nominalism (ostrich nominalism, class nominalism, resemblance nominalism) and arguments against these varieties, especially in light of recently regimented concepts in metaphysics such as grounding and fundamentality.

In Chapter 15, Michael Devitt presents the latest reactions on behalf of the ostrich nominalist. The ostrich nominalist says that the contingent predication ‘*a* is *F*’ and also ‘*a* and *b* have something in common’ do not lead us to posit universals. The first statement does not need a truthmaker and no explanation is needed to say why *a* is *F* in any metaphysical sense. In Chapter 16, Gonzalo Rodriguez-Pereyra outlines class nominalism and resemblance nominalism in a truthmaker framework and tackles head on the coextension problem for both theories. To illustrate the class nominalist version of the problem: if properties are classes, the identity conditions of properties are reduced to the identity conditions of classes; but classes are individuated in terms of class-membership; hence, certain properties that are intuitively distinct will turn out identical. In Chapter 17, Guido Imaguire presents two new versions of nominalism: priority nominalism and grounding nominalism. He also explains how the problem of universals can be recast using the concept of grounding. In Chapter 18, Jody Azzouni looks at how the nominalist programme has fared in debates in the philosophy of mathematics. This front is pressing for the nominalist because of the traditional challenge from realists (such as Platonic realists) in this domain. The challenge, as Azzouni documents, is how the nominalist can

find suitable referents for mathematical discourse, especially when mathematical terms seem to refer to abstract objects.

Part 5 concerns the trope theoretic answer to the nature-question: properties are tropes. Trope theory is its own distinctive theory of properties for a number of reasons. In one respect it falls under nominalism because all the entities in trope ontologies are particulars. However, trope theorists accept the existence of properties. On the other hand, some trope theorists dislike the existence of Platonic entities (we won't call them abstracta, because some trope theorists say that tropes are abstract). Trope theory, then, is a form of moderate nominalism. Some trope theorists say that a trope is a particular property of an object (substance-attribute version). Other trope theorists say that a trope is an abstract or thin particular that is a constituent of an object (bundle version). The bundle version is a one-category ontology of tropes. Part 5 presents classic and recent interpretations of trope theory and discusses newer issues such as the question of whether there are conceptually distinct kinds of trope.

In Chapter 19, Douglas Ehring surveys three trope nominalist theories: standard trope nominalism, resemblance trope nominalism, and natural class trope nominalism. These three theories differ with respect to how the nature of a trope is explained. For instance, resemblance trope nominalism says that a trope is what it is because it resembles other duplicate tropes, whereas for standard trope nominalism it is a primitive fact that a trope is what it is and so in virtue of its nature tropes ground facts of resemblance among tropes. Ehring argues for natural class nominalism, detailing how it overcomes obstacles that the other two trope nominalisms are stuck with. In Chapter 20, Robert K. Garcia points out that the concept of a trope admits of an important distinction between modifier tropes and module tropes. One difference between these two kinds of trope is that a module trope is self-exemplifying and a modifier trope is not. A red trope qua module is red, but a red trope qua modifier is not red. Garcia notes that modifier tropes do a great job of explaining some things (like powers and fundamental determinables) and that module tropes do a great job of explaining other things (like perception and causation). But neither kind of trope explains all these things, which detracts from the unity of trope theory and reveals explanatory limitations that the trope theorist should address. In Chapter 21, Markku Keinänen and Jani Hakkarainen survey different versions of the trope bundle theory of substance. Paradigmatic trope bundle theorists claim that a substance is a sum of concurring tropes contingently united in the same spacetime region. More recent trope bundle theories move away from this approach and speculate that certain tropes of some bundle must be specifically related to each other, which means that these tropes are inter-dependent in some modally rigid way. In Chapter 22, Anna-Sofia Maurin investigates the nature and existence of trope-relations. Among other things, she argues that to be able to handle the challenge from Bradley's regress, relations (not just



the relations posited by the trope theorist) ought plausibly to be understood as relata-specific and that relata-specific relations ought plausibly to be understood as tropes. That there are relations, she concludes, is itself a reason to be a trope theorist.

Part 6 indicates the halfway mark in the volume. After examining the *nature* of properties, the volume turns its focus to properties in a wide variety of explanatory contexts. The remaining parts of the volume can be seen as addressing the use-question: what work can properties do and how? Part 6 investigates the role of properties in causation, time, and modality. In Chapter 23, Carolina Sartorio considers the extent to which properties figure in debates about causation, showing how properties impact answers to central questions in current conversations about causation, particularly about token causation. In Chapter 24, Jennifer McKittrick turns to dispositions, which are often thought of as ways that objects are disposed to behave in certain circumstances. One debate surveyed by McKittrick is whether dispositions are reducible to other properties such as categorical properties or whether dispositions are irreducible and so make up a distinct kind of property. She also considers the possibility that there is room for a mixed view such that some but not all dispositions are reducible. In Chapter 25, Carlo Rossi discusses the role that properties play in theories of events and processes. A well-known theory of events due to Jaegwon Kim proposes that an event is a property-instantiation at a time, which clearly gives properties the role of being one constituent of an event. Lesser known theories of events and processes stemming from Helen Steward and Rowland Stout as well as Johanna Seibt also find ways to utilise properties. Indeed, on Seibt's theory, a process is best thought of as a determinable, so a process might be more like a universal than a particular.

In Chapter 26, Katarina Perović addresses the connection between properties and time, with a focus on the problem of change. The paradigm understanding of a thing changing over time is of a thing that has a property at a time and then lacks that property at another time (the problem of temporary intrinsics). The two times in this example are often understood as instants and a thing conceived over time (whether changing or not) is understood as a thing composed of instantaneous slices. Hence, the relevant properties involved in explaining change are temporally instantaneous. Perović provides an analysis of the orthodox way of understanding the problem of temporary intrinsics against the backdrop of endurantism and perdurantism. She also alludes to an alternative way of understanding the problem by recasting the issue in terms of properties that extend *over time* as opposed to being at a time. Properties on this picture are not instantaneous but are rather temporally extended. In Chapter 27, Peter Forrest revisits the question of explaining modality and possibilities in terms of properties. In debates about the metaphysics of modality one competing theory to Lewis's modal realism lets properties play the role of possible worlds. For Forrest, the thesis that worlds are properties needs

unpacking and has its own challenges such as explaining the possibility of infinite complexity. In Chapter 28, Barbara Vetter continues with the theme of modality but from the perspective of someone who believes in dispositional properties or powers. Like Forrest, Vetter hopes to construct a theory of modality that only commits to actual entities and avoids merely possible objects. She proposes that if there are potentialities/powers/dispositions, they can be used to explain modality or possibilia.

In Part 7, properties are shown to be relevant to science and the philosophy of science in a number of important ways. In Chapter 29, Alexander Bird considers how properties are related to the topic of natural kinds. According to E.J. Lowe's ontology, natural kinds are *sui generis* and so distinct from properties or universals. Bird argues that natural kinds are better off being reductively identified with complex properties, and, in particular, with complex universals. This is a metaphysics of natural kinds that has properties at its centre. In Chapter 30, Tuomas E. Tahko surveys laws of nature in relation to properties, outlining the leading ways in which properties are used to construct theories about the laws of nature. One starting point is that a law such as all Fs are Gs expresses a connection (of some necessity) between universals, namely, *being F* and *being G*. He notes that different theories of properties impact the modal status of laws, whether laws are metaphysically necessary or just nomologically necessary. In Chapter 31, Anne Sophie Meincke traces a history of the concept of an emergent property, finding the source of today's concept in British Emergentism of the early twentieth century. She goes on to argue that the more promising account of emergent properties involves some reference to processes. In Chapter 32, J.E. Wolff answers the question 'what are quantitative properties?', asserting that what makes a property quantitative (such as the mass of Jupiter) involves relational structures that are characterised by pairs of relations. This proposal is motivated in part by a representational theory of measuring quantities.

Part 8 is about the role that properties play in the philosophy of language and philosophy of mind. Many philosophers have noted that properties can serve as the semantic values of terms or serve as the meanings of whole sentences. It is an on-going debate how natural language can be systematised using properties and how language embodies talk of abstract objects (if at all). In the philosophy of mind, a theory of properties underpins the notion of a mental property and grounds an explanation of the causal efficacy of mental properties (mental causation). Recently, philosophers have reflected on the very notion of a mental property in contrast to physical properties and how this impacts the best characterisations of what it is like to have an experience (qualia). Lastly, philosophers have studied the role of properties in perception, raising the question of whether and how properties are perceived in experience and the question of how properties can be used to flesh out theories of perception. Part 8 deals with these topics and questions.

In Chapter 33, Friederike Moltmann gives a thorough linguistic analysis of places in the English language where there is explicit reference to properties. Her approach falls within descriptive metaphysics applied to intuitions that are found by using the latest methods in semantics and syntactic theory. She offers a wide range of examples that lend support to the idea that there are kinds of sentences that include quality-terms, explicit property-referring terms, etc. In certain cases the sentence in question suggests a reference to a specific kind of property. The sentence ‘Socrates’ wisdom’ contains a trope-referring term, on her view. In Chapter 34, David Robb surveys the debate about mental causation against the backdrop of competing theories of properties. He reasons through ways in which a mental property, according to functionalism, is a second-order property and considers the question of whether second-order properties are causally efficacious, especially when it looks like first-order properties undermine the efficacy of second-order properties. After discussing one way to overcome this problem Robb considers whether mental properties are in fact first-order properties, which requires (he says) a trope theory of properties in order to explain their causal efficacy. In Chapter 35, Umut Baysan turns to the fact that, for certain mental states, there is something it is like to have those mental states. When a mental state is phenomenally conscious it is said to have a quale such that the quale is the relevant property for the fact that there is something it is like to have that experience. Baysan’s proposal is that qualia as properties of experiences should be understood in a neutral way whereby the conception of qualia comes with minimal commitments. In Chapter 36, Bence Nanay addresses four central questions that crop up when one thinks about properties in perception. When Edith sees a lemon what is the range of properties that she attributes to it perceptually? Are the properties represented tropes or universals? Are the properties determinates or determinables? Is there a subject involved in the representation to which the properties represented are applied? The many answers to these questions show the extent to which debates in perception involve theorising about properties.

Part 9 covers the moral, social, and aesthetic aspects of reality, with an emphasis on how properties play a role in theorising about those things. In Chapter 37, Matti Eklund addresses the question of what exactly characterises a normative property, where the word ‘normative’ covers moral properties and other evaluative properties. To address this question Eklund looks at the place of the nominalist in this debate and how concepts should be connected with properties in the normative domain. Perhaps, there are normative *concepts* only. He assesses various accounts of what a normative property is. One account highlighted throughout his chapter is that some property  $P$  is normative just when some agent  $A$  knows that the property ascription  $P$  of  $x$  ought to motivate  $A$  in a certain way to promote  $x$  *being*  $P$ . Another suggestion is to pick out the playing of normative roles such that the reference of a normative concept is determined by the normative role. In Chapter 38, Caj Strandberg discusses the less general case of moral

properties and asks similar questions about whether there are moral properties and what they are like. These questions send us into debates about moral realism versus moral anti-realism, naturalism versus non-naturalism, and reductionism versus non-reductionism. He stresses that realism about moral properties comes with the intuition that morality is not arbitrary. Covering the terrain on the many varieties of naturalism and non-naturalism goes a long way in showing how an action may or may not have the property of *being right*, especially in light of the action-guiding function of morality that stems from the reasons and motivations given for an agent to act. In Chapter 39, Dee Payton turns to the social domain and asks how a social property is to be characterised. The property of *being a US one dollar bill* is a social property. It appears different in kind from a property like *being negatively charged*, but what is this difference exactly? Her survey of the leading answers to these questions brings in cutting edge tools in metaphysics such as grounding and an essence-based approach to metaphysical analysis. One upshot is that social properties have earned the sort of attention that more traditional categories of property have received in other areas of philosophy. In Chapter 40, Sonia Sedivy considers aesthetic properties such as the *cacophony* of Shostakovich's *War Symphony*. The literature agrees that many aesthetic properties are observable and that aesthetic properties contribute to the aesthetic value of the object. But there are various points of disagreement and open questions about other ways to conceive of aesthetic properties and other work (if any) they do in aesthetics. This bleeds into what aesthetic properties amount to: do they merely depend on non-aesthetic properties? Are attributions of aesthetic properties purely subjective? In addition to a discussion of the debate between realists and non-realists about aesthetic properties, Sedivy argues that heterogeneity and historical dependence are two important features of aesthetic properties, which boost the explanatory power of aesthetic properties. These properties, like others in other domains of inquiry traversed in previous chapters, have an important place in our theorising about the world and what it is like, which again, to sum up, shows how important properties really are.

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