

HOBBS: METAPHYSICS AND METHOD

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ABSTRACT OF THE DISSERTATION

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This dissertation discusses the work of Thomas Hobbes, and has two main themes. The first is Hobbes's materialism, and the second is Hobbes's relationships to other philosophers, in particular his place in the mechanist movement that is said to have replaced Aristotelianism as the dominant philosophy in the seventeenth century.

I argue that Hobbes does not, for most of his career, believe the general materialist view that bodies are the only substances. He believes, rather, that ideas, which are our main mechanism for thinking about the world, allow us to understand many bodies, but not to understand every thing we recognize to exist. The incomprehensible things include God – and, early in Hobbes's career, the human mind. Discussing materialism and our knowledge of God leads me to engage with the debate over Hobbes's alleged atheism. I argue that the evidence for Hobbes's atheism is weak at best. Hobbes is a sincere theist, though his view is sometimes unusual.

My discussion of Hobbes's relationships to other philosophers has three parts. In chapter five I argue that Hobbes's views about method are in important ways

similar to Zabarella's. In chapter six I look at Hobbes's rejection of the view, held by some scholastic Aristotelians, that accidents can sometimes exist without inhering in substances. Thus we see two sides of Hobbes's interaction with the Aristotelian tradition. Sometimes that interaction is just rejection, but at other times Hobbes takes over views from that tradition. Then in chapter seven I consider whether, and in what sense, Hobbes is a mechanist. I argue that the narrative of mechanism and Aristotelianism is a less powerful explanation than it has seemed to some to be, because it is hard to see what mechanists have in common.

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Chapter 1

Introduction

1.1 Why Hobbes?

In this dissertation I discuss Hobbes's views in what we might call metaphysics and philosophy of science. Such a discussion faces an immediate objection: why take those views seriously? After all, one prominent view about Hobbes, which has persisted since the seventeenth century, dismisses his work outside political philosophy. Descartes wrote that

all I can say about the book *De Cive* is that I believe its author to be the person who wrote the Third Objections against my *Meditations*, and that I find him much more astute in moral philosophy than in metaphysics or physics. Not that I could approve in any way his principles or his maxims. They are extremely bad and quite dangerous (Descartes 1984, 3.230-1).

Of the Third Meditations themselves he commented: "I did not think I should have made my Replies to the Englishman any longer, since his objections seemed so implausible to me that to answer them at greater length would have been giving them too much importance" (Descartes 1984, 3.180). Why should we bother with Hobbes's views in these areas, when his most prominent contemporary dismissed them so easily?

We should note that Descartes and Hobbes did not get along well at all, so Descartes's comments were not those of a disinterested observer. Priority disputes and personal snubs accompanied their philosophical disagreements (Martinich 1999, 163-71). Descartes thought that Hobbes was "aiming to make his reputation at my expense, and by devious means" (Hobbes 1994a, 100).

Hobbes at one point refused to meet Descartes. When they finally did meet, they argued (Martinich 1999, 171). Perhaps they fell out because Descartes's assessment of Hobbes's work was harsh but true. Given the background, however, we should not accept Descartes's verdict too hastily.

To see why one might care about Hobbes's work, let's think more generally about the motivations one might have for caring about the history of philosophy.

Much recent discussion of how and why one should study the history of philosophy contrasts two approaches.¹ Bernard Williams, for instance, contrasts history of philosophy with history of ideas.²

I use these labels to mark the distinction that the history of ideas is history before it is philosophy, while with the history of philosophy it is the other way round ... For the history of ideas, the question about a work *what does it mean?* is centrally the question *what did it mean?* ... The history of philosophy of course has to constitute its object, the work, in genuinely historical terms, yet there is a cut-off point, where authenticity is replaced as the objective by the aim of articulating philosophical ideas (Williams 1978, 9).

The key distinction is roughly this. On the one side are those who, at the end of the day, and no doubt after many qualifications, aim at a philosophically interesting picture of the history of philosophy. On the other side are those who ultimately aim at a true description of the bit of the history of philosophy they're interested in.

That distinction, even in principle, is rather fuzzy. The distinction in practice is even fuzzier. Take Williams himself as an example. In the Preface of his book on Descartes he declares himself on the side of history of philosophy (Williams

¹Wilson (1999, ch. 30) discusses how the study of the history of philosophy should relate to the study of philosophy, and gives many references to contributions to the debate. There are other useful papers in Rorty, Schneewind and Skinner (1984) and Réé, Ayers and Westoby (1978).

²This is similar to the distinction Sleight (1990, 3-4) makes between philosophical and exegetical history. Each is trying to describe two ways of studying things that past philosophers thought. One way has as its ultimate goal the true picture, the other aims more at deriving philosophical insight.

1978, 9). This doesn't mean, though, that he casts around for an interesting argument in one of Descartes's main works and analyzes it in isolation. No, he looks at what Descartes says in correspondence and relatively minor works.³ Williams doesn't want to discuss any old philosophical ideas, he wants to discuss *Descartes's* philosophical ideas. There's no way to do that well without a fair amount of historical investigation, without trying to figure out what Descartes actually thought. Not that Williams denies that, but we might miss it if we just looked at general statements of the distinction between history of philosophy and history of ideas.

The distinction between two approaches to the history of philosophy seems at best to capture two different emphases. There's little or no option but to have both goals in mind if you're to do a good job of writing the history of philosophy.

What do those reflections tell us about motivations for studying Hobbes?

Well, you might emphasize historical fidelity. Then it seems that you cannot tell a good story about seventeenth-century philosophy – indeed, about seventeenth-century metaphysics – without talking about Hobbes. His discussions with Mersenne and Gassendi, his debates with Descartes, Wallis, and Boyle, and his importance for Leibniz, Locke, and Hume put Hobbes at the heart of early modern philosophy. He was, let me emphasize, a serious participant in these debates, someone whose views people took account of and responded to. In writing the history of philosophy, one might omit a truly minor figure without noticeably distorting the overall picture. The history of philosophy seems to have got along just fine without great study of the work of Robert Payne, for

³Consider Williams's chapter 3, "*Cogito and Sum*" (Williams 1978, 72-101). In it he refers to the following works of Descartes: the Second Meditation, the French translation of the Second Meditation, part iv of the *Discourse*, the third of the *Regulae, Principes* 1.32, the *Conversation with Burman*, the Second Replies, letters to Mersenne, Colvius, and Clerselier, *Principles* 1.49, the *Recherche de la Vérité*, a letter from March 1638, and the Fifth Replies.

example.⁴ To omit Hobbes, however, is to omit an important figure.

On the other hand, you might emphasize philosophical interest. This means taking Hobbes seriously as a philosopher. Why do that, when there's a strong tradition of not doing so? To begin, note that, though Descartes didn't take Hobbes seriously, others did. Leibniz, for instance, clearly took Hobbes seriously, much as he thought he was wrong. The young Leibniz studied Hobbes's work, and twice wrote to him about philosophy. Even when Leibniz had long since rejected Hobbes's view, he still thought it worthy of discussion (Leibniz 1989, 159, 281-2). Why not side with Leibniz rather than Descartes here? After all, Descartes was not notably charitable about philosophers who neither in large part agreed with him (as Arnauld did) nor could be useful to his career (as Mersenne was).

That, someone might say, is all beside the point. Perhaps Hobbes had views that were interesting in the seventeenth-century. But does Hobbes have anything to tell me as a philosopher now? Note first that the answer to this question is contingent on who asks it and what her interests are. Moreover, Hobbes does seem to be someone who ought to be interesting to many philosophers now. He is in some sense a materialist. He rejects normative epistemology in favour of naturalistic investigation of the mind. He discusses metaphysical issues, such as diachronic identity, that are still alive today. Hobbes might have something to say to contemporary philosophy that's interested in those issues and approaches. At least, he should not seem *prima facie* irrelevant.⁵

That's not to say that Hobbes is right. But to set the standard that high – to study only those philosophers whose views you suppose to be true – is to

⁴Payne was a seventeenth-century Fellow of Pembroke College, Oxford. He and Hobbes were both connected to the Cavendish family: Hobbes as a tutor, Payne as a chaplain. See Malcolm (2002, ch. 4).

⁵In fact I think that Hobbes's materialism is less interesting now than it might at first sight seem. But the only way to find out whether it is interesting and useful is to look.

set it too high. Never mind how you're supposed to know the views are true without studying them. Even those who most strongly state that they're looking for philosophical illumination in past figures don't refuse to consider views they think are false. Jonathan Bennett, whose work is often used as an example of "philosophical history", spends much of his book on Spinoza (Bennett 1984) explaining why Spinoza is wrong, yet he clearly still finds Spinoza worth thinking about.

In summary: if you care mostly about historical truth, then you really ought to care about Hobbes, and if you care mostly about philosophical insight, then you shouldn't dismiss him out of hand. As you really ought to care about both if you're interested in good history of philosophy, you ought to care about Hobbes.

1.2 Some Themes

I discuss Hobbes's views about some basic philosophical issues. One aim is just seeing what Hobbes's basic views are. Thus I look at what he says about body, accident, and cause. If we could understand that, we would have a picture of what Hobbes thinks about substances, their features, and (at a very abstract level) their interactions. This is a fundamental part of Hobbes's philosophy. It is explained in the first two parts – the Logic and the *Prima Philosophia* – of *De Corpore*, which is itself the first part of Hobbes's tripartite *Elements of Philosophy*, his systematic philosophical work. However, these topics have received little attention.

Most work on Hobbes is, of course, on his political philosophy. If we look at relatively recent books on Hobbes that don't focus on political philosophy, we find they fall into two groups. Books of the first sort aim to cover political philosophy among other topics. This group includes such diverse books as Sorell (1986) and Zarka (1987). Such books tend to pass quickly over metaphysical

issues, though they often discuss method and Hobbes's comments about how his system fits together. Books of the second sort look at some particular non-political topic. Here I have in mind Shapin and Schaffer (1985) and Jesseph (1999). These books too don't focus on the basic parts of Hobbes's system. Moreover, they focus on the later part of Hobbes's career, after the publication of *De Corpore* in 1655. There is interesting material there; Hobbes was still an active philosopher. However, the heart of Hobbes's philosophical career was earlier. It began with the material of the early 1640s, such as *De Cive*, the Third Set of Objections to Descartes's *Meditations*, and the critique of White.⁶ It continued until the 1650s, when Hobbes published both *Leviathan* and *De Corpore*.⁷ This is the period I'm interested in, because in it Hobbes did his best philosophy.

In saying that I'm emphasizing something I haven't hidden: I'm interested in Hobbes as a philosopher, not as some curious figure on the sidelines of the grand events of seventeenth-century history. One of Hobbes's most distinctive philosophical positions is his materialism. He aimed in his philosophy to explain the world in terms of bodies in motion (and nothing else). Just what this materialism was, and why Hobbes held it, is the topic of chapters two and three, and also figures in chapter four.

My discussion of Hobbes's materialism is the case in which I come closest to looking at Hobbes's view in isolation, though even then I look at what Hobbes said in objecting to Descartes. Most of the other chapters are united by the theme of placing Hobbes in his intellectual context. Thus chapters five

⁶Yes, Hobbes was thinking about philosophy before this, but these are Hobbes's first significant works. Moreover, the attribution and dating of Hobbes's earliest works, in particular the so-called *Short Tract*, is a mess. (See Malcolm (2002, 104-6) for a summary of the recent debates.)

⁷*De Corpore* was published in 1655, but Hobbes had been working on it for years. Thus it's best to group it with the work published before it, rather than what came later.

and six look at Hobbes's relationships to fifteenth- and sixteenth-century Aristotelians, and chapter seven considers his relationships to other seventeenth- and eighteenth-century philosophers.

Modern philosophy's relationship to Aristotelianism is a prominent theme of recent literature on early modern philosophy. Some of this work discusses Hobbes – most notably perhaps Leijenhorst (2002) – but the trend is most obvious in the literature on Descartes. Consider a few prominent recent examples: Menn (1996) considers how Descartes draws on Augustinian philosophy, and Menn (1995), Des Chene (1996), and Ariew (1996) all connect Descartes's work to that of sixteenth-century scholastics such as Toletus, Fonseca, the Coimbra, and Suarez.

The justification for such work has generally been that we can better understand what Descartes said if we know such things as what positions he reacted against, what texts he referred to explicitly and implicitly, and what views were available to him as he wrote. Now, insofar as that is a good justification, it applies as much to Hobbes as to Descartes; Hobbes's education at Oxford was as Aristotelian and un-modern as Descartes's at La Fleche.

Those writing about Hobbes have long recognized that there are significant, relevant areas of Aristotelian influence on Hobbes's view. Even a cursory look at Hobbes's work shows his engagement with Aristotelianism: the theory of perception in the first chapter of *Leviathan* is proposed as an alternative to an Aristotelian theory, to which Hobbes makes explicit objections. So we should be able to get a better grasp on what Hobbes is doing by looking, for instance, at who and what he opposed. Hobbes, I suggest, was influenced by Aristotelianism in much the way Descartes was. That is, he learned of it early on, and though he later rejected much of it, several traces remained.

In chapter five I consider Hobbes's view of the nature of accidents. In arguing for this he is thoroughly critical of scholastic Aristotelians. I argue

that the targets of Hobbes's arguments were those such as Suarez and Fonseca who thought that accidents could, in miraculous cases, exist apart from bodies. Hobbes opposed any view that allowed accidents some possible or actual independence from substances. He argued against the view, and he also pointed to underlying misleading ways of thinking which he thinks lead to this and other erroneous metaphysical views.

I then in chapter six look at Hobbes's views about philosophical and scientific method. Here there are significant traces of Aristotelian views. Now, Hobbes's method was by no means identical to Aristotelian approaches. Hobbesian philosophical explanations invoke only bodies, their local motions, and efficient causation. Substance, motion, and causation are all transformed from what they were in the Aristotelian system. Nevertheless, Hobbes adapted Aristotelian ideas about method and placed them in this new framework. I argue for this by comparing Hobbes's views to those of Zabarella, a prominent Aristotelian writer on method. Thus I revive an idea that has recently fallen from favour in the literature on Hobbes, that there are important similarities between Hobbes's method and Zabarella's.

After considering Hobbes's relations to Aristotelians, I turn to his relations to his contemporaries and successors. In chapter seven I discuss the idea, prominent in recent literature on seventeenth-century philosophy, that the main narrative with which we should describe that philosophy is a story about mechanism. Mechanism – whatever exactly it may be – is said to be the view that binds together much of seventeenth-century philosophy. In the seventeenth century, we are told, mechanism replaced Aristotelianism as the dominant philosophy (Garber and Ayers 1998, 2-3). Hobbes was a prominent early mechanist. I argue in chapter seven that that narrative is less helpful than it has seemed to be. It is hard – and plausibly impossible – to find some view that both is shared by all the people who get called mechanists and is something that deserves the

name 'mechanism'. A large part of my discussion is an argument that the most developed account of mechanism, that of Michael Ayers, does not fit Hobbes. Hobbes, given the other things that are said about mechanism, just has to come out as a mechanist, if anyone does.

Chapter 2

Hobbes's Materialism in the Early 1640s

2.1 Two Approaches

Hobbes is a materialist. He explains how the world works in terms of bodies and argues against immaterial minds. 'Materialism' may mean many things though. In this chapter and the next I consider just what Hobbes's materialist view is and why he holds it. Here I consider Hobbes's views on these issues in the early 1640s. In the next chapter I look at the development of Hobbes's view in the two editions of *Leviathan*.

Many describe Hobbes's materialism as the view that bodies are the only substances. Thus Daniel Garber, discussing materialist themes in the works of Hobbes and Gassendi, describes materialism as "the doctrine that asserts, roughly, that the human being is body alone and denies that there is anything in the world that is incorporeal" (Garber 1998, 773). That is, Garber takes Hobbes's materialism to be a view about what substances there are in the world. Readings such as Garber's are standard. Steven Shapin and Simon Schaffer gloss one of Hobbes's materialist statements as "that which is not body does not exist" (Shapin and Schaffer 1985, 99). Douglas Jesseph agrees that Hobbes's materialism in *Leviathan* is like this, although he thinks that Hobbes has a different view in *Humane Nature* (Jesseph 1999, 51-2). This reading is not a recent innovation. In 1934, John Laird wrote that

Hobbes's interpretation of Body and Accident, together with his interpretation of Cause, defined his materialism. There was nothing except Body

with the ingenerable accident of spatial magnitude and the generable accidents of motion, than which there were no other accidents (Laird 1968, 101).

The key phrase for my purposes is “nothing except body”. On Laird’s reading of Hobbes’s materialism too, bodies are the only substances.

I argue for a different approach. Hobbes – at least in the Third Objections and English *Leviathan* – does not say that bodies are the only substances. He is not in that sense a materialist. He is in *Leviathan* a materialist about the mind, in that he attempts to explain the mind in terms of the motions of bodies. In both places he also has a view about what we can think about using imagistic ideas. Hobbes thinks that the only substances of which we can have ideas are bodies, because ideas are images. We cannot form ideas of an immaterial mind or an immaterial God, because we cannot form images of them. Hobbes does not deny that God, for instance, exists, and does not think that God is a body. He does claim that we cannot understand God. We can think about God in a way that does not involve an idea of God, but can neither form an idea of him nor think about any of his intrinsic features.¹

2.2 First Signs of Materialism in the Third Objections

In the Third Objections, Hobbes first suggests materialism when he discusses the Second Meditation. He proposes the following puzzling argument.

We cannot conceive of jumping without a jumper, or of knowing without a knower, or of thinking without a thinker.

¹My approach, though non-standard, is not entirely unprecedented. Leibniz (1989, 159) ascribed to Hobbes both the view that bodies are the only substances and the view about the limits of the imagination. The question then is whether and how Hobbes got from the view about imagination to the view about what exists. Leibniz suggests an argument someone might make, but does not attribute it to Hobbes. Leijenhorst (2002, 25-6) at points seems to attribute both views to Hobbes, but at other points says that Hobbes is ignoring incomprehensible substances, not eliminating them.

It seems to follow from this that a thinking thing is something corporeal. For it seems that the subject of any act can be understood only in terms of something corporeal or in terms of matter, as the author himself shows later on in his example of the wax: the wax, despite the changes in its colour, hardness, shape and other acts, is still understood to be the same thing, that is, the same matter that is the subject of all these changes (Descartes 1984, 2.122).

To think about an act of thinking, or any other act, we must think about it with a subject. From this Hobbes seems to conclude that a thinking thing is corporeal, because “the subject of any act can be understood only in terms of something corporeal or in terms of matter”. That is Hobbes’s key contentious claim here. The further example of the wax is just another case in which we see acts and must think of them as having a corporeal subject.

Hobbes’s key principle about the subject of any act is (S):

(S) We can understand the subject of any act only in terms of something corporeal or in terms of matter.

Descartes disagrees. He accepts that we cannot think about an act without a subject. He denies that one should conclude that the subject of an act is corporeal. Thus he says that Hobbes

is quite right in saying that ‘we cannot conceive of an act without its subject’. We cannot conceive of thought without a thinking thing, since that which thinks is not nothing. But then he goes on to say, quite without any reason, and in violation of all usage and all logic: ‘It seems to follow from this that a thinking thing is something corporeal.’ It may be that the subject of any act can be understood only in terms of a substance (or even, if he insists, in terms of ‘matter’, i.e. metaphysical matter); but it does not follow that it must be understood in terms of a body (Descartes 1984, 2.123-4).

Descartes is right. It does not follow from ‘an act must have a subject’ that ‘an act must have a corporeal subject’. Nor does ‘an act must be thought of as having a subject’ imply ‘an act must be thought of as having a corporeal subject’. So what is Hobbes up to? We might suggest that Hobbes is a dogmatic

materialist, sure that the world contains only bodies, but without an argument for this. Perhaps Descartes believes this: he does not think much of his objector.² However, we can discover more about Hobbes's view here. It is not dogmatic materialism.

2.3 Understanding Hobbes's Materialism

Consider (M1) and (M2), either of which we might take to be Hobbes's view.

(M1) The only substances are bodies. In particular, there are no immaterial substances.

(M2) The only substances of which we can form ideas (the only substances we can imagine) are bodies. In particular, we cannot form ideas of immaterial substances.

(M1) is a view about the ultimate constituents of the world. It conflicts with Descartes's view of the intellect. Many interpreters take a view such as (M1) to capture Hobbes's materialism. However, several passages suggest that Hobbes believes (M2), a view about what we can and cannot imagine. To imagine something is just to have an imagistic idea of it. Hobbes contrasts this with conceiving something, merely reasoning that it exists: "there is a great difference between imagining, that is, having an idea, and conceiving in the mind, that is, using a process of reasoning to infer that something is, or exists" (Descartes 1984, 2.125).

In the Third Objections Hobbes accepts (M2) and rejects (M1). We see this when he discusses God, angels, and the soul, things commonly thought to be immaterial. Hobbes says that we have no ideas of these things, although we do have ideas of bodies. He nevertheless grants that these things exist, denying (M1).

²See section 1.1.

Hobbes explicitly contrasts thoughts of God and angels with thoughts of bodies.

When I think of a man, I am aware of an idea or image made up of a certain shape and colour . . .

But when I think of an angel, what comes to mind is an image, now of a flame, now of a beautiful child with wings; I feel sure that this image has no likeness to an angel, and hence that it is not the idea of an angel. But I believe that there are invisible and immaterial creatures who serve God; and we give the name 'angel' to this thing which we believe in, or suppose to exist. But the idea by means of which I imagine an angel is composed of the ideas of visible things.

In the same way we have no idea or image corresponding to the sacred name of God. And this is why we are forbidden to worship God in the form of an image; for otherwise we might think that we were conceiving of him who is incapable of being conceived.

It seems, then, that there is no idea of God in us (Descartes 1984, 2.126-7).

We use images when we think of angels, images such as we see in paintings of angels, but those images do not resemble angels. We can form an image of a human body but cannot form an image of an angel.³ Ideas are images. Thus we can form no ideas of angels. As we cannot have images of angels, so we cannot have an image of God. Hobbes concludes that we can have no idea of God. Then, always eager to show that his philosophy fits well with Christianity, he makes his point about the worship of God as an image.⁴

Hobbes also argues that we have no idea of the soul. He writes that

the idea of myself . . . arises from sight, if we are thinking of 'myself' as the body; and if we are thinking of my soul, then the soul is something of which we have no idea at all. We rationally infer that there is something within the human body which gives it the animal motion by means of

³In some sense of 'image of' the images of angels in pictures are images of angels. However, they are not of angels in the sense in which some images of bodies are of those bodies. They represent angels in a roundabout way, not by resembling them. In the sense of 'image of' that Hobbes is using, these images are images of small children with wings, not images of angels.

⁴This reading relies on taking Hobbes's talk of angels and God literally. That conflicts with those readings of Hobbes that take him to be ironic or insincere in his religious talk. I discuss such readings in chapter four, partly in order to defend what I say in the current chapter.

which it has sensations and moves; and we call this ‘something’ a soul, without having an idea of it (Descartes 1984, 2.129).

Descartes replies that,

as for the further point that we do not have an idea of the soul, but rationally infer its existence, this amounts to saying that although there is no image of the soul depicted in the corporeal imagination, we nevertheless do have what I call an idea of it (Descartes 1984, 2.129).

Hobbes thinks that you can have an idea of yourself, if that idea is an idea of your body. You have no further idea of some thing that gives animal motion to your body, because you have no appropriate image. This rules out an idea of a Cartesian, incorporeal mind and an idea of a material ‘soul’. We know, however, that something does the work that the soul is said to do. That is, we can conceive of but not imagine the soul. Descartes sees what Hobbes is up to here. Hobbes takes all ideas to be images. Descartes disagrees.

This view of the mind may seem to clash with the view expressed in Hobbes’s comments on the Second Meditation. There Hobbes seems to say that the mind is material. However, we should understand him only to be expressing a conditional: if we were to understand the mind, it would be as material. However, as this passage about conceiving of the soul shows, we do not really understand the human mind.

We see from these three cases that Hobbes thinks we lack ideas of immaterial things. We cannot have such ideas, because we cannot form images of such things. Hobbes does not claim that these things do not exist. Instead he claims that we can form no imagistic ideas of them. That is, Hobbes accepts (M2).

Seeing that helps us to understand the argument with which I began. The puzzle is why Hobbes believes that (S) we can understand the subject of any act only in terms of something corporeal or in terms of matter. The basic answer is that to understand a subject you need, minimally, to have an idea of it. Ideas

are images, and we cannot have images of immaterial subjects, so we cannot have ideas of immaterial subjects. The only way we can have ideas of, and thus understand, subjects of acts is as material.

2.4 Conceiving

The closest thing to materialism in the Third Objections is the view that we can only imagine material things. We can think about other things, but only using conceptions, which do not allow us to understand, only to direct thought.

Why link understanding to imagination (having an imagistic idea) rather than to conception (merely reasoning to the existence of)? Hobbes grants for instance that we can conceive of the soul, and you might think that this is a sort of understanding of the soul. However, conceiving is a highly restricted way of thinking about things. All that conceiving of the soul allows you to do is think that the cause of the animal motions exists. It tells you about only one relational feature of the soul and no intrinsic ones. This lack of access to intrinsic features is why conceiving is not understanding. A conception, roughly speaking, tells you nothing about what a thing itself is like. Images allow you to think about intrinsic features, and thus about what a thing itself is like.

You can think about the thing of which you conceive in one way: as the cause of something else of which you do have an idea. Thus the soul is the cause of animal motions and God is the eternal cause of everything else. Hobbes compares such a conception of God to the thoughts that a man born blind may have of fire.⁵

It seems, then, that there is no idea of God in us. A man born blind, who has often approached fire and felt hot, recognizes that there is something

⁵In chapter 3 we'll see Hobbes using the same example in *Leviathan*. He also uses it in the *Elements of Law* XI.2 (Malcolm 2002, 178). Gassendi uses the example of a man born blind who is aware of the sun by feeling heat in the Fifth Objections (Descartes 1984, 2.235).

which makes him hot; and when he hears that this is called ‘fire’ he concludes that fire exists. But he does not know what shape or colour fire has, and has absolutely no idea or image of fire that comes before his mind. The same applies to a man who recognizes that there must be some cause of his images or ideas, and that this cause must have a prior cause, and so on; he is finally led to the supposition of some eternal cause which never began to exist and hence cannot have a cause prior to itself, and he concludes that something eternal must necessarily exist. But he has no idea which he can say is the idea of that eternal being, he merely gives the name or label ‘God’ to the thing that he believes in, or acknowledges to exist (Descartes 1984, 2.127).

The man born blind, although aware of the heat, has no idea of the fire itself.⁶ Hobbes allows that this man can think about the fire as the thing that causes the heat. Similarly, we have no perceptions or ideas of God, but can think about God as the thing that causes the things of the world. In neither case does our thought give us much insight into the nature of the thing, but it is of the thing.

These conceptions that Hobbes invokes are similar to mental items invoked by other modern philosophers who mostly account for thought using ideas. Hume is a good example. He apparently only allows ideas that are copies of impressions. However, sometimes he suggests that there are other mental items – which he at one point calls *relative ideas* – with which we can think about things that are related to things of which we have ideas.

The clearest passage is the one in which Hume uses the phrase ‘relative ideas’. It comes in the *Treatise*’s discussion of external objects that are a different sort of thing than perceptions are. Hume says that “the farthest we can go towards a conception of external objects, when suppos’d *specifically* different from our perceptions, is to form a relative idea of them, without pretending to comprehend the related objects” (Hume 2000, I.ii.6).

⁶The idea of the heat is not an idea of the fire, but the idea of the fire’s colour and shape is. The difference presumably lies, though Hobbes does not explain this, in the nature of heat perception. We perceive colours and shapes as primary qualities, as in the thing itself, but can perceive heat as diffused in the surroundings, not in the thing at all.

This relative idea is *of* the external objects. That is, somehow it allows us to think about them. However, it does not allow us to understand them. It gives us no grasp on what they are like, and just enough of a grasp on them to think about them. They are things that are not perceptions that are somehow – presumably causally – related to our perceptions.

Note three points of similarity between Hume’s relative ideas and Hobbes’s conceptions. First, both relative ideas and conceptions allow you to think about things of which you have no ideas. Secondly, neither relative ideas nor conceptions allow you to understand the things about which they allow you to think. Thirdly, relative ideas and conceptions are of things that are related to things of which we do have ideas.⁷

Hobbes and Hume both seem to violate their general stories about how we form ideas when they introduce conceptions and relative ideas. Experience, the analysis of complex ideas into simple ones, and the synthesis of simple ideas into complex ones, appear to be the only official sources of ideas. Conceptions and relative ideas seem to be ideas of a new sort, ideas that violate that general account. Here someone might argue that Hobbes and Hume do not really countenance the existence of relative ideas. Talk of relative ideas, she might say, is just loose talk, talk that needs to be explained in terms of genuine ideas. However, there is no way to give that explanation. Relative ideas are invoked at just those points when ideas of the usual sort become inadequate. They fix a problem for the general system, without being fully integrated into it. The ability to form relative ideas is presumed – perhaps because it seems clear that we do have these thoughts – even though it doesn’t fit the general theory.

⁷I do not want to claim that Hobbes was the one and only source for Hume’s talk of relative ideas. He may, for instance, have been influenced by Berkeley’s talk about notions too. And Locke talks about the “obscure and relative *Idea* of Substance in general” (Locke 1975, 296) and a “relative obscure” idea of infinity (Locke 1975, 371). However, Hume knew Hobbes’s work, and the similarities between conceptions and relative ideas are striking.

2.5 Four Objections

Before I move on from the Third Objections, let me consider some possible objections to my reading.

First, someone might object that (M2) is not materialism at all. (M2), after all, is a thesis about what we can imagine, not a thesis about what there is in the world. This is correct, as far as it goes. Hobbes does not have the materialist view that bodies are the only substances. If that is the only view you are willing to call ‘materialism’, then Hobbes is not a materialist. However, (M2) does explain why Hobbes says all those things that sound like materialism. It also helps to explain Hobbes’s searching for philosophical explanations only in terms of bodies. Finally, note that in *Leviathan*, though not in the Third Objections, Hobbes explains the mind in terms of bodies in motion. Thus in *Leviathan* he is, we could reasonably say, a materialist about the mind, even though he is not there a materialist about substances in general.

Secondly, someone might speculate that Hobbes believes (M1) as well as (M2), and indeed that he believes (M1) because he believes (M2). One might make that step by claiming that there are only bodies because we can only imagine bodies. An alternative argument from (M2) to (M1) might appeal to (M1) as the best explanation of (M2). However, we can know that Hobbes makes no such argument, because he denies (M1). He wants to say in the Third Objections that he does believe in God, and that “there are invisible and immaterial creatures who serve God” (Descartes 1984, 2.127). He says this even though he thinks that we cannot imagine God or angels. These beliefs in the existence of God and angels are beliefs in the existence of immaterial, unimaginable things. Thus Hobbes denies (M1).

Such beliefs in the existence of God and angels require us to be able to think about them without having ideas of them. This is the role of conception. For

instance, we can conceive of the soul without being able to imagine it. Hobbes does not attempt to conclude that there are no such things as immaterial souls. Rather he holds they are unimaginable and cannot be understood. This view is supported by his theory of ideas (not, say, by a wish to postulate only as many entities as are required for mechanistic explanation, as Sorell (1995, 87-8) suggests).

Thirdly, why does Hobbes describe angels as immaterial? If Hobbes thinks what I say he does, it seems he should say we know nothing about their features, even that they are immaterial. He does say they are immaterial. How does he get to do this?

We might import Hobbes's theory from *Leviathan* and take 'immaterial' to be an honorific term rather than a description.⁸ The idea would be that we try to show how much better and grander God and angels are than the things around us by calling them 'immaterial'. However, Hobbes does not suggest this theory in the Third Objections.

There are other explanations of Hobbes's use of 'immaterial' though. Having no idea of these things, we cannot say that they are material. Moreover, they are traditionally described as immaterial. Still Hobbes seems to slide illicitly from 'we cannot know they are material' to 'we know that they are immaterial'. He is more careful in *Leviathan* though, and does not claim there that God and angels are immaterial, as we shall see below.⁹

Fourthly, I would like to consider Edwin Curley's approach to the Third Objections (Curley 1995). He finds them disappointing. He singles out the argument with which I began for particular criticism, saying, "I do not find this argument satisfactory. It is Hobbes at his most dogmatic" (Curley 1995, 104). I suggest that this argument has more to it than Curley thinks. It may be based

⁸See section 3.1.3.

⁹Thus Hobbes does not straightforwardly deny (M1), but that we can know (M1).

on a mistaken theory of ideas, but it is not merely dogmatic. It also helps with an issue that Curley discusses at length: what Hobbes thinks about God. Curley sees a dilemma for Hobbes: “if every subject is necessarily corporeal, and if incorporeal substances are a contradiction in terms, then either God does not exist or he is a corporeal substance” (Curley 1995, 107). This is just one of several arguments that Curley makes for Hobbes’s atheism. I treat the issue more generally in chapter four. Here I just want to make a point about the Third Objections.

In the Third Objections Hobbes stresses what is, and what is not, imaginable. He does not say that incorporeal substances are impossible, but that they cannot be understood because they are unimaginable. We should take this line of thinking seriously, and it dissolves the dilemma. Hobbes does not have to choose between atheism and saying that God is a body. He can take the third position that God is incomprehensible. For Hobbes, our difficulty in thinking of God is not just that God is infinite and powerful beyond our comprehension. The difficulty comes from the imagistic nature of ideas. We can have no idea of God, and thus cannot understand him. In the Third Objections at least, it makes most sense to think of Hobbes as a theist, indeed a Christian, who emphasizes the incomprehensibility of God.¹⁰

2.6 Other Works in the Early 1640s

Hobbes holds the view I describe above in the Third Objections. Indeed, he holds it throughout his work in the early 1640s. In 1642 Hobbes argues in *De Cive*, chapter XV, section xiv, that reason tells us of God only that he exists (Hobbes 1983b, 226-7) (Hobbes 1983a, 190-2). We know no other attributes

¹⁰Martinich (1992, 185-92) notes the place of the view that we cannot understand God within the Christian tradition.

of God; Hobbes argues that particular attributions of attributes to God are mistaken. Moreover, Hobbes repeats that we have no idea of God. This section of *De Cive* expresses the same view of our knowledge of God that the Third Objections expresses. We can have no idea of God. All we can know of him is that he exists.

In *Thomas White's De Mundo Examined*, chapter XXVII, section 1 (probably written in 1643) Hobbes contrasts *entia* “of which we retain some kind of picture in the mind” with *entia* “of which we have no picture in the mind, so that a man is quite unable either to perceive them or to imagine them” (Hobbes 1976, 310). Hobbes gives men, animals, trees, and stones as examples of the first sort of *ens*, and God and angels as examples of the second sort of *ens*. Thus here too Hobbes distinguishes things of which we can have imagistic ideas from things of which we can have no such ideas. Again he thinks that we can nevertheless in some way think about things of the second sort.

In summary, it seems that Hobbes holds this view consistently in the early 1640s. He thinks that bodies are the only substances of which we can have ideas. He also thinks that there are other substances. These substances are either immaterial or such that we cannot know whether they are material.¹¹

¹¹He says ‘immaterial’ once, when discussing angels in the Third Objections. In order to be consistent, he probably ought to say that they are such that we cannot know whether they are material.

Chapter 3

Materialism in *Leviathan*

I argued in the previous chapter that the standard reading of Hobbes's materialism gets his views in the early 1640s wrong. However, those are not the texts with which people have been most concerned. The more popular topic is Hobbes's view in *Leviathan*. For most of this chapter I will look at what Hobbes says in the original 1651 English edition of *Leviathan*. Towards the end I will look at some later developments of his view, which we see in the Appendix to the 1668 Latin edition of *Leviathan*.

3.1 Materialism in the English Edition (1651)

Hobbes's materialism in the English *Leviathan* is similar to his view in the Third Objections. He still thinks that we can only have ideas of bodies and denies that the things we can imagine are the only things that exist. However, he now thinks that human minds are bodies, and comes close to saying that angels are bodies. He does not believe at this stage, though, that God is a body.

3.1.1 Two Arguments against 'Immaterial Substance'

The recurrent point about immaterial or incorporeal substance in *Leviathan* is not that it is an absurd thing, but that 'immaterial substance' is an absurd name. So at first glance Hobbes's view here seems closer to (M2) than (M1). It is not about what there fundamentally is, but about what we can think and say. I do

not rest much on this. After all, the impossibility of a thing might be closely related to the contradictions in language that tries to describe it. However, it is interesting – and I think suggestive – that Hobbes puts his point in terms of the names of things, not the things themselves.

Hobbes gives two arguments that ‘immaterial substance’ is absurd. He hints at the first in chapter four when he explains what he means by calling some apparent names insignificant. He says that some names are

but insignificant sounds, and those of two sorts. One when they are new, and yet their meaning not explained by definition; whereof there have been abundance coined by schoolmen, and puzzled philosophers.

Another, when men make a name of two names, whose significations are contradictory and inconsistent, as this name, an incorporeal body, or (which is all one) an incorporeal substance, and a great number more (Hobbes 1994b, I.iv.20-1).¹

Hobbes criticizes the first sort of insignificant name elsewhere, for instance when he discusses views that explain perception using species (Hobbes 1994b, I.i). The problem with ‘incorporeal substance’ is not that, but that the names are contradictory.

Hobbes suggests an argument for that claim when he says that ‘incorporeal body’ “is all one” with ‘incorporeal substance’. We can fill out the argument as something like this: ‘Substance’ signifies the same thing as ‘body’; ‘Incorporeal body’ is a contradictory phrase; So ‘incorporeal substance’ is a contradictory phrase. However, those who believe that there are incorporeal substances will deny the first premise. They think that ‘some substances are not bodies’ makes sense, which it can only do if ‘substance’ signifies things other than those that ‘body’ signifies. For them ‘immaterial substance’ and ‘immaterial body’ are not “all one”.

Hobbes develops the thought in chapter thirty-four.

¹I give references to *Leviathan* by part, chapter, and paragraph. The paragraph numbering is that of Curley’s edition (Hobbes 1994b).

The word body, in the most general acceptation, signifieth that which filleth or occupieth some certain room or imagined place, and dependeth not on the imagination, but is a real part of that we call the universe . . . The same also, because bodies are subject to change (that is to say, to variety of appearance to the sense of living creatures) is called substance (that is to say, subject to various accidents), as: sometimes to be moved, sometimes to stand still; and to seem to our senses sometimes hot, sometimes cold, sometimes of one colour, smell, taste, or sound, sometimes of another . . . And according to this acceptation of the word, substance and body signify the same thing; and therefore, substance incorporeal are words which, when they are joined together, destroy one another, as if a man should say an incorporeal body (Hobbes 1994b, III.xxxiv.2).

Hobbes here uses ‘signify’ for a relation between a word and things in the world. He does not use it in the sense – present in *Leviathan* and *De Corpore* – in which words signify or are signs for the speaker’s thoughts. Instead he uses it to mean something like ‘denotes’ or ‘stands for’. ‘Body’, he writes, signifies “that which filleth or occupieth some certain room or imagined place”. That is, it signifies something in the world, not something in the mind.

In this sense of ‘signify’, a word signifies those things to which it applies (it signifies each of them, not a set or other collection of them). This is not the only place in which Hobbes uses ‘signify’ and its cognates in this way. He says in the chapter on speech that “the name body is of larger signification than the word man, and comprehendeth it; and the names man and rational are of equal extent, comprehending mutually one another” (Hobbes 1994b, I.iv.8). In this sense, a word signifies the things to which we apply it.

Hobbes claims that ‘substance’ and ‘body’ signify the same thing under two different names. ‘Body’ is what we call it if we think of it as filling the universe, ‘substance’ what we call it if we think about it as the subject of change. Again though, Hobbes’s opponent will just deny this. Hobbes says that these words have the same significations. His opponent will say that ‘substance’ signifies more things than ‘body’ does. Hobbes gives us no reasons here to accept his view rather than the other. He just says what he thinks. This first argument

that ‘immaterial substance’ is insignificant is unconvincing, because it straightforwardly begs the question.

Before moving on to the second argument, I would like to make one other point about this passage from chapter thirty-four. Hobbes makes a point about language: that ‘substance’ and ‘body’ signify the same thing. This might suggest that he believes a metaphysical point that sounds similar: that substance and body are the same thing. That would make immaterial substances impossible. Hobbes, I argue, makes the point about language, but does not make the metaphysical point. How can this work?

For Hobbes, our significant use of language relies on the ideas and conceptions we have (Hobbes 1994b, I.iv).² Thus the only things ‘substance’ can signify are bodies, as they are the only subjects of change of which we can have ideas or conceptions.³ We do have a conception of God, but that is only a conception of the cause of the world, not of an immaterial substance. The only way we can significantly use ‘substance’ is to pick out bodies. That does imply that Hobbes thinks we cannot meaningfully say that God is a substance. So, in some sense, he does say that bodies are the only substances. Still, however, he thinks that God exists. God is some sort of thing, we know not what. We do not know that bodies are the only things that exist.⁴

Return now to the alleged absurdity of ‘immaterial substance’, and look at Hobbes’s second argument. This is perhaps clearest in a passage in chapter twelve, where Hobbes says that

though men may put together words of contradictory signification, as

²I say more about this below when I consider the second argument.

³Note that ‘signify’, in Hobbes’s sense, works rather differently from some similar terms. Two words can signify the same thing without our being able to substitute one word for the other, preserving truth.

⁴Note too that ‘substance’ here is glossed as ‘subject of change’. It is not obvious that one wants to say that God is a subject of change. So perhaps it is not so bad to deny that God is a substance, if this is the relevant sense of substance.

spirit and incorporeal, yet they can never have the imagination of anything answering to them; and therefore, men that by their own meditation arrive to the acknowledgment of one infinite, omnipotent, and eternal God, choose rather to confess he is incomprehensible, and above their understanding, than to define his nature by spirit incorporeal (Hobbes 1994b, I.xii.7).

Hobbes claims that ‘incorporeal spirit’ is a contradictory phrase. He gives two reasons. First, ‘spirit’ and ‘corporeal’ have “contradictory signification”. This seems to be the first argument reprised. A spirit is just a sort of body, Hobbes thinks, so ‘incorporeal spirit’ is an attempt at a name that picks out bodies that are not bodies.

The second reason given here for ‘immaterial substance’ being a contradictory name is that we lack any “imagination” answering to it. We have no idea, and indeed no conception, of an immaterial substance. This claim, plus the implied premise that to speak significantly we must possess an appropriate mental item, yields the conclusion that ‘immaterial substance’ is not significant. So the argument goes: for us to speak significantly an appropriate mental item must be present; when we use ‘immaterial substance’ we possess no such mental item; so when we use ‘immaterial substance’ we do not speak significantly.

I have suggested an implied premise here. That is pretty clearly something that Hobbes believes. Consider for instance this passage about absurd names in chapter five:

words whereby we conceive nothing but the sound are those we call absurd, insignificant, and nonsense. And therefore if a man should talk to me of a round quadrangle, or accidents of bread in cheese, or immaterial substances, or of a free subject, a free will, or any free, but free from being hindered by opposition, I should not say he were in an error, but that his words were without meaning, that is to say, absurd (Hobbes 1994b, I.v.5).⁵

⁵Hobbes uses ‘conceive’ here in a sense other than the one contrasting with ‘imagine’ that he introduced in the Third Objections. However, Hobbes’s use of that terminology is not even consistent within the Third Objections. Sometimes, there as here, he uses it to mean something

Here Hobbes describes insignificant words as “words whereby we conceive nothing but the sound”. We should, Hobbes thinks, be conceiving – that is, thinking about – something more. The problem with absurd words, Hobbes says here, is that we use the noise while lacking an appropriate mental item.

This connects to Hobbes’s view that the “general use” of speech is to transfer our thoughts into words (Hobbes 1994b, I.iv.3). Speech that is not backed up by any thoughts is just a series of sounds that resembles speech, not really speech at all. Hobbes does allow for special uses of speech in addition to the general. Only one of these, however, allows for the absence of supporting thoughts: the use of speech “to please and delight our selves, and others, by playing with our words, for pleasure or ornament, innocently” (Hobbes 1994b, I.iv.3). This is not what people aim to do when they talk about immaterial substances.

All of this goes to show, I think, that Hobbes believes that for us to speak significantly an appropriate mental item must be present. That is an implicit premise in his second argument about the problems with ‘immaterial substance’, an argument that tries to show that it is meaningless noise, not a true name.

Hobbes, then, claims several times in *Leviathan* that ‘incorporeal substance’ and similar terms are absurd names. He suggests two arguments to support that claim. The first is more explicit than the second, but begs the question. The second argument aims to show that ‘immaterial substance’ is insignificant in the sense of being a mere noise that conveys no thought. In both cases Hobbes’s point is about the name ‘immaterial substance’, and in neither case does he claim to know that nothing other than bodies exists.

like ‘think about’, where that could involve imagining or conceiving (in the narrower technical sense of ‘conceive’).

3.1.2 The Bible Does Not Require Immaterial Substance

Hobbes's opponent might respond that, even if natural reason does not compel us to believe in incorporeal substances, religion does. Hobbes thinks that the Bible provides "the canon (that is to say, the rules) of Christian life" (Hobbes 1994b, III.xxxiii.1). He argues that nothing in the Bible compels us to believe that either angels or human souls are incorporeal.

Leviathan III.xxxiv is "Of the Signification of SPIRIT, ANGEL, and INSPIRATION in the Books of Holy Scripture". Much of it argues that we should not take 'body' and 'spirit' to mean 'corporeal substance' and 'incorporeal substance'. Still, Hobbes discusses at length what angels are. He initially looks for a reductive reading: appearances of angels can be explained by people having visions, and visions can be explained (as Hobbes explains them elsewhere) as dreams. He thinks that he can read all the texts involving angels in the Old Testament in this way. However, he comes to think that he cannot read all the relevant texts in the New Testament in this way (Hobbes 1994b, III.xxxiv.24). He says that one must conclude that angels are permanent things, that 'angel' is not just a term used to describe things seen in dreams (Hobbes 1994b, III.xxxiv.23).⁶ However, even the passages that require that concession do not show that angels are immaterial. Indeed, the Bible suggests the opposite view.

That they are permanent may be gathered from the words of our Saviour himself (Matt. 25:41), where he saith it shall be said to the wicked in the last day: "Go ye cursed into everlasting fire prepared for the Devil and his angels." Which place is manifest for the permanence of evil angels (unless we might think the name of the Devil and his angels may be understood of the Church's adversaries and their ministers), but then it is repugnant to their immateriality (because everlasting fire is no punishment to impatible substances, such as are all things incorporeal). Angels, therefore, are not thence proved to be incorporeal (Hobbes 1994b, III.xxxiv.23).

Sometimes 'angel' is used in the Bible to refer to things that exist outside dreams,

⁶Hobbes cites here Matthew 25:31, 1 Corinthians 6:3, 2 Peter 2:4, Jude 1:6, and Matthew 22:30.

but those texts do not show that these angels are incorporeal. Indeed, if these angels are to burn, they must apparently be corporeal, because it would be no punishment to put something in a fire that could not suffer from burning. Hobbes is content, though, to show that one need not say because of scripture that permanent angels are incorporeal. He does not push for the further point that the Bible shows that permanent angels are corporeal, although he suggests it.

Hobbes similarly finds no evidence in the Bible that the human soul is immaterial, and some suggestion that it must be material. This connects to his argument that the human soul is not naturally immortal, and his alternative explanation of what happens after death. Hobbes sees no evidence in the Bible for the natural immortality of the soul. Instead, “eternal life was lost by Adam’s forfeiture in committing sin” (Hobbes 1994b, III.xxxviii.2). He thinks moreover that in the Bible the soul is a living body, not an incorporeal substance distinct from the body (Hobbes 1994b, IV.xliv.15-6). Further evidence that human souls are physical comes when the text says that human souls can suffer physical pains after death. When Hobbes discusses the nature of hellish torments, he notes several texts that say that these torments will involve “bodily pains” (Hobbes 1994b, III.xxxviii.14).

In addition, Hobbes notes in chapter forty-six that some who have believed the soul to be an immaterial substance have found difficulties. We might take these troubles as, indirectly, arguments for Hobbes’s understanding of the soul as material. These others puzzle over passages about what happens after death, because incorporeal substances cannot burn in hell (Hobbes 1994b, IV.xlvi.19-20). They also find trouble with the idea of the soul going without the body to heaven, hell, or purgatory. Immaterial things seem not to have place (although in a sense they have place if they are attached to bodies that have place). How then can they move off to other places (Hobbes 1994b, IV.xlvi.21)?

In summary: Hobbes argues that the Bible does not show that there are immaterial substances. Indeed, he comes close to saying that the Bible shows that angels and human souls are corporeal. That leaves God, the other substance commonly thought to be incorporeal. Hobbes does not say that God is corporeal, but insists he is unimaginable and incomprehensible.

3.1.3 Thinking and Talking about God

Hobbes claims in *Leviathan*, as in the Third Objections, that God is unimaginable. In I.xii.7 he argues that the view that God is an incorporeal substance is a corruption, not something that one would arrive at by “natural cogitation”. Rather,

men that by their own meditation arrive to the acknowledgment of one infinite, omnipotent, and eternal God, choose rather to confess he is incomprehensible, and above their understanding, than to define his nature by spirit incorporeal, and then confess their definition to be unintelligible; or if they give him such a title, it is not dogmatically, with intention to make the divine nature understood, but piously, to honour him with attributes of significations as remote as they can from the grossness of bodies visible (Hobbes 1994b, I.xii.7).

I have looked at other aspects of this passage above. Here I want to emphasize Hobbes’s idea that some apparent descriptions of God are not really descriptions, but honorific utterances, intended to express how different from the things around us God is. These words are not insights into the nature of God, who is unimaginable and incomprehensible.

Hobbes repeats the incomprehensibility claim in chapter thirty-four, where he says that “the nature of God is incomprehensible; that is to say, we understand nothing of what he is, but only that he is” (Hobbes 1994b, III.xxxiv.4). We cannot, Hobbes says, understand the nature of God. Given, though, that we have no idea of God, we might wonder how we are able to think about God at all.

Hobbes addresses the question of how we can think about God without an idea of God at *Leviathan* I.xi.25. Here, as in the Third Objections, he suggests a second way of thinking about things, which does not involve having an imagistic idea of them. Importantly, this process is illustrated in other ways: it is not merely an ad hoc way to say ‘yes we can think about God’. We can in this way think about several sorts of things of which we do not or cannot imagine.

For as a man that is born blind, hearing men talk of warming themselves by the fire, and being brought to warm himself by the same, may easily conceive and assure himself there is somewhat there, which men call fire and is the cause of the heat he feels, but cannot imagine what it is like, nor have any idea of it in his mind such as they that see it; so also, by the visible things of this world and their admirable order, a man may conceive there is a cause of them, which men call God, and yet not have an idea or image of him in his mind (Hobbes 1994b, I.xi.25).

This is the same story we saw in the Third Objections. The man born blind has an idea of the heat, an effect of the fire. He has no idea of the fire itself. He can think about the fire as the thing that causes this heat. Similarly, we have no perceptions or ideas of God, but can think about God as the thing that causes the things of the world. Such thoughts give us no insight into the nature of the thing they are about. Unlike images, they give us no access to intrinsic features. Yet they are about those things.⁷

That view allows us to say and believe only a limited few things about God. Hobbes adds to it a theory of what we do when we say other things about

⁷We know of God as a cause, the cause of the whole world. However, doesn't Hobbes think that all causes are bodies in motion, thus implying that God is a body? I think not. Hobbes does think that all the causal explanations in physics involve bodies in motion. There are two reasons for that, neither of which is that a cause must be a body in motion. The first is that the natural world just happens to be such that we can explain what happens in it by talking only about bodies in motion. The second is that such explanations, explanations that involve moving bodies, are the only full causal explanations that Hobbes thinks we can give. We can have ideas of bodies, and thus pick out their features, and thus describe the accidents as well as the substances involved in corporeal causal interactions. This gives us a full description of the states that stand in the relation of causation. When saying that God is the cause of the world, we have a different sort of explanation. We can pick out only the thing, not its features, because we have no idea of God. So we can tell a functional story – which Hobbes thinks is inferior – not a full causal one, about God's causal relationship to the world.

God. This comes in the context of Hobbes's explanations of the sense of the word 'spirit' in the Bible, which aim to show that there is no need to take any biblical occurrence of 'spirit' to mean 'incorporeal substance'. Some occurrences of 'spirit' are however beyond our understanding, "as, in all places where God is said to be a Spirit, or where by the Spirit of God is meant God himself" (Hobbes 1994b, III.xxxiv.4). We should understand such apparent descriptions as honorific acts, not literal descriptions. Thus Hobbes says that,

the nature of God is incomprehensible; that is to say, we understand nothing of what he is, but only that he is; and therefore, the attributes we give him are not to tell one another what he is, nor to signify our opinion of his nature, but our desire to honour him with such names as we conceive most honourable amongst ourselves (Hobbes 1994b, III.xxxiv.4).

So if we say, for instance, that God is omniscient and omnipotent, we are not really describing God. We are trying to honour and praise God by attributing to him exaggerated versions of attributes we find good among ourselves. It is good to be knowledgeable, good to be powerful. We attempt to praise God by calling him all-knowing, all-powerful. We do not have insight into God's nature that justifies these as descriptions. Indeed, we can only think of God in a roundabout way, as cause of everything in the world. We can nevertheless attempt to praise God with what we say – and we do so even in cases in which we seem to be doing something else.

This view, together with the view that there is a way to think of some things of which we lack ideas, lets Hobbes account for much talking and thinking about unimaginable things without going far beyond his basic psychological framework, and without saying that we can imagine God.

I want to end this section with a discussion of a passage that apparently contradicts my reading of *Leviathan*. Jesseph (2002, 142) cites it in arguing that Hobbes thinks that God is a body, because it seems to say that all substances are bodies. The passage runs as follows:

The world (I mean not the earth only, that denominates the lovers of it worldly men, but the universe, that is, the whole mass of all things that are) is corporeal (that is to say, body) and hath the dimensions of magnitude (namely, length, breadth, and depth). Also, every part of body is likewise body, and hath the like dimensions. And consequently, every part of the universe is body, and that which is not body is no part of the universe. And because the universe is all, that which is no part of it is nothing (and consequently, nowhere). Nor does it follow from hence that spirits are nothing. For they have dimensions, and are, therefore, really bodies (though that name in common speech be given to such bodies only as are visible or palpable, that is, that have some degree of opacity). But for spirits, they call them incorporeal, which is a name of more honour, and may therefore with more piety be attributed to God himself, in whom we consider not what attribute expresseth best his nature, which is incomprehensible, but what best expresseth our desire to honour Him (Hobbes 1994b, IV.xlvi.15).

Here Hobbes seems to say that everything is a body. So, in particular, God must be a body, or not exist at all. However, in this paragraph Hobbes says both (1) that everything is a body and (2) that you cannot know the attributes of God. He cannot mean both of these literally. To know that everything is a body is to know that God is a body, which is to know an attribute of God. (Perhaps being a body is not an attribute, but extension is, and Hobbes thinks that all bodies are extended.) I want to take (2) seriously and thus qualify (1). I think this fits the rest of the text better than taking (1) seriously and universally and dropping (2). That would mean throwing out Hobbes's claims about the incomprehensibility of God, which – unlike the suggestion that God is a body – are repeated and prominent in *Leviathan*.

3.1.4 An Objection from *De Corpore*

Someone might object to my reading of *Leviathan* in the following way. Hobbes wrote *De Corpore* (Hobbes 1999) at about the same time he wrote *Leviathan* (*De Corpore* was not published until 1655, but Hobbes took about ten years to write it, in which time he also wrote *Leviathan*). In *De Corpore*, however, Hobbes

seems to identify substance with body. If Hobbes believes that, then he cannot believe that there can be substances that are not bodies.

I think that this objection mistakenly reads principles from *De Corpore* into *Leviathan*. *De Corpore*, as Hobbes tells the reader in chapter one, does not address everything. Hobbes excludes the study of several topics, including God and angels, from philosophy. I want to make three points about this restriction, which block the objection.

First, this restriction tells us that the principles of *De Corpore* are not completely general principles. They cover only those things of which philosophy talks. Although Hobbes identifies substance and body for the purpose of this study, he does not do so generally.

Secondly, Hobbes's reason for excluding these topics from philosophy is that we cannot conceive of or understand composition, division, and generation in their subjects. That is, we cannot give the explanations about God that we can give about bodies. Why not? The reason concerns what we can think about and understand. I suggest that the reason is the one I pointed to above: you can give explanations using imagistic ideas that you cannot give using mere conceptions, so you can give explanations about bodies that you cannot give about God. That is, this restriction of the project of *De Corpore* is grounded in the distinction between things of which we can have ideas and things of which we can merely conceive. Hobbes does not reject the theory he had in the early 1640s in *De Corpore*. Instead, he uses it to distinguish the project of *De Corpore* from other possible projects.

Thirdly, note a connection to the earlier critique of White here. In the same section of it in which Hobbes distinguishes *entia* of which we have ideas from *entia* of which we do not, he talks about the definitions that philosophy gives (Hobbes 1976, 311). Here Hobbes says that in philosophy you define only the *entia* of which you have ideas. This, I think, is just the point of the restriction in

De Corpore. Thus we see another point being carried over from the early 1640s into the 1650s.

3.1.5 The Way the Mind Works

In the Third Objections, Hobbes's view of ideas as images supports his view (M2). His view in *Leviathan* also depends on claims about what we can and cannot imagine. It too is a view about what substances we can imagine, not about what substances there fundamentally are. In *Leviathan* Hobbes has a fuller story about the mind that supports those claims about imaginability. So to fill out my picture of Hobbes's materialism, I look in this section at his supporting story about the mind.

The early chapters of *Leviathan* discuss in turn sense, imagination, “the Consequence or Train of Imaginations”, speech, reason and science, the passions, the ends of discourse, and the intellectual virtues. The basic accounts of sense and imagination in the first two chapters underlie Hobbes's materialistic approach, both because sense and imagination give the constraints on imaginability, and because they are supposed to do all the work of the mind, yet be material.

Chapter one discusses sense. Hobbes's account there is brief, but sufficient for my purposes here. It begins with what thoughts are:

singly, they are every one a representation or appearance, of some quality or other accident of a body without us, which is commonly called an object. Which object worketh on the eyes, ears, and other parts of a man's body, and by diversity of working produceth diversity of appearances (Hobbes 1994b, I.i.1).

One object produces many appearances: visual ones, aural ones, and so on. Hobbes suggests that most of these apparent accidents are just appearances, leaving just extension and motion as accidents in the world, whatever exactly

that means. He makes part of that point in this chapter, when he says that sensible qualities “are in the object that causeth them but so many several motions of the matter” (Hobbes 1994b, I.i.4).⁸

Hobbes describes a causal process by which objects affect perceivers. The object (mediately or immediately) causes pressure on the sense organs,

which pressure, by the mediation of nerves and other strings and membranes of the body, continued inwards to the brain and heart, causeth there a resistance, or counter-pressure, or endeavour of the heart to deliver itself; which endeavour, because *outward*, seemeth to be some matter without. And this *seeming*, or *fancy*, is that which men call *sense* (Hobbes 1994b, I.i.4).

This causal process works by things pressing directly on other things, all the way from the object to the heart. There is an outward, resistant pressure there. That outward pressure either causes, or just is, sensation. Hobbes thinks that an outward movement inside the body explains why sensation seems to come from outside. It seems natural to think, however, that things that come from outside should cause inward movements. So the outward movement that Hobbes suggests at the end of the process should make sensation seem to come from deep inside the body. This is a puzzling quirk in Hobbes’s view, but is hardly a foundational issue. It does point, however, to the looseness of Hobbes’s story.

Once there are appearances and representations in the mind, the mind can manipulate them. This is the place of imagination and memory. These, for Hobbes, are the same thing considered in two ways. The underlying phenomenon is what he calls decaying sense: that a “more obscure” image (or an equivalent item from another sense) remains after we cease to perceive an object. This remnant is itself obscured by the remnants of things we see afterward. In general, “this decaying sense, when we would express the thing itself

⁸It’s not clear exactly what Hobbes thinks the status of secondary qualities is. It is clear that he wants in some way to explain their (apparent) presence in terms of the presence of primary qualities.

(I mean fancy itself), we call imagination, as I said before; but when we would express the decay, and signify that the sense is fading, old, and past, it is called memory” (Hobbes 1994b, I.ii.3).⁹

Beyond this basic action of remaining but decaying sense, Hobbes also describes how the imagination can compound images. He gives the example of how, after seeing a man and seeing a horse, we can imagine a centaur.

Hobbes thinks, moreover, that imagination underlies understanding:

the imagination that is raised . . . by words or other voluntary signs is that we generally call understanding . . . That understanding which is peculiar to man is the understanding not only his will, but his conceptions and thoughts, by the sequel and contexture of the names of things into affirmations, negations, and other forms of speech (Hobbes 1994b, I.ii.10).

Understanding is another thing that the imagination does. Some sorts of understanding that involve words are peculiar to humans. Thus Hobbes gives us a materialist story about reasoning as well as about other things we might more readily call the works of imagination.

Along with this focus on sense and imagination comes a certain empiricism. All ideas have their causal source in the senses: “there is no conception in a man’s mind which hath not at first, totally or by parts, been begotten upon the organs of sense” (Hobbes 1994b, I.i.2). Ideas (which Hobbes also calls appearances, representations, and phantasms) are images that come from the senses. The imagination can manipulate ideas, adding parts of one to parts of another. It cannot however make ideas that do not ultimately derive their parts from the senses. No imagistic idea of God comes from the senses, and the imagination cannot make such an idea from sensory materials. Thus God is unimaginable.

⁹Above I compare Hobbes’s conceptions to Hume’s relative ideas. Expanding the comparison, we might look at how Hobbes’s decaying sense relates to Hume’s force and vivacity.

3.2 Materialism in the Latin Appendix (1668)

Hobbes's materialism in the (1641) Third Objections and in the (1651) English *Leviathan* is a view about what we can and cannot imagine and understand. In the later (1668) Latin Appendix to *Leviathan* his view seems to change. The third chapter of that Appendix discusses objections to *Leviathan*. In a dialogue between two characters A and B, A raises the apparent dilemma for Hobbes: atheism or the view that God is a body. We might expect, by this point, to find B answering that Hobbes thinks neither, but that God is unimaginable. Instead, B says that Hobbes "affirms, of course, that God is a body" (Hobbes 1994b, App. iii.6).

B's statement seems to abandon Hobbes's previous view that we cannot imagine God. For if we lack an idea of God, we cannot know whether God is a body. Moreover, B's view suggests a view such as (M1), for in the context the obvious argument to the conclusion that God is a body is "God exists; Everything that exists is a body; So God is a body". The second premise is a view about what there is, not about that of which we can think. Does Hobbes come to think that all substances are bodies? Does he come to think that we can imagine God?

B defends the view that God is a body. He argues that Tertullian (a church father who wrote around 200 AD) thinks that God is a body, but is not condemned for it. Tertullian, from the passages Hobbes quotes and others, does appear to think that all things, God included, are bodies. Curley questions the strength of this defence: "in assessing the weight of having Tertullian as a predecessor, note that Hobbes has to go back before the Nicene council to find a church father who holds that God is corporeal" (Hobbes 1994b, 540, n.7). The suggestion, I take it, is that Hobbes's defence looks weak because he has to look so far back – and back beyond key moments in the development of Christian doctrine

– to find support for his view. However, reference to Tertullian is accepted and respectable in seventeenth-century English religious debates. Tertullian is not Augustine, but still has authority. The translators of the King James Bible cite him repeatedly in their 1611 preface, ‘The Translators to the Reader’. Hobbes would have more support on his side if other, later church fathers also said this. Tertullian is nevertheless a respectable source of support for Hobbes to invoke.

Along with the reference to Tertullian comes the claim that none of the first four church councils condemns the view that God is body. The implication is that the view is perfectly orthodox, even if unusual. In passing we get some biblical references, most notably “we all are, and are moved in God” (Acts 17:28).

B further claims that “not even the Nicene Council defined it [as an article of faith] that God is incorporeal” (Hobbes 1994b, App. iii.6). “Not even” because they might seem to, and because Hobbes himself thinks that several or all of the members of the council believed that God is incorporeal, but that they did not intend this to be a part of the creed. The creed uses the term *homoousios*, which Hobbes translates into Latin as *coessentialis*, having the same essence. The claim is that Christ is *homoousios* with the Father.

This raises the issue of immateriality in the dialogue. B claims that the creed uses *homoousios* because Constantine wished it used, because “it seemed to him to follow from that term that God is incorporeal” (Hobbes 1994b, App. iii.6). B denies that coessentiality implies incorporeality:

the incorporeity of God cannot be inferred from the term coessential, even though an essence is not a body. The father of David and the son of Obadiah (since he was one and the same as Jesse) were coessential. Does it follow that Jesse and the father of David were incorporeal? (Hobbes 1994b, App. iii.6).

Hobbes claims that two bodies can have the same essence. For instance, the father of David and the son of Obadiah are coessential. This does not show us that they are incorporeal though. Hobbes’s argument is awkward, as the

example does not involve two bodies with one essence, but one body described in two ways. Hobbes seems nevertheless to be correct that coessentiality does not imply incorporeality. Why should not two bodies have the same essence, if two incorporeal things may?

What does this exchange tell us about Hobbes's view? B does not state (M1) in general, only that God is a body. We might well think, however, that Hobbes thinks that God is a body because he believes something such as (M1); the conclusion is harder to reach from a view such as (M2). This passage thus seems to imply that we can have an idea of God and know his attributes, contrary to Hobbes's view in the English *Leviathan*.

We might try to deny any difference of view by arguing that, although the character B says that Hobbes thinks that God is a body, Hobbes himself does not think so. After all, the dialogue is not entirely one-sided, and it is not obvious that B is simply Hobbes (Curley 1994, xlvi). However, B does not just state this view that God is a body and attribute it to Hobbes, he also defends it at some length. That defence suggests that Hobbes took God being a body seriously.

Moreover, there are other places where Hobbes, from about 1660, is willing to say that God is a body. In replying to Wallis in 1662, he again invokes Tertullian in defence of the view that God is a body (Hobbes 1839a, 4.429). Later, in replying to Bramhall, Hobbes describes God as a "spirit corporeal" (Hobbes 1839a, 4.313). Given the number and clarity of these passages, we should say that Hobbes changes his mind. In 1651 he thinks that God is inconceivable, but by 1662 he thinks that he knows that God is a body.

However, at least one passage does not fit that reading. In chapter i of the Latin Appendix Hobbes sticks to the claim that God is unimaginable. This passage comes in an exchange in which A and B discuss the phrase 'Light of light' in the Nicene Creed.

B: [the Church Fathers] all agreed in this: that the nature of God, and of

the Trinity, and of angels, and (as Athanasius adds) of the rational soul, are all incomprehensible).

A: It seems to me that they were right not to want to explain that mystery. for what do you do when you explain a mystery except destroy it, or make of a mystery what is not a mystery? For faith, converted to knowledge, perishes, leaving only hope and charity.

B: “Light of light”, then, is put in the creed only to assist the faith to be applied to the other articles (Hobbes 1994b, App.i.14-6).

Hobbes claims that the church fathers think the nature of God mysterious. He seems to endorse that view: the discussion of ‘Light of light’ stops where my quote does. Indeed, he seems to invoke the church fathers as support for his view that the nature of God is a mystery. Thus, in this passage from 1668 Hobbes endorses the view that God is incomprehensible. This seems to be anomalous among the post-1660 texts though. Hobbes’s position in them is generally that God is a body.

Hobbes does change his mind, and come to think that God is a body. However, the position of the earlier texts is clear, consistent, and frequently stated: God is unimaginable, indeed the only things of which we can have ideas are bodies. Hobbes later changes his mind. Those later texts are not, however, a clue to an earlier hidden view. Hobbes, in the early 1640s and later in the English *Leviathan*, denies that we know that all substances are bodies, but does believe that the only substances we can imagine are bodies.

Chapter 4

Hobbes's Alleged Atheism

4.1 Introduction

Hobbes is not an atheist. Many people believe that he is, but they are mistaken. In arguing for this I address two questions. First, does Hobbes deny the existence of God? Secondly, does Hobbes say things that contemporaries may reasonably take as undermining the sort of Christianity in which they believe? The answer to the first question is no. Hobbes believes in the existence of God. The answer to the second question is yes. Hobbes has religious views that are likely to attract lots of criticism in the seventeenth century, even though he believes in the existence of God.

In addressing these questions I first consider what sort of evidence there could be for the claim that Hobbes is an atheist. Hobbes does not say that he's an atheist. Indeed, he gives arguments for the existence of God. Of course, someone might do that without believing what he's saying. We'd need fairly good evidence to attribute that deceptive intent to him though. I argue that, if we think about the sort of evidence we would need, we find that it's lacking in Hobbes's case.

After those general reflections I look three particular arguments that Hobbes is a dissembling atheist. I first look at Cudworth's criticisms of Hobbes. I then consider two more recent arguments: Curley's argument that Hobbes's ethical views show that he is an atheist and Jesseph's argument that Hobbes's materialism shows that he is an atheist. I argue that these arguments don't work. The

picture we got from general reflections on the evidence is correct. We have no good reason to deny that Hobbes believes what he says he believes: that God exists.

This chapter relates in two ways to the previous ones on Hobbes and materialism. The first is that part of my objection to Jesseph's reading of Hobbes as an atheist is that he bases it on a mistaken reading of Hobbes's materialism. The second is that one objection to my approach to Hobbes's materialism is that that it relies on taking his talk about God literally, which we should not do because he is an atheist. In this chapter I block that objection by showing the weakness of the case for Hobbes's atheism.

4.2 Hidden Views

Even those who argue that Hobbes is an atheist acknowledge that he seems to be a Christian (Curley 1992, 498). They nevertheless think that he is an atheist. There are at least two distinct things someone might mean by taking that position.

(i) Hobbes's books profess Christianity, but his actual views differ: he is an atheist.

(ii) Hobbes's books seem to profess Christianity. However, the real doctrine of those books is atheism.

These differ in that (ii) involves the atheism being coded into the texts, whereas (i) only involves the atheism being in Hobbes's mind.

If the question is whether (i) is true, then it is almost impossible to answer. Absent a revealing letter or manuscript, evidence will be thin at best. Such remarkable evidence aside, any useful debate has to be about (ii). Thus I will concentrate on (ii) rather than (i). The idea of (ii) that there is a hidden message in Hobbes's writings. Hobbes gives us signs of this, which a careful reader can find.

(ii) is usually how Straussian readers set up debates such as this. Leo Strauss's "Persecution and the Art of Writing" is a key text here (Strauss 1951, 22-37). Strauss argues that some writers, because of the conditions in which they write, hide their real views in a particular way. They have a deep, mostly hidden view, offensive to their contemporaries. They cover this up with a more acceptable view, leaving hints of the hidden ideas for adept readers to find.

I want to link readings of Hobbes as a dissembling atheist to Straussian readings more generally. Of course, giving such a reading of Hobbes does not commit you to giving a similar reading of anyone else. There is a shared argumentative strategy though. That strategy suggests two questions. First, how can you know that a writer suggests a hidden message? Secondly, even if you can know that there is such a message, how can you know just what it is?

Wootton (1992, 36) suggests six pieces of evidence one would want to find to justify such a reading: an "ideal body of evidence [that] might justify an unshakable 'reading between the lines'". They are

- (1) a text in which conventional sentiments seem to be at odds with unconventional ones;
- (2) contemporary readings of the text that see it as suspect;
- (3) a declared interest in 'writing between the lines';
- (4) statements by the author . . . that seem to be intended to confirm suspicions about his own literary procedures or his own private convictions;
- (5) independent contemporary evidence that the author was believed to be irreligious or at least moved in irreligious circles; and
- (6) manuscript evidence that shows that the author has more radical views that he dared to publish (Wootton 1992, 36-7).

The danger with reading between the lines is that you see things between the lines that are not there. These criteria try to diminish that possibility as much as possible. One might quarrel with one or other of the six: perhaps (2) puts too much weight on contemporary readings, which might just miss a truly present hidden message. On the whole, however, I think that these six criteria are a good guide when evaluating Straussian readings. How do such readings of

Hobbes fare with respect to them?

Start with (1). Does Hobbes give us “a text in which conventional sentiments seem to be at odds with unconventional ones”? There are conventional parts of Hobbes’s approach. For instance, Hobbes repeatedly suggests versions of the cosmological argument. As to unconventional aspects, even Martinich (1992), arguing that Hobbes is an orthodox Christian, does not dispute that parts of what Hobbes says are not standard views in mid-seventeenth-century England and France. Even though England in Hobbes’s time is full of varied religious views, Hobbes’s stands out. He has, for instance, a relatively new and unconventional attitude to reading the Bible. Hobbes, roughly speaking, uses the same techniques to try to understand the Bible that he would use with any other ancient book. Clarendon’s complaint about this approach is illustrative. He says that he is “not willing now, or at any time, to accompany him [Hobbes] in his sallies which he makes into the Scripture, and which he alwaies handles, as if his Sovereign power had not yet declared it to be the word of God” (Clarendon 1676, 117). Never mind Hobbes’s beliefs. His very method for forming those beliefs is unacceptable.

Hobbes’s work is not conventional for its time and place, even though it has perfectly standard Christian aspects.

Look now at criteria (2) and (6), which invoke contemporary readings of the text. Are there “contemporary readings of [Hobbes’s] text that see it as suspect”? Is there “independent contemporary evidence that the author was believed to be irreligious or at least moved in irreligious circles”?

The short answer is ‘yes’. Many of Hobbes’s contemporaries find his religion to be suspect. However, it is relevant why they think this. Their reason is neither that Hobbes is lying about his religious views nor that Hobbes does not believe that God exists. They see problems with Hobbes’s views, taking what he says literally, not finding some secret message. These problems with Hobbes’s views

are there even though Hobbes believes that God exists. He says several other things that critics think undermine Christianity.¹

Thus when Mintz (1962), in a study of Hobbes's critics that often mentions atheism, summarizes the reasons those critics gave for calling Hobbes an atheist, he lists the views

that the universe is body, that God is part of the world and therefore body, that the Pentateuch and many other books of Scripture are redactions or compilations from earlier sources, that the members of the Trinity are Moses, Jesus, and the Apostles, that few if any miracles can be credited after the Testamental period, that no persons deserve the name of 'martyr' except those who *witnessed* the ascension of Christ, that witchcraft is a myth and heaven a delusion, that religion is in fact so muddled with superstition as to be in many vital places indistinguishable from it, [and] that the Church, both in its government and its doctrine, must submit to the dictates of Leviathan, the supreme civil authority (Mintz 1962, 45).

To be called an atheist in seventeenth-century England requires far less than denying the existence of God. A main way to attack Hobbes is to treat him as a mistaken, heretical believer.² As an example I want to look at Clarendon's criticisms of Hobbes.

Clarendon criticizes Hobbes's religious views in his *Brief View and Survey of the Dangerous and Pernicious Errors to Church and State in Mr Hobbes's Book, Entitled Leviathan*. Clarendon's critical language is sometimes strong. Hobbes, he says, "values himself more upon being thought a good Philosopher, and a good Geometrician, then a modest Man, or a good Christian" (Clarendon 1676, 4). He talks about Hobbes's "odious insinuations, and perverting some Texts of Scripture, which do dishonour, and would destroy the very Essence of the Religion of Christ" (Clarendon 1676, 6). More strongly still, Clarendon says

¹Cudworth is a notable exception to this critical consensus. I discuss his approach in section 4.3.

²Malcolm (2002, 478-80) notes the reaction of those who criticized Hobbes as an 'indifferentist': one who declared Christian faith but was no a member of any particular Christian group. "Defenders of confessional orthodoxy" disliked such approaches.

of Hobbes that “when he shakes the Principles of Christian Religion, by his new and bold Interpretations of Scripture, a man can hardly avoid saying, He hath no religion, or that he is no good Christian; and escape endeavouring to manifest, and expose the poison that lies hid and concealed” (Clarendon 1676, 9-10). Thus Clarendon suggests that Hobbes undermines Christianity. However, we should not take Clarendon to believe that Hobbes is an atheist. Clarendon thinks that Hobbes means what he says, but nevertheless finds Hobbes’s views problematic.

Clarendon supports his claim that Hobbes’s religion is suspect with several arguments. For instance, Clarendon argues that Hobbes’s morality is not Christian morality. The following passage begins with a loose quote from Hobbes.

That to be delighted in the imagination of being possessed of another mans Wife, or Goods, is no breach of the law that saies, Thou shalt not covet: That the pleasure a man may have in imagining the death of him from whose life he expects nothing but damage and displeasure, is no sin: That to be pleas’d in the fiction of that which would please a man if it were real, is a passion so adherent to the nature of man, and every other living creature, as to make it a sin, were to make a sin of being a man, is a Body of Mr. Hobbes’s Divinity, so contrary to that of our Saviour and his Apostles, that I shall without any enlargement leave it to all men to consider, which of them they think most fit to believe and follow (Clarendon 1676, 130).

Clarendon’s quote from Hobbes is loose, but does accurately depict what Hobbes says. Clarendon’s point is that Hobbes has perverted the Biblical sense of ‘to covet’, as well as ignored or overwritten Christian moral injunctions against imagining the torment of others. I take it that all good readers should know which version of morality they ought to prefer: the Christian, not the Hobbesian.

Clarendon never quite says though that Hobbes does not believe in God. Hobbes is mistaken, disrespectful, and leans towards heresy. One can become exasperated with his errors, and suspect he lacks religion. Really what he has done, though, is take the wrong approach to understanding it. Why, then, does

Hobbes looks so bad to Clarendon?

Hobbes's approach to scripture often annoys Clarendon. Clarendon says that he is "very unwilling to enter into the lifts with Mr. Hobbes upon the interpretation of Scriptures, which he handles as imperiously as he doth a Text of *Aristotle*, putting such unnatural interpretation on the words, as hath not before fallen into the thoughts of any other man, and drawing very unnatural inferences from them" (Clarendon 1676, 72-3). Later he emphasizes that he is "not willing now, or at any time, to accompany him in his sallies which he makes into the Scripture, and which he alwaies handles, as if his Sovereign power had not yet declared it to be the word of God" (Clarendon 1676, 117).

Clarendon's main point is that Hobbes tries to understand the Bible in the same way he would try to understand any other ancient book. That is correct. This approach is why, for instance, Hobbes says what he does about the books of Moses not all being written by Moses.

In chapter thirty-three of *Leviathan* Hobbes considers when and by whom various Biblical books were written. He begins with the so-called Books of Moses, and argues that "Moses did not compile these books entirely, and in the form we have them" (Hobbes 1994b, III.xxxiii.5). He notes that the mere title 'Books of Moses' does not show that Moses wrote the books. Such a title may just show that the books are about Moses: "in titles of books, the subject is marked as often as the writer. The History of Livy denotes the writer; but the History of Alexander is denominated from the subject" (Hobbes 1994b, III.xxxiii.4). More substantially, Hobbes cites Deuteronomy 34:6, Genesis 12:6, and Numbers 21:14 as passages written from the perspective of someone after Moses.

Deuteronomy 34 is perhaps the most glaring case, as it deals with Moses's death. Surely, Hobbes is saying, you don't think Moses wrote that. However, there is an obvious response, which Hobbes notes: that Moses wrote the bulk

of the books and a later writer added Deuteronomy 34. In response Hobbes introduces his other two cases.

The first of these comes from Genesis 12:6: “ “And Abraham passed through the land to the place of Sichem, unto the plain of Moreh, and the Canaanite was then in the land,” which must needs be the words of one that wrote when the Canaanite was not in the land; and consequently, not of Moses, who died before he came into it” (Hobbes 1994b, III.xxxiii.4). The author of Genesis 12:6 tells us that the Canaanites had been in this land. However, they were only there after Moses’s death, so he could not have written this.

Hobbes’s final example involves Numbers 21:14: “Likewise Numbers 21:14, the writer citeth another more ancient book, entitled The Book of the Wars of the Lord, wherein were registered the acts of Moses at the Red Sea and at the book of Arnon” (Hobbes 1994b, III.xxxiii.4). The passage Hobbes cites runs as follows: “Wherefore it is said in the book of the wars of the LORD, What he did in the Red sea, and in the brooks of Arnon, And at the stream of the brooks that goes down to the dwelling of Ar, and lieth upon the border of Moab” (Numbers 21:15, KJV). The problem seems to be that this passage cites the previous book in a way that suggests that the current author knows about Moses through that older account. Someone writing from that perspective, whoever he or she was, was not Moses. Moses did not learn about Moses’s actions from books. (Though Moses could tell us that another book describes what he did.)

Thus Hobbes thinks he has shown that Moses is not the author of all, or even the great part, of the books of Moses. However, Hobbes does grant that Moses wrote some parts of those books, the parts that the texts says that Moses wrote: “he wrote all that which he is there said to have written” (Hobbes 1994b, III.xxxiii.5).

Clarendon’s comments on chapters 32-4 are far from positive (Clarendon 1676, 195-202). Among many other criticisms he considers Hobbes’s comments

on the authorship of the books of Moses:

What his design was to make so unnecessary an enquiry into the Authors of the several parts of Scripture, and the time when they were written, and his more unnecessary inference, that *Moses* was not the Author of the five Books which the Christian World generally believe to be written by him, tho the time of his death might be added afterwards very warrantably, and the like presumption upon the other Books, he best knows; but he cannot wonder that many men, who observe the novelty and positiveness of his assertions, do suspect, that he found it necessary to his purpose, first to lessen the reverence that was accustom'd to be paid to the Scriptures themselves, and the authority thereof, before he could hope to have his interpretation of them hearken'd unto, and received; and in order to that, to allow them no other authority, but what they receive from the Declaration of the King; so that in every Kingdom there may be several, and contrary books of Scripture; which their Subjects must not look upon as Scripture, but as the Sovereign power declares it to be so; which is to shake or overthrow all the reverence and submission which we pay unto it, as the undoubted word of God, and to put it in the same scale with the *Alcoran*, which has as much authority by the stamp which the Grand *Signior* puts upon it in all his Dominion; and all the differences and Controversies, which have grown between the several Sects of *Mahometans*, which are no fewer in number, nor prosecuted with less animosity between them, then the disputes between Christians in matter of Religion, have all proceeded from the several glosses upon, and readings of the *Alcoran*, which are prescribed or tolerated by the several Princes in their respective Dominions, they all paying the same submission and reverence to *Mahomet*, but differing much in what he said and directed; and by this means the Grand *Signior*, and the *Persian*, and the petty Princes under them, have run into those Schisms, which have given Christianity much ease and quiet (Clarendon 1676, 197-8).

Clarendon clearly disagrees with Hobbes's reasoning. He suggests, regarding Hobbes's reading of Deuteronomy 34, the obvious defence: this passage about Moses's death was added to Moses's book after his death, completing the book's story. This might seem a weak response, in that Hobbes has already noted the approach, and Clarendon says nothing about the further texts Hobbes brings in. However, Clarendon does not want to get involved in that argument, because he disagrees with the whole approach: the whole inquiry is "unnecessary", just not the sort of thing one ought to do.

That is obviously not the only argument in the above passage. There is an argument there about Hobbes's view of how governmental authority relates to religion. This, Clarendon thinks, sees Islamic countries in just the same way it sees Christian ones. Moreover, it encourages schism and strife, because each sovereign may well endorse a different view. Clarendon also suggests that Hobbes has poor motivations, that he has contrived his whole view of government and religion in order to gain more support for his own unusual reading of the Bible. Clarendon's dislike of Hobbes's critical approach to biblical texts is far from being his only objection, though it is a notably repeated one.

Clarendon's comments on Hobbes's story about the authorship of the books of Moses, in addition to his more general comments about Hobbes's approach to the Bible, suggests one reason why he thinks that Hobbes has bad religious views, even though he does not seriously doubt that Hobbes believes in God's existence. Hobbes's critical approach is to Clarendon's mind improper. That critical approach has several sources: a sincere belief in Christianity; the view that the Bible is the sole reliable source of revealed knowledge; the idea that reason can help one understand the Bible as it can help one understand other texts; and perhaps a certain disrespect for traditional readings. This critical approach need not lead Hobbes away from Christianity, but does lead him away from Christianity as Clarendon understands it. Moreover, such a critical approach is in its infancy at the time.³

Hobbes's critical attitude explains much of Clarendon's ire. More generally, it is not a new point, but it is one that needs to be emphasized, that Hobbes's writings on religion are objectionable to many contemporaries even if taken absolutely literally. The way Hobbes reads the Bible is just one example of this.

³"In England, the publication of Thomas Hobbes's *Leviathan* brought a critical understanding of the Bible to the attention of the reading public for the first time" (Barton 1998, 12).

Clarendon provides a good example of the seventeenth-century reaction to Hobbes's views. He takes what Hobbes says literally, and finds it mistaken. Thus he is offended by Hobbes's unusual views, without doubting Hobbes's belief in God. This is just one of the "contemporary readings of [Hobbes's] text that see it as suspect".

Turn now to Wootton's criteria (3) and (5). Does Hobbes have "a declared interest in 'writing between the lines' "? Can we find "statements by the author ... that seem to be intended to confirm suspicions about his own literary procedures or his own private convictions"? The closest thing to such evidence is a line from Aubrey's life of Hobbes, 'I durst not write so boldly'. This is Hobbes's alleged comment on Spinoza's *Tractatus theologico-politicus*. Curley suggests on the basis of this line that Hobbes finds some idea in Spinoza's work with which he agrees, but which he dares not express (Curley 1992, 497-8). Taken this way, the line may give evidence for Hobbes's hidden private convictions. However, even Curley concedes that this line is actually of little use as evidence of Hobbes's secret intentions. Even if this really is Hobbes's comment, it is too brief and obscure to be good evidence. Curley ends up saying that this statement, read as he wants to read it, fits with the rest of his reading, but shows nothing by itself (Curley 1992, 510-1). We cannot use it to say that Hobbes meets Wootton's criteria (3) and (5).

Look now at the last of Wootton's six criteria. Is there "manuscript evidence that shows that the author has more radical views that he dared to publish"? There are at least two works by Hobbes, unpublished in his lifetime, that touch on the relevant topics: his reply to Bramhall's criticism of *Leviathan* (first published in 1682) and his critique of Thomas White's *De Mundo* (first published in 1973).

Hobbes does, in the reply to Bramhall, say that God is a body (Hobbes 1839a, 4.313). However, this is not the first appearance of that view in Hobbes's

work. He suggests it in a 1662 reply to Wallis and the 1668 Latin Appendix to *Leviathan*. This is an unusual and provocative view. It is not, however, a view hidden by Hobbes during his life, but a published and defended view. Thus the reply to Bramhall, despite its apparently shocking content, does not add significantly to Hobbes's religious views. Moreover, even the view that God is a body is not a sign that Hobbes denies that God exists. It says, literally and provocatively, that God exists and is a body.⁴

The critique of White's *De Mundo* comes from much earlier in Hobbes's career. There is some reason to think that its view differs from the view in the roughly contemporary *De Cive*. However, even Curley, strong advocate for Hobbes's atheism, acknowledges that, though Hobbes's view in this work may be more fideistic than his view in the published work, it gives us no sign that Hobbes does not believe in God. Curley suggests that this fideism is part of "an experiment with a certain kind of position, an attempt to work out what sort of position on natural religion it would be best for him to take when he decided to discuss these issues in public" (Curley 1992, 581). Even granting that, we do not see an atheist Hobbes here, but a Hobbes trying to work out the best philosophical grounding for his religious belief.

In summary then, if we judge using Wootton's six criteria, the case for Hobbes's atheism looks weak. Hobbes clearly meets the first criterion, but does not meet (3), (4), and (5). And although he meets (2) and (6), that is, although contemporaries find his religious views suspect, they do not find them suspect because they think he is dissembling about them, or because they think he denies God's existence. Absent some further consideration, we should conclude that Hobbes does not give us a secret message about his religious views.

⁴In 4.4 I discuss Jesseph's argument that Hobbes's materialism does show that Hobbes is an atheist.

That leaves the second question about Straussian readings: how do you know what the esoteric message is? In this case, in which the evidence is weak that there is such a message, the question is not terribly important. However, it is worth noting that those who think that there is an esoteric message in Hobbes's work have difficulty saying what it is.

Strauss himself finds a hidden message about religion in Hobbes's work. Indeed, he says that it is particularly easy to see such a message in Hobbes's work (Strauss 1951, 34, especially n.15). However, Strauss tends not to think that the secret message is atheism. Indeed, he tends to change his mind about what the hidden message is. In his book on Spinoza he says that, although Hobbes's position is only a small move from atheism, Hobbes never makes that move. In later books he is more inclined to call Hobbes an atheist.⁵ Hobbes's hidden message is not so easy to find after all.

Curley, some of whose arguments I discuss below, also wavers when he says what Hobbes's hidden message is. He moves between 'Hobbes was sceptical about religious claims' (which is trivial, as Hobbes says for instance that you could not persuade me that you had had an individual revelation)⁶ and 'Hobbes was probably an atheist' (which, I argue, is unsupported).

In conclusion: if we think about how one could have evidence for Straussian claims, we see that the evidence in Hobbes's case is weak.

4.3 Cudworth

I looked above at Clarendon as an example of seventeenth-century criticisms of Hobbes. Cudworth is a different sort of critic. He is quite happy to call people,

⁵Curley (1992, 498, n.3) has a nice summary of Strauss's various views on this issue.

⁶"For the first question, how a man can be assured of the revelation of another without a revelation particularly to himself, it is evidently impossible" (Hobbes 1994b, II.xxvi.40).

including Hobbes, atheists. Thus when he discusses the “Chief Heads of Arguments or Grounds of Reason” (Cudworth 1678, 63-70) for atheism, Cudworth quotes an unnamed “Modern Writer”, who is Hobbes, to illustrate the atheists’ approach. He quotes passages from *Leviathan* and *De Corpore* to illustrate two points: the view that we have no idea of God, and the atheists’ diagnosis of why people believe in God.

Cudworth still does not simply take ‘atheist’ to mean ‘one who denies the existence of God’. For him an atheist is someone who denies any one of three theses, only one of which is that God exists. Thus he says in the Preface to his *True Intellectual System* that

three Things are, (as we conceive) the Fundamentals or Essentials of True Religion. *First, That all things in the World do not Float without a Head and Governour; but that there is a God, an Omnipotent Understanding Being, Presiding over all. Secondly, That this God being Essentially Good and Just, there is . . . Something in its own Nature, Immutably and Eternally Just, and Unjust; and not by Arbitrary Will, Law, and Command onely. And Lastly, That . . . we are so far forth Principles or Masters of our own Actions, as to be Accountable to Justice for them, or to make us Guilty and Blame-worthy for what we doe Amis, and to Deserve Punishment accordingly* (Cudworth 1678, Preface to the Reader, pages un-numbered).

True religion adheres to three principles: one, God exists; two, there are moral qualities independent of will and desire; and three, we have free will, and with it responsibility. Cudworth further says that someone who denies any one of these three principles is an atheist. “*These Three . . . taken all together, make up the Wholeness and Entireness of that, which is here called by us, The True Intellectual System of the Universe, in such a Sense, as Atheism may be called, a False System thereof*” (Cudworth 1678, Preface to the Reader, pages un-numbered, page after quote above). The three principles make up the true system. Atheism is a false system that denies these principles. Hobbes, Cudworth thinks, denies all three.

Hobbes denies Cudworth’s third principle, because he is a determinist. He

is, indeed, a target of Cudworth's *Treatise of Freewill*. In the second chapter, in which Cudworth explains the reasons people have given for denying freewill, he even names Hobbes three times, and quotes Hobbes's *Of Liberty and Necessity* (Cudworth 1996, 158-60).

In his *Treatise Concerning Eternal and Immutable Morality* Cudworth attacks Hobbes for denying the second principle. He implicitly identifies Hobbes as one of those who deny that there is any "natural difference of good and evil, just and unjust" (Cudworth 1996, 13). Cudworth says that "of this sort is that late writer of ethics and politics", before quoting *De Cive* and *Leviathan* to illustrate what the "late writer" says.

Cudworth also attacks Hobbes for denying the first principle. That is, Cudworth thinks that Hobbes denies God's existence. We see this in chapter two of the *True Intellectual System*, in which Cudworth considers "all the pretended Grounds of Reason for the Atheistick Hypothesis" (Cudworth 1678, 57). He describes sixteen arguments given for atheism. Some of these he clearly attributes to Hobbes. Those attributed to Hobbes include the first and third of those grounds.

The first is "That we have no *Idea of God*, and therefore can have no evidence of them" (Cudworth 1678, 63). Hobbes clearly believes the first part of this. Recall the Third Objections, where his main argument against the *Meditations* is that we have no idea of God. Moreover, in discussing this argument, Cudworth quotes "a Modern Writer", who is Hobbes. The passages he quotes include this from *Leviathan* IV.xlvi, in which Hobbes makes his point "with no small pretence to wit" (Cudworth 1678, 63):

they that venture to reason of his [God's] nature from these attributes of honour, losing their understanding in the very first attempt, fall from one inconvenience into another, without end and without number—in the same manner as when a man ignorant of the ceremonies of court, coming into the presence of a greater person than he is used to speak to, and stumbling at his entrance, to save himself from falling, lets slip his cloak;

to recover his cloak, lets fall his hat; and with one disorder after another, discovers his astonishment and rusticity (Hobbes 1994b, IV.xlvi.23).

The third ground involves arguments against immaterial substance. Cudworth concludes his review of this ground by presenting the following argument: “that an Incorporeal Substance is all one with *an Incorporeal Body*, and therefore Nothing” (Cudworth 1678, 67). That is all but a quote from *Leviathan*, and I discussed the argument to which Cudworth alludes in chapter three.

In both cases Cudworth clearly thinks of Hobbes as an atheist. And in both cases he means by ‘atheist’ neither ‘determinist’ nor ‘one who denies that there is natural, non-arbitrary, non-conventional good and bad’, but ‘one who denies the existence of God’. I think that Cudworth is wrong about what Hobbes is doing in the quoted passages: Hobbes is not arguing that God does not exist. However, that is what Cudworth thinks Hobbes is doing. Thus Cudworth, unlike Clarendon and other seventeenth-century critics of Hobbes, thinks that Hobbes lies about his belief in the existence of God. Cudworth thinks that Hobbes denies God’s existence, even though Hobbes doesn’t directly say so. I think Cudworth is wrong here, because he misunderstands Hobbes’s arguments. I pay attention to Cudworth because he is an exception to the general pattern of comments that Hobbes is an atheist. He, as recent critics, and unlike most seventeenth-century critics, thinks that Hobbes is covering up a denial of God’s existence.

4.4 Materialism and Atheism

My conclusion from general reflection on the available evidence is that Hobbes is not an atheist (section 4.2). However, there are some rather detailed arguments in the recent literature that Hobbes is an atheist. I will now address two of them.

The first is the argument of Jesseph (2002), which is based on Hobbes’s

materialism. Jesseph takes Hobbes to say that God is a body, but also to say things about bodies that contradict other things he says about God. Jesseph argues that God, given Hobbes's general principles about bodies, cannot be a body. Thus Hobbes cannot really believe, despite what he says, that God is a body. The best explanation for this is that Hobbes does not believe that God exists.

The clues to Hobbes's atheism are supposed to lie in two places: things he says about God, and his general account of what bodies are. Given what Hobbes says about bodies, God cannot be a body.

Although the concept of a material God is not incoherent in itself and may even have an orthodox pedigree, it cannot be consistently combined with other things Hobbes claimed about the Deity. Indeed, when we inquire into the principle features of such a Hobbesian God and His relationship to the world, it becomes impossible to take Hobbes's supposed theology seriously or to think he ever intended it seriously (Jesseph 2002, 143).

From here Jesseph proceeds to give his main line of reasoning. If we look at what Hobbes says about bodies, we see that it's impossible for such a body to be God. Thus, if we stand back from the details, the argument has the following structure.

- (1) Hobbes says that God exists and is a body.
- (2) Given Hobbes's general metaphysical principles, God could not be a body.
- (3) The best way to understand (1) and (2) is to say that Hobbes did not really believe that God exists. When he said that God exists he was just trying to conceal his atheism.

I want to engage with that argument on a fairly general level, rather than with the details of Jesseph's approach. My biggest criticism is that it's not so obvious that Hobbes believes (1). There is also a plausible way to block the move from (1) and (2) to (3). Though this is not a comprehensive discussion, these points do show how one may block Jesseph's argument. When we combine

them with the general reflections on the evidence for Hobbes's hidden religious views, it becomes very plausible to call Hobbes a sincere theist.

Regarding (1), I agree that Hobbes says throughout his work that God exists. However, I deny that he says that God is a body, except in a late period, from about 1660 on. Before that, Hobbes says merely that we cannot imagine God. To support this I will briefly survey some things Hobbes says about the materiality or otherwise of God. I will do this in three stages. First I will look at Hobbes's position in the early 1640s. Secondly I will look at his view in 1651 in *Leviathan*. Thirdly I will look at Hobbes's late view, which he expresses from 1662 on. Throughout I will summarize, relying on my more detailed discussion in chapters two and three to support my reading.

First, then, I turn to Hobbes's view in the the early 1640s. In the Third Objections, for instance, Hobbes says nothing about whether God is material. He does say again and again that we have no idea of God. Ideas are images, and we can form no image of God. We can think about God, but only by means of a conception, not an idea. We can conceive of God as the cause of all around us.

In his critique of White and in *De Cive* XV.14 Hobbes again distinguishes between things we can think about using ideas and things we can only think about using conceptions. Related to this is the thought, expressed in *De Cive*, that the only attribute of God of which we can strictly speaking know is his existence. To know things about God, other than that he exists and created the world, we would have to be able to think about him using an idea, which we cannot do. So we cannot, on this view, know whether God is material or not.

Now look forward to 1651 and the English *Leviathan*. Hobbes's emphasis is again on our inability to understand God. That is, his view about the materiality of God is the same as his view in the early 1640s. He does add to that core thought. Most notably, he has a theory of what is happening when we talk

about attributes of God's other than his existence. We are trying to honour God by saying that he has exaggerated versions of attributes we find praiseworthy among ourselves. We find knowledgeability praiseworthy, so we call God omniscient. We are not literally describing an attribute of God – we cannot do that – but are trying to praise him.

Hobbes later changes his view. From about 1662 he says that God is a body. Thus he comes to think that we can know about at least one more attribute of God, his being extended. In replies to Wallis (Hobbes 1839a, 4.429) and Bramhall (Hobbes 1839a, 4.313), and in the Latin Appendix to *Leviathan*, Hobbes states and defends that view. In summary then: Hobbes does not believe that God is a body until the late part of his career. Thus Jesseph's claim (1) that Hobbes writes that God is a body, is false for most of Hobbes's career. It rests on a mistaken understanding of Hobbes's materialism.

It is, however, a good description of Hobbes's view at the end of his career. Thus Jesseph's argument might still show that Hobbes became an atheist, even if he was not always one.

Note however that when Hobbes does believe that God is a body, he tries seriously to defend his belief. He uses, in particular, a comparison to Tertullian's view. Hobbes's idea is that it is perfectly acceptable for him as a Christian to say that God is a body, because Tertullian said this. Tertullian remained prominent despite saying this, and was never condemned for it. Indeed, Tertullian was prominently cited in English religious discourse in the seventeenth-century: the translators of the King James Bible refer to him more than once in the preface to the reader. This seems to be a serious, sensible defence of the view that God is a body.

That suggests that the move from (1) and (2) to (3) is illicit. Hobbes thinks that he can seriously defend the view that God is a body. Now, there are certainly difficulties with that view. However, we can explain how Hobbes could

hold the difficult view: by relying on the incomprehensibility of God. He has come to think that we can know that God is extended, but not to think that we can understand God, or even that we can know about any other attributes he has. I suggest that Hobbes's view of God's incomprehensibility remains strong, so he can say that God is a body, even though we cannot understand how this could be.⁷

So, to conclude this section: Hobbes does not think, for most of his career, that God is a body; and when he does think it, he thinks this sincerely, defends it thoughtfully, and has a way to make it fit his system.

4.5 Ethics and Atheism

Edwin Curley believes that Hobbes is an atheist. Curley, like Clarendon, thinks that Hobbes is trying to subvert moral, political, and religious life. Unlike Clarendon he connects this to a denial of God's existence. Curley gives several arguments for Hobbes's being an atheist. I want to focus on one in which Curley first argues that Hobbes has non-Christian ethical views, then argues that this shows that he is an atheist (Curley 1998).

Curley's general position in this paper about Hobbes's religious views is that,

Hobbes was probably an atheist, but at a minimum that he was deeply skeptical about Christianity, and about theism in general, and that seeing that is essential to understanding *Leviathan*. I see Hobbes as one member of an underground movement, which also included Spinoza and Hume, whose purpose was to subvert the dominant religion of their culture and to free people from the authority of the priests and their sacred texts (Curley 1998, 91-2).

I want to focus on one particular reason that Curley gives for that reading. Curley compares Hobbes to Machiavelli, and claims that

⁷It's worth noting, while we discuss this topic, that Cudworth (1678, 59), even though he thinks that Hobbes is an atheist, denies that the view that bodies are the only substances alone implies atheism.

both Machiavelli and Hobbes teach a doctrine fundamentally incompatible with Christian ethics, and that it is, therefore, a mistake to regard them as Christians. They both, of course, present their doctrine as an interpretation of Christian ethics. But I do not take that claim very seriously. In the period in which they were writing, someone in fundamental disagreement with Christian teaching could hardly be open about his disagreement with any safety (Curley 1998, 99).

Curley refers here to Hobbes's second law of nature. The second law is that,

that a man be willing, when others are so too, as far-forth as for peace and defence of himself he shall think it necessary, to lay down this right to all things, and be contented with so much liberty against other men, as he would allow other man against himself (Hobbes 1994b, I.xiv.5).

After giving the law, Hobbes says that "this is that law of the Gospel: 'Whatever you require that others should do to you, that do ye to them'" (Hobbes 1994b, I.xiv.5). Curley finds Hobbes's identification of his second law with the Gospel's claim implausible, a "bold appropriation" (Hobbes 1994b, I.xiv.5, n.6). He finds it implausible because Hobbes's injunction to do to others as they do to you is conditional on others being willing to act in the same way. Curley thinks that Christian ethics require one to follow the rule however others choose to act. He cites Luke 6:27-31:

But I say unto you which hear, Love your enemies, do good to them which hate you, Bless them that curse you, and pray for them which despitefully use you. And unto him that smiteth thee on the one cheek offer also the other; and him that taketh away thy cloke forbid not to take thy coat also. Give to every man that asketh of thee; and of him that taketh away thy goods ask them not again. And as ye would that men should do to you, do ye also to them likewise (Luke 6:27-31, KJV).

Here one is told to treat others well, even if they act in exactly the opposite way. Thus, Curley concludes, Hobbes's second law is not a Christian ethical principle. In particular, it is not the principle that Hobbes claims it is. Curley thinks that Hobbes says that his second law is the golden rule because he cannot openly reject Christian morality in the place and time in which he writes. Hobbes's

second law is, however, not the Christian principle that he claims it is, and his real message here is subversive of Christian morality. Then, because Curley thinks that belief in Christian ethics is essential to being a Christian, he takes the ethical position to imply that Hobbes is not a Christian.

Curley's argument is that a Christian must believe Christian ethical doctrines, and that Hobbes's second law is so different in spirit from Christian ethical doctrine that Hobbes does not count as believing that doctrine. Hobbes holds unchristian ethical views. Because of this we can say that he is an atheist.⁸

The question is, when is something that is called an interpretation of Christian ethics not an interpretation of Christian ethics. We should, I suggest, allow more things than Curley does to count as versions of Christian ethical doctrine. Someone in Hobbes's position, with the Bible as the source of revealed knowledge, has a large, complicated, and often apparently contradictory set of texts to deal with. This complexity leads people to write things such as,

Biblical ethics is unyieldingly diverse . . . [it] does not provide an autonomous and timeless and coherent set of rules; it provides an account of the work and will and way of one God, and it evokes the creative and faithful response of those who would be God's people. The one God of scripture ensures the unity of biblical ethics, but there is no simple unitive understanding even of that one God or of that one God's will. To force biblical ethics into a timeless, systematic unity is to impoverish it (Metzger and Coogan 1983, 202).

Though it is plausible for a Christian to take the words of Christ as central to an interpretation of the Bible, it is at least *prima facie* true that a wide range of positions could count as interpretations of the biblical ethical doctrine. And words of Christ need to be interpreted, and that needs context, and other texts can provide context, and before we know it we are confronted by countless readings.

⁸An atheist or someone who is "highly sceptical" about Christianity and theism more generally. "Highly" should be emphasized though, given the other things Curley says.

With this more inclusive understanding, we need not conclude that Hobbes's second law is contrary to Christian ethical doctrine. Curley shows that it does not fit the golden rule passage in Luke as well as one might like, but not that Hobbes's view is unchristian. We best understand Hobbes here as trying to reconcile the findings of natural reason about morality with the findings of revelation through scripture. This is not an easy task. It involves the difficulty of finding one core ethical view in the Bible, and the difficulty of fitting that together with other reasoning about morality. He may not succeed, but that does not show that he does not try.

Thus Hobbes's second law is plausibly understood as Christian, even if other Christians think it gets Christian ethics wrong. Moreover, even if it goes over the line, as such interpretations no doubt sometimes do, that would not be enough to show that Hobbes is an atheist. To push your interpretation of Christian ethics too far and thus hold unchristian ethical views does not show that you have even contemplated atheism.

Now if, as Curley does, you think that Hobbes is an atheist on other grounds, and if unlike me you think that the second law is neither a Christian ethical doctrine nor an attempt to construct one, then you could take the passage to fit your general picture. But it is not in itself nearly enough to justify that picture of Hobbes as an atheist who partially conceals his views.

Obviously I could continue this discussion for a long time, attempting to answer every one of Curley's many arguments for his conclusion that Hobbes is an atheist. However, I rely instead on the general reflections above on the sort of evidence we would need to conclude that Hobbes is an atheist, and how that evidence is lacking. I address this argument of Curley's, as well as Jesseph's, as recent examples of two plausible-sounding approaches, which ground the claim of atheism in Hobbes's ethical and materialist views respectively. The general reflections are the foundation of my case though. There is no good evidence

that Hobbes is an atheist.

Chapter 5

Accidents

5.1 The Nature of Accidents

Hobbes's philosophy describes the world in terms of bodies and their accidents. There are bodies. Those bodies have accidents: at least motion and extension, and perhaps others. Hobbes refuses to define 'accident', but nevertheless has views about what accidents are and are not. He says for instance that accidents are neither bodies nor parts of bodies. In the background of Hobbes's discussion lies the scholastic view that some features of substances may exist apart from them.¹ Hobbes is not the only modern philosopher to address that view. Descartes, for instance, criticizes substantial forms and real accidents.² Hobbes, very roughly, is on the same side as Descartes. Both reject the idea that accidents may exist apart from substances.

The topic, then, is what Hobbes thinks accidents are. I approach it by looking at how he says they relate to bodies, substances. I do not discuss every important aspect of Hobbes's view of accidents in this essay. I do not, for instance, discuss Hobbes's nominalism. I also do not discuss Hobbes's explanation of the existence of some accidents (or at least appearances) in terms of other accidents. Hobbes explains the appearances of colours, for instance, in terms of motions: motions in the apparently coloured bodies, motions in the medium,

¹I try to use 'feature' as a term neutral between 'accident', 'property', 'mode', and other such technical terms, to express what is common to them all. Those technical terms have narrower meanings, and are often used in different ways by different people.

²See for instance Garber (2001, ch. 12) and Menn (1995).

and motions in the head and heart. How that explanation works (whether it is reduction, elimination, or something else) is less clear. So there is some puzzle as to what Hobbes thinks the exact status of secondary qualities is. This is worth investigation, but is not my topic here.

The topic is, rather, what accidents are and how they relate to substances. Hobbes argues against scholastic Aristotelians, such as Fonseca and Suarez, who believe that accidents can sometimes exist apart from substances. Hobbes disagrees, because this would undermine the distinction between substance and accident.

I focus on whether accidents can exist apart from substances, rather than on whether an accident can move from one substance to another. Hobbes does have a view on this second subject: he states in *De Corpore* II.8.21 that an accident cannot move from one substance to another. He has no separate discussion of this issue though. He just refers back to his earlier discussion of the nature of accidents, which concludes that that they cannot exist apart from substances. The arguments are supposed to tell against both views that give accidents some independence from substances: the view that accidents can move from one substance to another, and the view that they can exist apart from all substances. They are explicitly directed at the second view though.

Hobbes disagrees with the view of Suarez and Fonseca that accidents can sometimes exist apart from substances. As I noted, he argues briefly against that view. He does not, however, engage with the arguments given for it. He focuses instead on diagnosing a certain psychological tendency that leads people to such views. There is, says Hobbes, a way we tend to think that leads us to believe – wrongly – that there are as many things in the world as we have ideas.³ We can correct this tendency if aware of it, but it is always there, leading us astray.

³To be more exact, the problem seems to be that we tend to think that there is a thing corresponding to every simple idea, if we take ‘simple idea’ in Locke’s sense.

In particular, Hobbes thinks that it leads some scholastic Aristotelians to give accidents the status of substances.

5.2 Two Arguments

Hobbes approaches the issue of whether accidents can exist apart from substances by claiming that accidents are not parts. In this section I give an initial sketch of his arguments for that claim.

The first argument is in *De Corpore* II.8.3. Hobbes argues that accidents are not parts of bodies, because that would mean that accidents are bodies too.

Because accident is said to be in a body, it should not hence be accepted as if it were something (*aliquid*) contained in body—as if, for example, redness was thus in blood, as blood in bloody cloth, that is, as part in whole—for thus, accident would be body too (Hobbes 1999, II.8.3).

We talk about accidents being in bodies. This is fine, but we should not take it too literally. If accidents were literally in bodies “as part in whole or as content in container (*contentum in continente*) or as householder in house” (Hobbes 1999, II.8.21) then they would be bodies themselves. There are three cases here. First, a part of a whole body, such as the top of a desk, is both part of the desk and a body itself. So if accidents are in bodies as parts, they are themselves bodies. Secondly, if accidents are in bodies as contents in containers then they are again bodies, just as the contents of the desk’s drawer are bodies. Thirdly, the householder in the house is, I take it, just a case of the content in the container.

Why is it objectionable to think that accidents are bodies? For Hobbes this is just absurd. If we know one thing about accidents, it is that they are distinct from bodies (see *De Corpore* II.8.2). We know what it means to say that something is extended or moved, even if we cannot define ‘accident’. Part of knowing

what it means to say that something is moved is knowing that the motion is not the moving thing, but something else, an accident.

Hobbes's second argument is in *De Corpore* I.3.4. He considers why some philosophers think that accidents are things that are attached to bodies and can exist apart from them. People make these claims, he says, because they can consider a body and its accidents separately.

The abuse consists in this, that when some men see that the increases and decreases of quantity, heat, and other accidents can be considered, that is, submitted to reasons, as we say, without consideration of bodies or their subjects (which is called "abstraction" or "existence apart from them"), they talk about accidents as if they could be separated from every body. The gross errors of certain metaphysicians take their origin from this; for from the fact that it is possible to consider thinking without considering body, they infer that there is no need for a thinking body; and from the fact that it is possible to consider quantity without considering body, they also think that quantity can exist without body and body without quantity, so that a quantitative body is made only after quantity has been added to a body. (Hobbes 1981, 231).

Hobbes calls some metaphysical views "gross errors". These views involve thinking that there are two things present, for instance body and quantity, when there is only one. The question is, why does Hobbes believe that it is wrong to think that, say, body and quantity are two distinct things? The problem Hobbes finds has something to do with a mistaken move from 'I can think of this without thinking of that' to 'these are two distinct things'.

I discuss below just what the problem is. I want first though to consider just what Hobbes means by talking about accidents being, or not being, parts of substances.

5.3 Accidents and Parts

In both arguments Hobbes says that others err by treating accidents too much like bodies. He says that accidents are not parts of bodies, and should not

be treated as bodies. This appears to be a fair but trivial point, yet Hobbes thinks he is arguing against an entrenched opinion. He says that “most (men) wish to say that an accident is something, that is, some part of natural things” (Hobbes 1999, II.8.2) and that “some men . . . talk about accidents as if they could be separated from every body” (Hobbes 1981, 231). Hobbes thinks that some people believe that accidents are parts. What, though, could one sensibly mean by saying that accidents are parts of things?

The view that accidents are parts of bodies is implausible because it looks like the view that accidents are spatial parts of bodies. That is, it looks like the view that accidents are parts in the same way the left half of my desk or the handle of my coffee cup are parts. However, accidents are not parts in this way. These parts are spatial parts, occupying some of the space a thing occupies but not all of it. (If one wants to say that a thing is a part of itself, this will be a special case.) Accidents, however, are typically had by the whole thing. Thus the man is musical, not some part of him, and the cup’s cream colour is not in some spatial part of it, but in all of it. Colours do raise obvious examples of things that do not have the accident all over – say the cup has a blue stripe around the rim. This does not cause any deep problem for my claim though. A thing has colour only in some spatial region because it has a spatial part that is in that region and has that colour, not because colours themselves are spatial parts of things.

The view that accidents are spatial parts of things looks unsustainable. It seems not worth trying to find someone who holds it, against whom Hobbes is arguing. More likely, Hobbes thinks that some philosophers think that accidents have some salient features that parts have.

One feature that many parts are commonly thought to have is that, if they are removed from the things they are parts of, the things still remain. For instance, if the cover is torn from the book, the book still exists. We might

think that the same is true of accidents, that if accidents are removed from the things they are accidents of, the things will remain. However, this is not such a bad position, and is widely held. An obvious source for it is Aristotle's *Categories*, where he says that "it seems most distinctive of substance that what is numerically one and the same is able to receive contraries. In no other case could one bring forward anything, numerically one, which is able to receive contraries" (Aristotle 1984, 4a10-14). Hobbes agrees. He says that, "production or destruction of any accident makes its subject be said to be changed" (Hobbes 1999, II.8.23). That is, accidents of a body can be produced or destroyed, which makes the body change, but it remains the very same body. That subjects can survive the loss of accidents is not a wild or uncommon claim. Indeed, to deny it is effectively to deny that things can change, which is not an unheard-of position, but is hardly standard either.

Parts have other features though. If the cover is torn from the book, both the book and the cover still exist. Here the part itself exists as a separate thing after being separated from the whole. Does Hobbes see his opponents as guilty of thinking of accidents as like parts in this way?

On this subject, and with Aristotle in mind, note the following from early in the *Categories*: "some [of the things there are] are in a subject but are not said of any subject. (By 'in a subject' I mean what is in something, not as a part, and cannot exist separately from what it is in.) For example ... the individual white is in a subject, the body (for all colour is in a body)" (Aristotle 1984, 1a22-9). This is, I suppose, one of the original sources for much of this discussion. According to this passage, the individual whiteness "cannot exist separately from what it is in". Does the crucial error that Hobbes alleges lie in diverging from Aristotle by denying this, by claiming that accidents, like spatial parts, can still exist even if separated from the things they belong to? One reason to suspect that this might be the crucial point is that Hobbes explicitly

approves of Aristotle's view that an accident is not a part of its subject. He says that Aristotle explains "that an accident is in its subject, not as any part thereof, but so as that it may be away, the subject still remaining; which is right, saving that there are certain accidents which can never perish except the body perish also; for no body can be conceived to be without extension, or without figure" (Hobbes 1839a, 1.104). Aristotle says, and Hobbes agrees, that an accident may be said to be in its subject, but is not in it as a part is in it.

Thus we have some idea of what Hobbes's opponents believe: that accidents can exist without the substances to which they usually belong. The next question I address is who these people are.

5.4 Hobbes's Targets

There are philosophers who think that accidents can, in some circumstances, exist apart from substances: those who believe that in transubstantiation the substances of the bread and wine are eliminated, and the accidents that before inhere in those substances afterwards either exist without inhering in anything, or inhere only in extended quantity, not in a substance. And Hobbes criticizes transubstantiation, calling it

the turning of consecration into conjuration or enchantment . . . As for example, when the priest—instead of consecrating bread and wine to God's peculiar service in the sacrament of the Lords Supper . . . pretends, that by saying of the words of our Saviour, This is my body, and this is my blood, the nature of bread is no more there, but his very body (Hobbes 1994b, IV.xliv.11).

Perhaps then we may take Hobbes's criticism of those who believe accidents to be parts to be directed at those who believe in transubstantiation. They believe that accidents, like parts, can be removed from substances yet still exist. Their reasons for this are connected to their views about transubstantiation. Hobbes attacks those views about transubstantiation, and thinks that scholastic

metaphysics cause problems in theology. It is plausible that he also thinks that scholastic theology causes problems in metaphysics.

It helps in identifying Hobbes's target that he mentions the view that quantity is really distinct from substance. Fonseca and Suarez, for instance, argue against the nominalists that quantity is really distinct from substance (Des Chene 1996, 97-109, especially 103-4). Their argument relies on the doctrine of transubstantiation; the quantity of the host remains after consecration, as the other accidents do, although the substance does not remain. Fonseca says that,

in the holy Eucharist the substance of the bread does not remain, but yet its quantity does, sustaining and uniting qualities that are really distinct, like brightness, taste, and so on. Quantity therefore is really distinct not only from the substance of the bread, but also from its qualities (Fonseca, *In meta.*, quoted at Des Chene (1996, 103)).

We might reconstruct the argument in the following way.⁴ Doctrine here shows that quantity can exist without matter. Thus either quantity is really distinct from matter (quantity can exist without matter and matter can exist without quantity) or it is only modally distinct and matter is a mode of quantity (quantity can exist without matter but matter cannot exist without quantity). No-one thinks that matter is a mode of quantity (the temptation, if anything, is to think that quantity is a mode of matter). So matter and quantity are really distinct.

Hobbes attacks the view of accidents of philosophers such as Suarez and Fonseca. Hobbes criticizes Roman Catholic views about transubstantiation. So we may suspect that he criticizes the view of accidents by criticizing its theological roots. However, when Hobbes explicitly criticizes the view that accidents can exist apart from substances, he does not mention transubstantiation.

Hobbes also does not address the full complexity of the positions of Suarez and Fonseca. He attacks a simplified version of their view. To believe their view

⁴Here I follow Des Chene (1996, 103).

about transubstantiation is only to hold that accidents can be separated from and exist apart from substances in miraculous cases. Someone with this view has two pictures: a picture of what happens naturally, in which accidents cannot exist apart from substances; and a picture of what can happen miraculously, in which accidents can exist apart from substances. It is not part of the view that accidents can in the course of nature exist apart from substances.

Fonseca distinguishes the two parts of the view:

Inherence is twofold, actual or aptitudinal [...] Actual [inherence] is that by which an accident inheres actually [actu] in subjects; aptitudinal [inherence] is that by which it has a propensity to inhere [i.e., actually]. No Philosopher either discovered or affirmed this distinction until after it was shown by faith that the accidents of the Holy Eucharist did not exist in substance [...] All judged, before the mystery was divinely revealed, that there was no other inherence than actual [inherence], and indeed that it was contradictory for accidents to be separated from the subject substances in which they inhered (Fonseca, *In meta.*, quoted by Des Chene (1996, 130 n.15)).

Here we see, revealed chronologically in Fonseca's history of the problem, the two different parts of the view. The first involves actual inherence, which was the only inherence anyone thought of before faith led to the need to account for accidents existing without substance in the Holy Eucharist. Fonseca thinks that, in the natural course of things, accidents actually inhere their subjects. However, faith requires him to account for something more, and he accounts for it by talking about accidents' potential inherence. All accidents have this, even those left without substance by divine intervention. Accidents untouched by divine intervention have both potential and actual inherence. The only case in which Fonseca sees the need to allow actual existence of accidents without substances, potential inherence without actual inherence, is the case of the Eucharist.⁵

⁵Eustachius's textbook gives some clarification here. He notes that the move to taking potential inherence as the feature shared by all accidents blocks the argument that the accidents

Although the passage above considers the inherence relation, it is relevant to whether accidents can exist apart from substances. What Fonseca carries over to his general metaphysical view from his accounting for faith is not that any accident can in any situation exist without substance. Instead, what Fonseca carries over is a qualification.⁶ He allows for the existence of accidents without substances when God directly acts to make this so. In the general course of nature, accidents must inhere actually, not merely potentially, in substances. This view treats accidents rather unlike little bodies. A body which is a part of another body can, generally, non-miraculously break off and yet continue to exist. Fonseca denies that accidents can do that.

Thus it appears that Fonseca does not make the error of treating accidents overly like bodies that Hobbes attributes to his opponents. At least, we can say that Hobbes ignores the complexity of this position, preferring to attack what he sees as the underlying problem. He does this, in part, because of his method of criticism. His main attack, we will see, involves diagnosing an underlying mental error that leads people to faulty positions. If you attack people in this way, you will tend to be less concerned with their explicit arguments.

It is plausible though that these non-nominalist scholastics are a target of Hobbes's arguments about the nature of accidents. They do believe something like the view that accidents are parts (though not, as we have seen, the really objectionable version). They also hold that quantity is really distinct from substance. Hobbes singles that view out as an example, and it is a helpful marker of who he has in mind.

in the consecrated Eucharist are no longer accidents because they no longer inhere in a subject (Eustachius a Sancto Paulo 1648, p. 4, d. 1, q. 2).

⁶In the background lies the difficulty of figuring out how much was carried over by sixteenth-century scholastics from discussions of the Eucharist to metaphysics more generally. I do not propose to answer this question in its full generality here.

In identifying Hobbes's opponents I focus on the doctrine of transubstantiation. Some may think that I should discuss another well-known scholastic view, the view that much of the behaviour of an object is explained by the presence in it of qualities that are not explicable by features such as shape, size, and motion. Consider for instance the explanation of a thing's tendency to fall in terms of its heaviness, which Hobbes discusses sarcastically in *Leviathan* IV.xliv. This is the view that is criticized by jokes about dormative virtue. It is a prominent aspect of scholastic physics and ontology, at least from the perspective of scholasticism's critics. And it seems to bear on what accidents are.⁷

The connection of these qualities to substances may be puzzling (though it is not immediately clear why it is any more puzzling than the relation of, say, extension to an extended substance). However, that issue is distinct from the issue I am considering in this chapter. To believe that there are such qualities is not to believe that they may exist apart from substances. That is a further move, which is supported by the arguments about transubstantiation.

Now, though we can pick out who Hobbes is attacking, it is harder to see how he is attacking them. He does not engage with their arguments or the details of their view. To see what he is doing, a comparison to an argument that Digby gives is suggestive. I turn to this in the next section.

5.5 Hobbes, Digby, and the Way we Tend to Think

Look back at Hobbes's second argument. He says that,

when some men see that the increases and decreases of quantity, heat, and other accidents can be considered, that is, submitted to reasons, as we say, without consideration of bodies or their subjects (which is called "abstraction" or "existence apart from them"), they talk about accidents

⁷For more on views that invoked so-called occult qualities, and their critics, see Hutchison (1982) and Hutchison (1991).

as if they could be separated from every body. The gross errors of certain metaphysicians take their origin from this (Hobbes 1981, 231).

Whatever Hobbes is saying here, it clearly does not address his opponents' explicit argument. I think that he is nevertheless saying something relevant. My reading is inspired by a passage in which Hobbes's acquaintance Kenelm Digby makes a similar move, but at greater length.

Digby discusses an example in which someone looks at, smells, tastes, and touches an apple and forms several notions (greenness, mellowness, sweetness, coldness) on the basis of this perception. In the mind are several perceptions, although there is only one apple in the world. Digby says that,

if I be not very cautious, and in a manner wrestle with the bent and inclination of my understanding (which is apt to referre the distinct and compleat stamp it findeth within itself, unto a distinct and complete originall character in the thing) I shall be in danger before I am aware, to give actual Beings to the quantity, figure, colour, smell, tast, and other accidents of the apple, each of them distinct one from another, as also from the substance which they clothe; because I finde the notions of them really distinguished (as if they were different Entities) in my mind. And from thence I may inferre, there is no contradiction in nature to have the accidents really severed from one another, and to have them actually subsist without their substance: and such other mistaken subtilties, which arise out of our unwary conceiting that things are in their own natures after the same fashion as we consider them in our understanding (Digby 1645, I.i.2).

Digby describes the move from awareness of distinct mental images to the conclusion that there are distinct entities in the world not as an argument that his opponents give, but as a natural mental error we are inclined to make. He does not ascribe an explicit argument to his opponents. Rather he diagnoses a common faulty way of thinking. We tend to assume that a distinct thing in the world corresponds to each distinct (simple) idea that we have. Digby warns us to be careful, lest we be lead astray by this common mental error. It is an error, because it is not generally a good argumentative move. That is, this

psychological move does not correspond generally to any logically good move. Once we are aware that we might think in this way, we can be alert and correct the error if we are tempted to make it.

I suggest that we should think of Hobbes's second argument as very similar to Digby's argument. Hobbes is diagnosing this same common underlying way of thinking. Thus he is not especially concerned with the details of his opponents' positions. Instead, he thinks that a common mental error underlies and motivates their views. They are overly influenced by the tendency to assume that a distinct thing in the world corresponds to each distinct (simple) idea that we have.

Hobbes and Digby think that their opponents have an underlying motivation that differs from their explicit arguments. That underlying motivation is a mental error, or at least a mental move that needs a lot of (absent) argument to back it up. Digby says that the understanding, unless checked, "is apt to referre the distinct and compleat stamp it findeth within itself, unto a distinct and complete originall character in the thing". We tend make this invalid move unless we are careful not too. Likewise Hobbes says that "when some men see that the increases and decreases of quantity, heat, and other accidents can be considered, that is, submitted to reasons, as we say, without consideration of bodies or their subjects . . . they talk about accidents as if they could be separated from every body". The mistake, again, is to conclude from our having separate thoughts that separate things correspond to them. We can guard against this mistake. Indeed we ought to, otherwise we will be lead into meaningless nonsense. We tend to think in one way, but can check that tendency.

I claim, then, that Hobbes and Digby give the same argument. I suspect that they did not arrive at it entirely independently of one another. If we look at their correspondence, we see Digby telling Hobbes that he should pay attention to the ways in which people actually think as well as the ways in which logic books

say they ought to. That is, Digby tries to get Hobbes to look at actual patterns of thinking, not just logically correct patterns, when writing his logic. This is not the argument above. However, it is Digby trying to encourage Hobbes in that general direction, towards descriptive as well as normative studies of reasoning.

Only four letters survive of the correspondence between Digby and Hobbes (Hobbes 1994a, letters 20, 25-7). All are from Digby to Hobbes. Between Digby's painful tale of his dislocated shoulder that keeps slipping out and his interest in stories of psychic phenomena, we see that Hobbes and Digby discuss logic and philosophy with one another. Most relevant here is a passage in which Digby enquires about Hobbes's work on logic.

In your Logike, before you can manage men's conceptions, you must shew a way how to apprehend them rightly: and herein j would gladly know whither you work vpon the generall notions and apprehensions that all men (the vulgar as well as the learned) frame of all things that occurre unto them; or whither you make your ground to be definitions out of a deep thought into the things themselves. Methought you bent this way when we talked hereof; & still j am of opinion it is too learned a one for that which ought to be the instrument of other sciences. As you write any thing, j pray you communicate it with me (Hobbes 1994a, 42-3).⁸

Digby's point is not entirely clear. However, it is clear that he and Hobbes are discussing logic and thought. Digby is bringing up the imperfect way in which we tend to think, and telling Hobbes to pay more attention to it as he develops his work on logic. Paying attention to imperfect actual patterns of reasoning, while still being aware of logical goodness and badness, is what Hobbes and Digby are doing when they give their arguments about accidents and ideas.

This is not a decisive story about influence and origin. However, Digby does push Hobbes to develop his logic in a certain direction. Years later they give their argument about accidents. That argument is the sort of argument one

⁸Malcolm notes that the reference to Hobbes's Logic is, "probably [to] an early version of the first part of *De Corpore*; possibly to be identified with the notes 'De principiis' (National Library of Wales MS 5297, printed in Hobbes, *Anti-White*, pp. 449-60)" (Hobbes 1994a, 49).

might give if one paid attention to actual, as well as logically ideal, reasoning. This suggests, though it does no more than that, that there is a significant connection between their ideas in this area.

5.6 Conclusion

Hobbes wants to diagnose the underlying mental move that leads his opponents to their erroneous metaphysical view. They are lead to their view by tending to think that there is a thing in the world corresponding to each idea they have. Thus there is, for instance, a thing corresponding to quantity as well as one corresponding to substance. This gives accidents a status overly like the status of substances.

Here Hobbes makes a lot of the underlying way of thinking that leads people into errors such as the view that accidents can exist apart from substances. However, if this were all he said, there would be a gap in his objection. Even if you believe something because you followed a mistaken chain of thought to it, still it might be the right thing to believe.

Hobbes fills this gap though. That is, he has an argument that we should not treat accidents as capable of existing apart from bodies. This would collapse the distinction between bodies and accidents. We know that bodies are somehow different from accidents. Yet if accidents could exist apart from bodies, they too would be bodies. This is the first argument I quote above, the point about the psychological tendency is the second.

Hobbes, then, criticizes others' views about what accidents are. However, he does not really have an alternative metaphysical view himself. He refuses to define 'accident'.⁹ We can get along well enough, he says, with our everyday

⁹Hobbes does, rather tentatively, say that an accident is "the manner of our conception of body" (Hobbes 1999, II.8.2), but the general message of the section is that defining 'accident' is not a good project. Indeed, he says that his description of what an accident is does not

knowledge that accidents are not bodies. He thinks it is better to have no view here than to have a false view. After all, much as he does want to be correct about these issues, they are only preliminaries to explaining the world in terms of bodies and their motions. If we can see that there are bodies, there are motions, and motions are not bodies, that will be enough for us to get on with the project.

really define 'accident', but answers another, better, question about what causes appearances of things.

Chapter 6

Hobbes and Zabarella

6.1 Motivation

Book I of *De Corpore* lays out the beginnings of Hobbes's philosophical system. The first chapter tells us what philosophy is. The rest is Hobbes's main work on logic. Hobbes discusses words, propositions, syllogisms, errors, and, in the last chapter, method. Method tells us how to investigate things in order to achieve *scientia*, the best sort of knowledge.

Many authors on Hobbes find his method to be an important part of his system. It is one of the few parts of his work to attract the attention of both those primarily interested in his political philosophy and those with other interests. The hope, I suppose, is that understanding what sort of explanation Hobbes thinks he is giving will illuminate his particular explanations.

My motivations are a little different. I am less interested in how Hobbes applies his method than in just what he says when he lays it out officially. I think that there is good reason to look at Hobbes's stated method itself, even in isolation from its applications. It is a case study in the traditional roots of Hobbes's modern philosophy. I argue that Hobbes's method has its roots in the work of Zabarella, an Aristotelian writer on method. Much as Hobbes sometimes rants about the disasters of Aristotelianism, he does not actually reject it through and through.

I should emphasize that I am interested in Hobbes's statement of his general philosophical method. Thus for current purposes I generally ignore whether

the methods Hobbes announces for mathematics and political philosophy are really compatible with this general picture. I also ignore here whether Hobbes really follows the method he announces. I do, then, focus on a rather restricted question. It is, however, a question worth asking.

6.2 Two or Three Readings of Hobbes

A popular story once emphasized the influence on Hobbes of the theories of method of Paduan Aristotelians such as Zabarella. Thus Hungerland and Vick claim that, “it has never been questioned that Hobbes’s methodology shapes (at least in part) his system, and that his methodology comes, historically via Galileo and Harvey, from Padua” (Hungerland and Vick 1981, 24). More recent interpreters attack that story and emphasize the influence of geometry on Hobbes’s general method.¹ Thus Schuhmann says that “it should by now be clear that the simple-minded view of Hobbes’s methodology as deriving directly and/or exclusively from the Aristotelianism of Paduans such as Nifo or Zabarella, does not stand a serious test” (Schuhmann 1990, 343). There are differences between the various recent readings, but there has been a clear shift in the general approach to the origin and basis of Hobbes’s method.

That said, and with no particular wish to be simple-minded, I argue in this chapter that the work of Paduan Aristotelians, in particular Zabarella, is the most important part of the background to Hobbes’s method. So I want, roughly, to revive an old reading of Hobbes, one that ran into disfavour. However, I do not want to revive it in exactly its old form.

For one thing, I want to question the role of Galileo. The standard old story said that Hobbes found his method in Galileo, who himself got it Zabarella (see

¹These include at least Ayers (1991), Hanson (1990), Jesseph (1999), Mancosu (1992), and Talaska (1988).

for instance Macpherson (1968)). This story drew on the work of those such as Randall (1961) who argued that Galileo got his method from Paduan Aristotelians. Randall's view caused considerable debate, and is hard to sustain in its full force. Moreover, it is hard to explain how Hobbes learned of Zabarella's method from Galileo's work. I explore alternative explanations of the availability of Zabarella's view to Hobbes and, although there is no one piece of decisive evidence, conclude that it is plausible that Zabarella's view was available to Hobbes. In doing so, I suggest how Hobbes may have known of Zabarella other than through Galileo.

The other way in which I want to vary the old story is to pay a fair amount of explicit attention to Zabarella's writings. Thus I devote section 6.3 to a summary of Zabarella's short work *De Regressu*, which describes several key points of his method. Previous arguments that related Hobbes to Paduans often talked rather generally about their approach. The closest examination is that of Prins (1990), who argues against the reading I favour. Martinich (1981, 414-21) gives some detail when he argues for the key influence of Paduans on Hobbes method, but he relies on Randall's controversial paper linking Galileo to Paduan method. If we take a step away from Randall, and just look at the key texts of Hobbes and Zabarella, we can make the case for the Zabarellan nature of Hobbes's method more forcefully.

6.3 Zabarella, Method, and *Regressus*

I begin with Zabarella. Authors in the literature on Hobbes often describe Zabarella's method as having two parts. Thus they call it the "resolutive-compositive' method" (Macpherson 1968, 25-6) or "methodological doctrine of "resolution and composition" " (Jesseph 1999, 238). Resolution moves from

effects to causes, composition brings you back from causes to effects. At a suitably general level that is correct, but it misses much detail. Most importantly, the method is better described as having three parts. The crucial though mysterious step of *negotiatio* stands between the move from effect to cause and that from effect to cause. The complete sequence, the arguments from effect to cause and back again, Zabarella calls *regressus*. He discusses this method more than once, but I concentrate on his *De Regressu*. This is short, but will show us several relevant features of his method. At the risk of seeming long-winded, in this section I summarize *De Regressu*.

The first chapter gives a basic description of *regressus*. Zabarella begins with Aristotle's discussion of circular reasoning in the second book of the *Posterior Analytics*. Aristotle rejects most such reasoning. Zabarella claims that Aristotle does allow a similar sort of reasoning, *regressus*. A *regressus* relates a cause and its effect, when the effect is better known to us than the cause. First we conclude the unknown cause from the known effect, then we move from the now known cause to the effect. The first move is *demonstratio quod*, which shows that the cause exists, the second is *demonstratio propterquid*, which shows because of what the effect exists.

Chapter two introduces some arguments against *regressus*. Those who say that *regressus* is not possible make three objections, says Zabarella. The first two are arguments against circular demonstration from *Posterior Analytics* I.3, which seem to apply to *regressus* too.

First objection. *Regressus* requires one thing to be better known than another and to be worse known than it, which is impossible. Demonstrations move us from the better known to the less well known. Thus, in the argument from effect to cause, the effect is better known than the cause. In the move from cause to effect, however, the cause is better known than the effect. Thus in *regressus* the cause is both better known and less well known than the effect,

which is impossible.

Moreover, we cannot solve this this problem by distinguishing what is better known by us from what is better known by nature and then showing that the problem lies in the ambiguity of 'better known'. In both cases what is important is what is better known to us, because in both cases we make the argument.

Second objection. *Regressus* is useless. We conclude cause B from effect A, then effect A from cause B. Overall, all we have is that if there is A, then there is A.

Third objection. The objector proposes a dilemma. If you know to begin with that this cause requires this effect, then you do not need the step in *regressus* that goes from cause to effect. If you do not know that, however, you cannot move from effect to cause, because you, with no knowledge of the cause, will not be able to find it.

In the third chapter Zabarella argues that there is indeed *regressus*, and that Aristotle countenances *regressus*. In *Posterior Analytics* I.3 Aristotle seems to Zabarella to exempt *regressus* from his criticisms of circular demonstration. Aristotle agrees that one thing cannot be both better and worse known than itself, but only if 'known' is taken in the same way both times. The first step in *regressus* argues from what is better known to us. Its second step argues from what is less well known to us, but better known to nature. (This is not a dogmatic reply by Zabarella to the first objection. His eventual reply is different, and depends on his distinction between distinct and confused knowledge.)

Moreover, in *Posterior Analytics* I.13, where Aristotle discusses the difference between showing that and showing because of what, Aristotle allows *regressus*. When he gives his examples of the planets, he argues first from effect to cause, then from cause to effect. That the planets twinkle shows that they are near; that they are near shows why they twinkle. With his use of the same example with the same terms in both directions (from cause to effect and effect to cause)

Aristotle wants to show the two arguments, but also that they have a particular close relation, such that you can rearrange the terms of one argument to form the second.

Zabarella also cites the beginning of the *Physics*. There Aristotle says that to have knowledge we must proceed from principles, causes. To know the causes, however, we must first discover them from the effects. Aristotle thinks that both directions of procedure are important here, not just one. Zabarella notes that Themistius agrees with this reading, and also cites Averroes, who discusses the proper use of *regressus* in his book on the *Posterior Analytics*.

The fourth chapter introduces a distinction between confused and distinct knowledge. Zabarella first recognizes two sorts of knowledge, confused and distinct. You have confused knowledge of an effect when you know that it exists but do not know its cause. You have distinct knowledge of an effect when you know it through its cause. This distinction also applies to knowledge of a cause, but applies differently, because even if a cause does itself have a cause (and is thus an effect), it does not have a cause insofar as it is a cause. You have confused knowledge of a cause when you recognize that it exists but do not know what it is. You have distinct knowledge of a cause when you both recognize that it is and penetrate its nature (*ipsius naturam penetramus*).

This distinction in hand, Zabarella gives as an example Aristotle's argument in *Physics* I.7 from known effect – the generation of substances, which we know from sense experience – to unknown cause – that there is an underlying matter of that change, prime matter. He reconstructs the argument thus: “where there is generation, there is underlying matter; but there is generation in natural body; therefore there is matter in natural body” (Zabarella 1995a, 325/148).

We initially know the second premise confusedly: we see that natural bodies are generated and corrupted, but we do not know the cause of this.

We know the first premise by a sort of induction. Here Zabarella presents

Averroes's distinction between dialectical and demonstrative induction (*inductio dialectica* and *inductio demonstrativa*) to explain 190a31 ff. Dialectical induction considers changeable, contingent things. It is only strong if you manage to collect all the singulars. Demonstrative induction considers things that are essentially closely related, so we can understand the general on the basis of a few cases. In this case we can conclude that change (including substantial change) always has some underlying basis, when our only evidence is that accidental change has such a basis. From the general claim about change Aristotle gets the first premise.

Thus Aristotle can conclude that there is this matter, which is the cause. This answers the question that, but still only gives confused knowledge of the cause. Zabarella says we do not yet know the cause as a cause of the effect, though we do know that it is inseparable from the effect.

The fifth chapter argues that there is a third stage in *regressus*, a step between the move from effect to cause and that from cause to effect. You have after the first step only a confused knowledge of the cause. Your goal is distinct knowledge of the effect. However, confused knowledge will not yield distinct knowledge, so you need now to get distinct knowledge of the cause. Zabarella says that some have seen the need for this step, but no-one has yet explained what it is.

Zabarella says that this step – called variously *mentale ipsius causae examen*, *mentale consideratio*, *causae inventae consideratio*, or *negotatio intellectus* – is based on two things. The first is knowledge that the cause is. The second is a comparison of this cause with the effect, which allows you to discover what the cause is. He explains this using the example from the previous chapter. So far you have concluded that there is matter in natural bodies, and that change cannot happen without there being this matter. That is not yet to conclude that the matter is the cause (or principle) of those bodies. Indeed, Aristotle goes on

to discuss what the matter is like (*Physics* I.7-8), coming to define it: “*materia est primum subiectum, ex quo permanente naturalia omnia corpora fiunt*” (Zabarella 1995a, 327/150). This is the outcome of *negotiatio* in this case.

Now you have clear knowledge of the cause, and can proceed to the last step, which will give you clear knowledge of the effect. Aristotle does not take this step in *Physics* I, because its conclusion is not what he sought there. However, he does take it in *On Generation and Corruption* I. Thus Aristotle completes the three parts of the *regressus* in the example.

Zabarella thinks that *negotiatio* is a crucial part of *regressus* and allows you to acquire clear knowledge of the cause. Others in the Paduan tradition are less certain of this. Both Randall (1961, 60) and Schicker (1995, 67) note that Nifo – another Paduan author on method – thinks our knowledge of the cause to be less certain, more conjectural, than Zabarella takes it to be. Thus Schicker, following Jardine, quotes Nifo:

it appears to me that in the regress the first process which occurs in the demonstrations of natural science, by which the discovery of the cause is syllogised, is a mere syllogism, because merely *coniecturalis*, since through it the discovery of the cause is syllogized only *coniecturale*. The second process, indeed, by which the reason for the effect is syllogised through the discovery of the cause, is *demonstratio propter quid*, not that which makes us know absolutely [*simpliciter*], but rather *ex conditione*, given that it is the cause, or given that the propositions are true which represent it as the cause, and given that there can be no other cause (Jardine 1976, 292).

Nifo, then, sees a certain conjectural nature remaining, even if one goes through all the steps of the method. The move from effect to cause is a mere syllogism, not a demonstration. Ideally, the thing you think is the cause really is the cause. However, it could be that there is some other cause that you failed to understand.

This debate between those who see methods such as this as yielding certain

knowledge and those who see them as producing merely conjectural or hypothetical speculation recurs in seventeenth century debates about the theories of Hobbes and Descartes (Kargon 1966, 109). Indeed, as we will see later, it comes up within Hobbes's own writing, as he leans first one way, then the other.

Let us return now to *De Regressu*. In the sixth chapter Zabarella works through a second example, this one from *Physics* VIII. In the interest of brevity, I will pass over this example here. In the seventh he notes that someone might not work through *regressus* neatly in three steps, one after the other, first reasoning from effect to cause, then investigating the cause, and finally reasoning from cause to effect. Thus the three stages do not always seem to be there. However, they are still *ratione, & natura distinguantur* even if we see no temporal gap between them.

In the eighth chapter Zabarella argues that *regressus* differs from circular demonstration in three ways: in form, in matter, and in end point. What he says about the third difference reinforces a central point. The endpoint of a circular demonstration is the same knowledge you began with. The endpoint of *regressus* is clear knowledge of the effect. The starting point, though, was confused knowledge of the effect. Thus in *regressus* the end point is not the same as the starting point. They can seem to be the same thing, the cause. However, you really start with and end with knowledge of the cause, not the cause itself. These are different bits of knowledge: one is confused, one is clear.

Finally, in the ninth chapter, Zabarella returns to the three objections from the second chapter. His answers rely on the distinction between distinct and confused knowledge.

The first two objections were arguments against circular demonstration, turned against *regressus*. To the first Zabarella agrees that in the first step of *regressus* effect is better known than cause, and in the last step cause is better known than effect. The distinction of distinct and confused knowledge solves

the problem of the cause being both better and worse known than the effect. The effect is better known than the cause by confused knowledge. However, the cause is better known than the effect by distinct knowledge.

To the second argument Zabarella replies that *regressus* does not demonstrate something from itself. It takes you, rather, from confused knowledge of something to distinct knowledge of it. Circular demonstration, in contrast, takes you from clear knowledge of something to clear knowledge of it.

The third argument was a dilemma about the knowledge you begin *regressus* with. Either you already know that the cause is cause of the effect, and then you only need the first step of *regressus*, not the whole machinery, or you do not know it, and then you will not be able to discover the cause, because you do not know that that cause produces this effect.

Zabarella replies that you do not start out knowing that the cause is the cause of this effect. He then argues against the second half of the objection. That is an argument that you cannot come to know something you do not already know. That approach fails, Zabarella thinks, to recognize that there is a place between full knowledge and complete lack of knowledge. On Zabarella's view, both premises of the argument from effect to cause are known confusedly. For instance, 'Where there is generation, there is an underlying matter' and 'There is generation in natural bodies' are known confusedly, the first from induction, the second from sense experience. You start with confused knowledge and work towards distinct knowledge.

It would perhaps be useful to end this long summary of *De Regressu* with a shorter one. *Regressus* has three stages. The first begins with confused knowledge of the effect and moves syllogistically to confused knowledge of the cause. The second is *negotiatio*, in which you investigate the cause, principally by comparing it to the effect, and come to have a better understanding of it, distinct

knowledge. That allows you to tackle the third stage, in which you argue syllogistically from this distinct knowledge of the cause to distinct knowledge of the effect. This distinct knowledge of the effect is a better understanding of the effect than the confused knowledge of it with which you began. It involves knowing the effect through the cause.

6.4 Availability of Zabarellan views to Hobbes

How could Hobbes, in England and France in the middle of the seventeenth century, have been aware of Zabarella's views, views expressed in sixteenth century Italy? Jesseph, for instance, suggests that the case for the transmission of this view from Padua to Hobbes's awareness is weak, at least insofar it follows a common story, which traces a line from Zabarella through Galileo to Hobbes. Jesseph says that, "the evidence for any direct connection between Hobbes and Galileo on this issue is at best inconclusive" (Jesseph 1999, 239). The connection between Zabarella and Galileo for which Randall argued has also been challenged.²

The connection between Zabarella and Galileo and that between Galileo and Hobbes have both been challenged. I will consider how this alleged line from Zabarella to Galileo and on to Hobbes might be defended. I will then look at some other ways in which Zabarella's view could have been available to Hobbes.

6.4.1 Zabarella, Galileo, and Hobbes

Randall (1961) argues that Galileo found the method of his science in the work of Paduan Aristotelians such as Zabarella and Nifo. Thus he proposes that Galileo's method is continuous with previous approaches, despite what one

²For references to this lengthy debate see Wallace (2000, 100) and Wallace (1988, 133).

might have thought. This lead to substantial debate.

Wallace answers some of the questions of that debate when he shows that Galileo knew the Paduan tradition in method. His argument is long and detailed, and I will summarize it briefly (Wallace (1984) is the key work, and Wallace (1988) summarizes several main points).

Wallace's central move is a comparison of an early manuscript of Galileo with the tradition of lectures on method at the Jesuit Collegio Romano. The link between Galileo and Zabarella involves the work of Paulus Vallius and Ludovico Carbone. Vallius taught the Collegio Romano's logic course in 1587-8. He revised his notes and published this work as his *Logica* in 1622. Vallius's notes were copied by Ludovico Carbone, who published them in 1597. Wallace matches several passages in Galileo's manuscript with passages in Carbone's publication. Wallace also matches passages in the manuscript to Vallius's *Logica*, although the fit is worse in this case. Still, Wallace does link Galileo to Vallius, directly and indirectly. The link between Vallius and Zabarella is easier to make, since Vallius makes it himself. "Vallius begins his exposition of the *regressus* proper by listing his authorities: Paul of Venice, Apollinaris, Dominic of Flanders, Albertus Magnus, Cajetan, Franciscus Storella, and Baldinus, and ending with Zabarella as the one who has treated the *regressus* "best of all" (*omnium optime*)" (Wallace 1988, 141).

Wallace goes on to give details of particular ideas that run from Zabarella to Vallius to Galileo. He also notes links between Vallius's notes and the work of an earlier Jesuit teacher, Lorinus, whose lecture notes survive in manuscript, and who drew on Zabarella (Wallace 1988, 143-5). Many have suspected links between Galileo and his predecessors – Randall's claim about method and Duhem's about *impetus* both lead to long discussions – but Wallace describes this one in remarkable detail.

Wallace shows that Galileo knew of Paduan theories of method. The evidence is in some of Galileo's early notes. However, if we want to connect Hobbes to Zabarella through Galileo, we will need to show that Hobbes could have found this method in Galileo. We do know that Hobbes discussed Galilean ideas. However, these are ideas from the later, published works. To show that Hobbes found Zabarella's method in Galileo's works, we need to show that he found it in the later, published works. It looks to be much harder, though, to show that Zabarella's method is in them than to show it is in the earlier manuscript. Whether we can see this method in those published works was a principal question of the long debate that followed Randall's paper. Wallace's argument that I introduced above does not answer this question.

In a later paper Wallace goes further and argues that Galileo "employed what [Paduan methodology] taught, its *logica docens*, in his scientific writings, and [that] this teaching enabled him to make several discoveries that were very much controverted in the early seventeenth century" (Wallace 2000, 101). However, Wallace in this paper finds Galileo using this method in early experimental work, not in the later, more famous books that Hobbes is more likely to have read. So the difficulty remains.

The common story I mentioned, having lead you from Zabarella to Galileo, would then take you from Galileo to Hobbes. Just how Hobbes is supposed to have picked up ideas from Galileo is a little vague. Still, we should note the points of contact. Hobbes mentions Galileo several times, though these references do not ensure that Hobbes had any detailed awareness of Galileo's work. On 26 January [15 February] 1634 Hobbes wrote to Newcastle about Hobbes's search for a copy of Galileo's dialogues. This was hard to find, because, "there were but few brought ouer at first, and they that buy such bookes, are not such men as to part wth them againe" (Hobbes 1994a, 19-20). Hobbes hoped that a promised translation would soon be finished. From this we see,

at least, that there was an interest in Galileo in Newcastle's circle at the time. Moreover, "Hobbes probably met Galileo in Florence in the spring of 1636" (Martinich 1999, 91). Neither of those stories is quite as conclusive as one might like. Nevertheless, it would be remarkable to find that Hobbes knew nothing about Galileo's work.

Note that Hobbes knew Mersenne well, and Mersenne certainly did know about Galileo's work (Mersenne 1973). Although the Hobbes-Mersenne correspondence does not refer to Galileo, Hobbes and Mersenne frequently met in person. They first met during the same Continental tour on which Hobbes probably met Galileo. Later, Mersenne published Hobbes's 1644 "Tractatus Opticus" (Tuck 1988, 11), and Hobbes was in France from 1641 to 1651. "In Paris, he was free to devote all of his time to studying science with Mersenne, Gassendi, and other men who were well known for their knowledge and power in reasoning" (Hobbes's "Prose Life", quoted in Martinich (1999, 161)). This was just when Hobbes was working on *De Corpore*: he had reached chapter thirteen in 1645 (Martinich 1999, 171) but did not finish for years, and the book was not published until 1655.

We know that the Mersenne circle discussed other Galilean ideas, for instance about perception and secondary qualities (Tuck 1988, 30). In Hobbes, this came out as the suggestion, "that light is a fancy in the mind, caused by motion in the braine, which motion againe is caused by the motion of the parts of such bodies as we call lucid" (Hobbes 1839a, 7.468), (Tuck 1988, 28). Descartes and Gassendi discussed this too, and there were some disputes about priority. However,

all three, it should be said, also came on the idea some years after Galileo in *Il Saggiatore* of 1623 had published a discussion of heat and other tactile properties as unreal or non-inherent in material objects, but instead as purely internal events. Galileo expressly disclaimed any intention of pursuing this idea into the realm of sight, but there is no doubt that the credit for the essential anti-Aristotelian move should in fact be his (Tuck 1988,

30).

Tuck is right to point out that the idea was there in Galileo, of whom Descartes, Gassendi, and Hobbes were all aware before they discussed it.

The three main figures in Mersenne's philosophical circle all discussed the same, notably Galilean, idea. They may have come up with it themselves, or got it from some other source – for instance, Ward criticized Hobbes for deriving such ideas from Warner's manuscripts (Ward 1654, 6-7) – but it does look like the Mersenne circle discussed Galilean ideas. Though it would be nice to have more evidence of sources, clearly Galilean ideas were around in this group. This is not the real problem with the story of influence from Zabarella to Galileo to Hobbes. That comes earlier: Galileo does not appear to have said enough about his knowledge of Zabarella in his main works for Hobbes to have learned Zabarella's method from Galileo.

6.4.2 Harvey and Hobbes

Beyond some path from Zabarella to Galileo to Hobbes, there are other ways Hobbes in which perhaps learned of Zabarella's ideas. Watkins (1973, 41-2) argues that Hobbes knew of Paduan method through Harvey's work. Harvey studied at Padua, incorporated elements of Paduan method in his work, and was praised by Hobbes.

Harvey entered the medical school at Padua around 1598. The medical school had long been linked with the discussions of method. Indeed, it was distinctive of the university at Padua that the study of medicine was so prominent (Randall 1961, 25-6). Harvey had thus the most direct connection to the Paduan tradition in method of any prominent modern scientist of the seventeenth century.

Watkins argues that there are distinctive ideas of resolution and composition

that come to Hobbes through Harvey in particular, rather than Galileo. For instance, Watkins describes the position Harvey takes in the section “The Manner and Order of Acquiring Knowledge” of his *On the Generation of Animals*:

we start, he says, with sensible wholes, and in the case ‘of our present subject’ we proceed ‘by repeated dissection’ to the discovery of principles . . . [for Harvey] a biological principle is an activating and controlling factor localized in some physical part of the organism. For instance . . . in the case of snails, shrimps, etc., ‘the beginning or principle of their life’ is a ‘pulsating vesicle’ which in some cases can be seen as though ‘through a window’ (Watkins 1973, 41).

Watkins also points to Harvey’s biological understanding of composition (Watkins 1973, 42). In both cases Watkins want to show the impact of Harvey’s biological Paduan approach on Hobbes’s approach to political philosophy. Resolution is mentally taking apart society and tracing its causes all the way back to the motions of the mind. Hobbes then puts things back together, but this time in an ideal way, to yield the commonwealth as he thinks it should be.

The key text that Watkins cites is from Harvey’s *De Generatione Animalium* (translated in Harvey (1981)). That was published in 1651, by when Hobbes had already done much of the work on the early part of *De Corpore*. Indeed he claimed to have finished the early chapters in the late 1640s. Thus it appears that Harvey could not have been a crucial source of Hobbes’s information about Paduan method.³ If Hobbes did not know about such approaches until 1651, it is unlikely that they had a big influence on his thinking about method in *De Corpore* (and they could not have influenced the political thought of *De Cive* and *Leviathan*). Tempting as Watkins’s story is, if it must rely on Hobbes’s knowledge of the sections on method in the *De Generatione Animalium*, then it has problems.

³This is so even if, as Prins (1990, 28) claims, Hobbes was in 1645 struggling with method when the rest of his logic was mostly in place.

6.4.3 Direct acquaintance

I have considered how Hobbes may have known of Zabarella through some intermediary or chain of intermediaries. However, Hobbes may just have read Zabarella. Direct, explicit evidence for this is lacking, but then so is such evidence for most of Hobbes's reading. The likely sources are all somehow flawed. Hobbes mentions few authors in his works and correspondence. Another resource is the long list of books, seemingly made by Hobbes from the catalogue of the Bodelian library, which was published by Paachi (1968). It is unclear how we should interpret this though.⁴ Then there is Aubrey's *Brief Lives*, which describes Hobbes's reading habits, but does not give many details of what Hobbes read beyond Homer and Virgil. We might think to look at what Hobbes read as a student, as studies of Descartes sometimes look at what he read at La Fleche. There is however no information on the curriculum at Oxford when Hobbes was a student comparable to the information on the curriculum that Descartes followed.

We do know some things though. Zabarella's works were popular in England as well as elsewhere. Ashworth, discussing influences on teaching at Oxford in the seventeenth century, says that, "at the beginning of the century the predominant influence came from Italy: the two most popular logicians were Jacobus Zabarella and Julius Pacius" (Ashworth 1988, 6).⁵ This raises the possibility that Hobbes, who was an undergraduate at Oxford from 1602-8, came across Zabarellan ideas very early. Certainly he learned Aristotelian logic, although the details of just what he read and learned are hard if not impossible to figure

⁴It is unclear how to interpret the list even if Hobbes did write it. Malcolm (2002, ch. 4, especially 85, 143) argues that the manuscript – MS E2 in the collection of Hobbes manuscripts at Chatsworth – was written by Payne, not by Hobbes.

⁵"Zu Beginn des Jahrhunderts kam der vorherrschende Einfluss aus Italien: die beiden populärsten Logiker waren Jacobus Zabarella und Julius Pacius" (Ashworth 1988, 6). However, Ashworth gives no source for this here, and I can find no relevant reference in her other work.

out. Still, Hobbes may have encountered Zabarellan views then.

Later in the century, Zabarella appears on the list of authors whose books Locke's students bought in 1661-2 (Ashworth 1985, 304). Although Hobbes was not in Oxford then, the awareness of Zabarella's ideas at Oxford shows their general influence and popularity, and only makes it more likely that Hobbes was aware of them.⁶ These observations are far from conclusive, but help to make it plausible that Hobbes knew of Zabarella's work.

6.5 *De Corpore* I.6

In this section I argue by comparing *De Corpore* I.6 to *De Regressu* that Hobbes's method follows Zabarella's. Why emphasize *De Corpore*, and this chapter in particular? After all, Hobbes makes methodological comments throughout his work, from his critique of White to his dispute with Wallis. Nevertheless, the first part of *De Corpore* is Hobbes's Logic. Method is part of logic in this sense, and this is Hobbes's definitive treatment of logical topics. Thus it certainly makes sense to begin with this chapter.⁷

Hobbes accepts the Aristotelian idea that to know (*scire*) is to know through causes.⁸ The Aristotelianism of his method goes beyond that though. My thesis that Hobbes's method is in some sense Zabarellan. Just what that sense is will become clearer as we go on. In places, particularly the general outline, Hobbes and Zabarella just say the same thing. Elsewhere Hobbes adapts the method, and it is particularly important that for Hobbes all causes are efficient.

⁶Hobbes probably did know indirectly of work (though not on method) of another Paduan, for, "among the Hobbes papers at Chatsworth there is a free digest from the *Nichomacean Ethics* which is based on the interpretation of Aristotle by the Paduan Aristotelian, Franc. Piccolomini" (Strauss 1952, 42).

⁷I am most interested in Hobbes's general approach to method. Jesseph (1999) and Sacksteder (1980) discuss Hobbes's views on the proper method of geometry in particular. Note too that I focus on Hobbes's statement, rather than his application, of his method.

⁸"Verum enim est illud Aristotelis, *scire est per causam scire*" (Hobbes 1839b, 5.156).

6.5.1 Causes and Effects

The similarities of general outline show up even in section one of chapter six. Here Hobbes defines *philosophia*, *methodus philosophandi*, and *scientia*. In the definitions of the first two, you can already see the outline of a method and a science that will move first from effects to causes, second from causes to effects.

Philosophy is knowledge [*cognitio*], acquired through correct reckoning, of phenomena or visible effects, from conceived possible production or generation, and of production as it was or could have been, from the conceived visible effect. And therefore method of philosophizing is the briefest investigation of effects through known causes or of causes through known effects. We are said, then, to know scientifically [*scire*] some effect when we know [*cognoscimus*] what the causes of it are, and in what subject they are, and in what subject they introduce the effect, and in what way they cause it. And thus scientific knowledge [*scientia*] is *τοῦ διότι*, or of causes. All other knowledge [*cognitio*], which is called *τοῦ ὅτι*, is sensation [*sensio*] or is imagination or memory remaining from sensation [*sensio*] (Hobbes 1999, I.6.1).

Philosophy is knowledge (*cognitio*) acquired by correct reasoning. It is both knowledge of effects that you get through conception of their causes and knowledge of causes that you get through conception of their visible effects. Already we see signs of the Zabarellan picture, in which you come to know the cause by knowing the visible effect and to know the effect by knowing the cause.

We might worry here, as Zabarella's objectors worried, whether the total procedure is circular. However, Hobbes's distinction between *cognitio* and *scientia* of the effect plays a similar role to Zabarella's distinction between confused and distinct knowledge of effects. For Zabarella, you begin with confused knowledge of the effect, which you get through sense experience. The goal of *regressus* is to have distinct knowledge of an effect. To have distinct knowledge of an effect is to know it through its cause. To know an effect through its cause requires you not only to know that the cause exists whenever the effect exists, but also to know what the cause is, how it works. For Hobbes, you begin with

cognitio of the effect, which you get through sense experience. You hope to end up, however, with *scientia* of the that effect. Hobbes thinks that you have *scientia* of an effect when you know it through its causes. To know an effect through its causes is to know what the causes are and how they work.

In that same passage Hobbes suggests that resolution and composition need not always go together. That is, one does not always go through a complete sequence from effect to cause to effect. For instance, Hobbes allows that one may approach civil philosophy without studying the prior parts of philosophy, because it is, “grounded on its own principles sufficiently known by experience” (Hobbes 1839a, 2.xx). Experience can take you directly to the relevant principles or causes in this case. Something similar is true of geometry, where “the causes are known . . . for the lines and figures from which we reason are drawn and described by ourselves” (Hobbes 1839a, 7.183-4). So Hobbes does see cases in which we know the causes without reasoning from the effect by resolution.

In an overall inquiry, however, you need both resolution and composition. To seek *scientia simpliciter*, says Hobbes, is to try to know as much as possible; to seek it *indefinite* is to try to answer some specific question, for instance the cause of light. To seek it *simpliciter* is to take on the general project of finding out the universal things. To do this one should first seek what accidents are common to all bodies, then seek the causes of those accidents. This is all done, says Hobbes, “*modo alia atque alia resolvendo*” (Hobbes 1999, I.6.4) (Hobbes 1839b, 1.61); that is, by resolution. Hobbes clearly also thinks that to achieve *scientia simpliciter* requires composition. He outlines in *De Corpore* I.6.6 how you should work from the most universal things, through the consideration of motion that is geometry, and onwards to physics.

6.5.2 *Scientia* in Natural Philosophy

In the passage above there are hints of both sides of a split we have seen already between Zabarella and Nifo. On the one hand, Hobbes suggests that method yields *scientia*, genuine knowledge of effects through their causes. On the other, he talks about *cognitio*, “of phenomena or visible effects, from conceived possible production or generation, and of production as it was or could have been, from the conceived visible effect”. Here he seems to back away from the stronger position, towards a position that takes the whole method to use and yield only possible causes, a position more akin to Nifo’s than Zabarella’s.

Hobbes elsewhere differentiates natural philosophy from geometry and civil philosophy in a way that suggests we cannot have *scientia* in natural philosophy. He says that in geometry and civil science, we can know the causes, because they are of our own making (leave aside for now the question of what this means). In natural philosophy, however, we do not make the causes ourselves, and are reduced to conjecturing what they might be. Thus Hobbes says in the *Six Lessons* that

of arts, some are demonstrable, other indemonstrable; and demonstrable are those the construction of the subject whereof is in the power of the Artist himself, who, in his demonstration, does no more but deduce the consequences of his own operation. The reason whereof is this, that the science of every Subject is derived from a precognition of the Causes, generation, and construction of the same; and consequently where the Causes are known, there is place for demonstration, but not where the causes are to seek for. Geometry therefore is demonstrable, for the Lines and Figures from which we reason are drawn and described by ourselves; and civil Philosophy is demonstrable, because, we make the Commonwealth ourselves. But because of Natural Bodies we know not the Construction, but seek it from the effects, there lies no demonstration of what the causes be we seek for, but onely of what they may be (Hobbes 1839a, 7.183-4).

Here Hobbes says that in doing the philosophy of natural bodies we can show only what the causes might be, not what they are. Not only do we have

to proceed by conjecture from the effects to their causes, we can never demonstrate that we have arrived at the true causes. This part of philosophy is doubly hypothetical, according to this passage: both in that a hypothesis is involved, and in that a hypothesis is supposed but not known to be true. If this is right, it seems that there cannot be *scientia* in such philosophy: if we cannot know the causes, then we cannot know the effects through their causes.

Hobbes also says that geometry is “the onely Science that it hath pleased God hitherto to bestow on mankind” (Hobbes 1994b, I.iv.12), so geometry is our only current source of *scientia*. That passage is, however, puzzling in the context of *Leviathan*, as Hobbes there goes on to say lots about science, and even draws a complicated diagram in chapter nine to show the different parts of science. I suggest that Hobbes is using two senses of ‘science’. In one, ‘science’ means *scientia*, a sort of knowledge. In the other, ‘science’ means a discipline or field of inquiry. (I use ‘*scientia*’ for the first sense, ‘science’ for the second sense.) Astrology is a science in the second sense, even if there is no *scientia* about astrology. Currently, says Hobbes, we have lots of sciences in the second sense, but have *scientia* in only one area, geometry. Whatever knowledge we have in the other sciences is not *scientia*; Hobbes does not however deny here that we may acquire *scientia* in those areas.

Some contemporaries of Hobbes thought that he and other mechanists proposed a merely hypothetical physics. Kargon says that, “in the 1660s, there was, in England, a reaction against this ‘hypothetical physics’ to which the mechanical philosophers were chained” (Kargon 1966, 109). He notes three reactions, variously influenced by Bacon. Some advocated abandoning theory and only compiling natural histories. Others such as Boyle wanted to test the mechanical philosophers’ systems with experiments. Still others, such as Barrow and Newton, wanted with Bacon to have certainty in physics, but did not find that certainty in mechanist approaches, and advocated mathematical physics.

However, there are hints that Hobbes (at least sometimes) holds the stronger view that there can be *scientia* in the philosophy of natural bodies. (This would be contrary to the view in the passage from the *Six Lessons* that there is no demonstration in natural philosophy.) Hobbes distinguishes science from prudence. Prudence looks rather like science without the certainty. If so, then Hobbes would seem to have the stronger view of science, the weaker view really describing prudence, not science.

Sometime a man desires to know the event of an action; and then he thinketh of some like action past, and the events thereof one after another; supposing like events will follow like actions . . . Which kind of thoughts, is called Foresight, and Prudence, or Providence; and sometimes Wisdome; though such conjecture, through the difficulty of observing all circumstances, be very fallacious (Hobbes 1994b, I.iii.7).

As, much Experience, is Prudence; so, is much Science, Sapience . . . to make their difference appear more cleerly, let us suppose one man endued with an excellent naturall use, and dexterity in handling his armes; and another to have added to that dextrity, an acquired Science, of where he can offend, or be offended by his adverserie, in every possible posture, or guard: The ability of the former, would be to the ability of the later, as prudence to sapience; both usefull; but the later infallible (Hobbes 1994b, I.v.21).

Science [*scientia*] and prudence both relate causes and effects. Science does so infallibly. Prudence, however, is rather fallible. The merely prudent can explain things, after a fashion, but cannot penetrate how they really work. Someone with science (*scientia*), however, has real knowledge of the causes, knowledge which is infallible. Given Hobbes's desire to make this distinction between two ways of relating causes and effects, I suggest that he really does think that the method of science yields knowledge of the actual causes. This still allows that it is difficult to find the correct causes; but philosophy successfully done does so.

6.5.3 *Negotiatio*

So far, we have seen that Hobbes sees roles for resolution and composition. We have seen moreover that Hobbes explains *scientia*, his method's goal, in terms of knowing effects through their causes. However, we can look further, and investigate whether there is in Hobbes's view something that is at least analogous to Zabarella's process of *negotiatio*.

I suggest the right answer is, 'yes, there is such a thing'. However, here the changes that the method undergoes to fit into Hobbes's system are also apparent. I said above that for Hobbes, to know an effect through its causes is to know what the causes are and how they work. In more detail, I quoted *De Corpore* I.6.1, where Hobbes says that "we are said, then, *scire* some effect when *cognoscimus* what the causes of it are, and in what subject they are, and in what subject they introduce the effect, and in what way they cause it" (Hobbes 1999, I.6.1).

Note first that to have *scientia* you need more than to know what the causes are. Roughly, as I said, you need to know how they work. Recall Zabarella's view. For Zabarella, to have distinct knowledge of the effect, which is analogous to Hobbes's *scientia*, you need to know it through its cause. In order to get that knowledge, you need distinct knowledge of the cause. To have distinct knowledge of a cause you must both know that it is and "penetrate its nature". Knowledge that it is comes from the first step of *regressus*, which tells you that the cause exists and is inseparable from the effect. The fuller understanding of its nature that you need in order to move from cause to effect comes only, though, when you make a fuller investigation of the cause. For Hobbes, to get to *scientia* of the effect, you need to understand, beyond that the causes are, also, "in what subject they are, and in what subject they introduce the effect, and in what way they cause it". To know all that would be (to use Zabarella's terminology) to know *propter quid*, to know because of what the effect exists.

Hobbes's view does differ from Zabarella's. For Zabarella, one can have confused or distinct knowledge of causes as well as of effects. I claimed that Hobbes's *scientia* is analogous to Zabarella's distinct knowledge of effects. However, Hobbes does not allow for *scientia* of causes. A disanalogy seems to crop up. Hobbes does allow though that you can know nothing or a little or a lot about causes. Moreover, Zabarella himself defines the notions of confused and distinct knowledge of causes differently than the crucial notions of confused and distinct knowledge of effects.

The analogy is further complicated by Hobbes's thinking that all causes are efficient causes and that motion is the cause of all change. In Zabarella's Aristotelian picture, you seek causes, but causes can be of several sorts. Hobbes's picture is more restrictive: to find the causes is to find the efficient causes. Moreover, he thinks the efficient causes are all motions, so the search for causes becomes the search for motions and mechanisms. Still, with Hobbes's method you have to figure out the same stuff that Zabarella's method investigates with *negotiatio* – that is, the nature of the cause – at least if you are to get *scientia*. This is so, even though Hobbes and Zabarella have different ideas of what the nature of the cause will be like. Perhaps we have not done that in natural philosophy yet. Still, for Hobbes, to have *scientia* you must understand, beyond that the causes are, also, “in what subject they are, and in what subject they introduce the effect, and *in what way they cause it*” (my emphasis). So you must know how the causes work. This is analogous, I suggest, to ‘penetrating their nature’.

6.5.4 Terminology

I want to make one last point in this section, about terminology. In the final paragraph of *De Corpore* I.6.1 Hobbes openly uses the language of composition and resolution. Thus he says that “every method by which we investigate the

causes of things is either compositive, or resolute, or partly compositive, partly resolute. And the resolute is usually called analytic, while the compositive is usually called synthetic” (Hobbes 1981, 289).

This may seem to be evidence for my view. Hobbes uses the language of composition and resolution, language often associated with a Paduan approach to method. However, it is mixed up with talk of analytic and synthetic approaches, language that suggests a geometrical background to this discussion of method. That geometrical language might suggest that the sources of Hobbes’s method lie in geometry.⁹ Moreover, as Hanson (1990) argues, although Paduans and moderns both use the language of resolution and composition, this is compatible with their understanding the terms rather differently. Some may use them with their eye on Aristotle, others with geometrical ideas in mind. Questions of how to render Greek technical terms in Latin only add to the possible confusion (Hanson 1990, 603-4).

Hanson is right that two groups do not necessarily mean the same thing just because they used the same terms. However, Hobbes is well in control of his terminology here. There is composition, which is often called ‘analysis’. Then there is resolution, which he also calls ‘division’ with a reference to his previous characterization of reasoning as computation, and which is often called ‘synthesis’. The names Hobbes applies here do not tell either way. We can grant Hanson the ambiguity of the terminology, but this does little to advance his case for the geometrical origins of Hobbes’s method. At best it blocks the inference that Hobbes must have had Paduan sources because he talks of resolution and composition. However, that inference was always weak, given that Hobbes uses the seemingly geometrical language of analysis and synthesis in the same paragraph.

⁹For this view of the sources of Hobbes’s method see Ayers (1991), Hanson (1990), Jesseph (1999), Mancosu (1992), and Talaska (1988).

All Hobbes does is tell his readers that these things have two names. Sanderson, contemporary author of a popular logic, does the same thing. He discusses “methodum Syntheticam sive Compositivam”; method that is “Analytica sive Resolutiva” comes up next (Sanderson 1615, 227, 229). In Sanderson and in Hobbes, the only significance of using two names is ‘here is a procedure to which people give two different names’. They take no sides by their choices of terminology. Indeed, given the apparently common substitution of one set of terms for the other, they probably could not have taken sides just by choosing terminology even if they had wanted to.

6.6 Three Objections

So far in this chapter I have concentrated on making the positive case for my reading of Hobbes. In this final section I want to consider three objections to my reading. The first is Vasoli’s argument that readings such as mine distort Zabarella’s view, the second is Prins’s argument that Hobbes’s method differs in important points from Zabarella’s, and the third is Mancosu’s argument that the “overall intention underlying Hobbes’s text” is to apply what works in geometry in other areas (Mancosu 1992, 257-8).

6.6.1 The ‘Modernity’ of Zabarella

Vasoli (1995) complains that those who seek the roots of modern methods in Zabarella, in particular in *De Regressu*, give a “sometimes not entirely convincing interpretation regarding the ‘modernity’ of Zabarella’s logical thought and its relationship to the new scientific methodology” (Vasoli 1995, xxiv-xv). He has Randall (1961) in particular in mind. Vasoli claims that “an excessive ‘modernization of [the] ideas and language [of Paduan philosophers] has sometimes suggested a much too direct and literal relationship with the early phases of the

scientific revolution” (Vasoli 1995, xi).

I have suggested, I suppose, a fairly direct and literal relationship between Zabarella and Hobbes. However, there are certainly differences. Hobbes’s restriction of causal explanations to efficient causality, and his explanation of all change in terms of motion, make a big difference between the science foreseen by Zabarella and that promoted by Hobbes. Vasoli’s main worry seems to be, however, that this sort of approach tends inaccurately to modernize Zabarella. My aim, however, is not to show how modern Zabarella is. If anything, it is to show how un-modern Hobbes is, how rooted in previous traditions, especially Aristotelian ones, he remains. Someone could get the impression from Hobbes that he rejects all Aristotelian ideas as foolish. There is, after all, a lot of anti-Aristotelian polemic in *Leviathan*, and some in *De Corpore* too. However, Hobbes chooses his targets more or less carefully, focussing most of his real ire on the universities and theologians of his time, and on specific misuses of language. Moreover – and this is a lesson to take from the Zabarellan roots of Hobbes’s method – when we start to look at the details, Hobbes often turns out to draw heavily on the Aristotelian past.

6.6.2 Prins’s Objections

Prins (1990) gives possibly the most detailed discussion in the literature of the relationship between Hobbes’s method and Zabarella’s. However, he concludes that Hobbes’s method is not well described as like Zabarella’s, even though “at first sight there seems to be much to be said for this theory” (Prins 1990, 27). He argues by comparing the views of Hobbes and Zabarella on several points. I will discuss the three most relevant to my version of the reading he opposes: Zabarella’s distinction between *ordo* and *via*; the certainty of scientific knowledge; and the middle step in Zabarella’s method.

Prins's basic point about *ordo* is that Zabarella distinguishes *ordo* (which has to do with teaching, and has resolute and compositive parts) from *via* or *methodus* (which has to do with discovery), and thinks they come apart in some areas of inquiry. Hobbes, however, runs these together under the heading 'method'. Hobbes does acknowledge a distinction between the methods of discovery and of teaching. Hobbes's method of teaching, however, is just the second half of his general method. This goes along with Hobbes's general tendency to simplify those Aristotelian views that he adopts. Grant that Hobbes's view here is not Zabarella's. That does not negate the important similarities elsewhere.

Prins also thinks Hobbes's resolute method differs from geometrical analysis, because Hobbes says in *De Corpore* I.6 that geometrical analysis can only be done by experienced geometers (Prins 1990, 41). However, that does not show it is a different method, just that it is hard to learn how to do resolution in geometry. Hobbes is trying for a method appropriate to natural philosophy and geometry.

Prins's argument about certainty uses Hobbes's contrast between geometry and civil science, where we make the causes ourselves and can thus know them, and natural science, where we do not make the causes, and which cannot then give us the same certainty as a hypothetical, uncertain element remains. I discussed the relevant passage from the *Six Lessons* above. Prins (1990, 42, n.68) argues that Hobbes's view is more similar to Nifo's than Zabarella's here; that is, Hobbes and Nifo both think physics is in some way hypothetical. However, Prins claims that for Nifo the scientist can still have knowledge of causes, but for Hobbes physics remains hypothetical, if that. Thus Prins says that

Agustino Nifo (1473-1546), a precursor of Zabarella, deems an '*examen mentale*' to bridge the gap between resolution and composition pointless and shares Hobbes' ideas on the hypothetical character of physics ... However, this similarity should not blind us to the fundamental differences between their methodological views. While in Nifo's opinion the

scientist, up to a point, can acquire knowledge of true causes by the combination of *a posteriori* and *a priori* proofs Hobbes' natural philosopher will have to be content with plausible descriptions of the phenomena derived from the analysis and synthesis of concepts (Prins 1990, 42, n.68).

Here I want to reiterate a point I made above, that Hobbes does think we can achieve something valuable, some sort of knowledge, over and above prudence and natural histories. Moreover, Prins gives an overly weak reading of what "Hobbes' natural philosopher will have to be content with". Hobbes's philosophy is not intended merely to be conceptual analysis, or merely to consist in descriptions of phenomena. Rather, it is to deal in relations of cause and effect: Hobbesian science aims for an understanding of how cause and effect relate, as Hobbes says time and again. Now, maybe Hobbes can not at the end of the day get this done, say if worries about all his scientific definitions being conventional and uninformative about the world turn out to be correct. However, it is what he tries to do.

Those points about certainty relate to Prins's discussion of *negotiatio*. I argued above that there is in Hobbes an analogue of Zabarella's *negotiatio*. Prins denies this. He claims that

To Hobbes such a mediating consideration would be either superfluous or idle. The knowledge of causes of artifacts does not require a special consideration just because we construct them ourselves while the causes of natural phenomena can never be known for sure as we do not produce them. Therefore the procedures of the natural philosopher will never lead to knowledge of true causes in the ontological sense but at best an adequate description of the phenomena concerned. So, according to Hobbes, we can not expect the natural philosopher to find the truth but only to construct a truth compatible with our experience and thus to 'save the phenomena' (Prins 1990, 42).

However, Hobbes thinks natural philosophy can do more than that. And though we make the causes ourselves in geometry and civil philosophy, we can still come to know better how they work. The key parts of *Leviathan*, part one,

for instance, seem to try to tell us more about how the causes of the commonwealth work. Recall also what I said above about *negotiatio*. There is not exactly *negotiatio* in Hobbes, but there is a close and importantly analogous procedure of investigating how the causes work.

6.6.3 Mancosu's Arguments

I have focussed on *De Corpore's* discussion of method. However, one fairly recent argument that Hobbes has a non-Aristotelian conception of science, Mancosu's, is based in part on texts from Hobbes's dispute with Wallis (Mancosu 1992). That paper is a history of part of the debate over whether geometry is a science. In his discussion of Hobbes, Mancosu cites several texts in which Hobbes discusses Wallis's ideas about demonstration (Hobbes 1839b, 4.35-43). However, the key to his argument about Hobbes comes after that discussion, when he says that

It seems to me that . . . we should reach for the overall intention underlying Hobbes's text rather than for the specific solutions which may depend on the context of the specific polemic. For Hobbes geometry is "the only Science it hath pleased God hitherto to bestow on mankind". Euclid's *Elements* represented for him a storehouse of scientific demonstrations all of equal value and dignity . . . With Hobbes it is geometry, and all the forms of reasonings raised in it, which represents the highest achievement of the human mind (Mancosu 1992, 257-8).

It is reasonable to attempt to find the underlying logic of Hobbes' position, beneath the polemical, sometimes contradictory surface. Mancosu tries this, and notes Hobbes's respect for the achievements of geometry. So far I agree. But as I noted above, it would be unwise to take that line about geometry from *Leviathan* that Mancosu quotes and conclude either that geometry is the only possible science, or that it is the model for all science. All it says is that geometry is the only science we have so far. Much as Hobbes's approach is not as nuanced as Zabarella's, the basic Zabarellan picture recurs throughout his work.

Chapter 7

Mechanism

7.1 Mechanism?

A common recent reading of seventeenth-century philosophy takes a main narrative to be mechanism's overthrow of Aristotelianism as the dominant philosophy. A prominent instance of this reading is the editors' Introduction to the *Cambridge History of Seventeenth-Century Philosophy* (Garber and Ayers 1998) where Daniel Garber and Michael Ayers describe

a single theme which, despite the variety of their subject-matter, runs through many of the contributions [to the *Cambridge History*] . . . At the beginning of the century, the intellectual world was dominated by a synthesis of Aristotelian and scholastic philosophy which dated back to the rediscovery of the main corpus of Aristotelian texts in the late twelfth and early thirteenth centuries. This synthesis had had its critics since it first appeared, and some of those critics had competing programs to offer. But in the seventeenth century one competitor came to rival and, eventually, to eclipse the philosophy of the schools: the mechanistic, or 'corpuscularian', philosophy, a descendant of ancient atomism and the ancestor of present-day physics (Garber and Ayers 1998, 2-3).

Giving prominence to this narrative about mechanism shapes what one is interested in and what one works on. Compare the emphases of an alternative narrative that emphasizes scepticism, such as is used by Popkin in his *History of Scepticism from Erasmus to Spinoza* (Popkin 1979). For Garber and Ayers, scepticism is a rather minor issue. It is mentioned only seven times in their 949 page first volume (see their index), and although it is more prominent in the second volume, only one article is devoted to it (Larmore 1998). Now, I do

not want to deny that the Aristotelianism-mechanism narrative can be a useful story with which to approach seventeenth-century philosophy. However, we should note that it can in its own way distort the picture one ends up with, just Garber and Ayers allege that a previous “standard account and critique, in many respects tendentious and oversimplified, of the opposed positions of which the canonical few are the supposed spokesmen” (Garber and Ayers 1998, 4) distorts historical understanding. The Aristotelianism-mechanism narrative may give us a better account, but we should not focus on it alone.

Much as Garber and Ayers clearly believe in the superiority of their approach to seventeenth-century philosophy, they give little argument for it. They criticize a previous approach for giving a standard account of the relations between canonical figures that is “in many respects tendentious and over-simplified” (Garber and Ayers 1998, 4), and for tying history too tightly to present-day concerns. However, as the proponents of that bad approach are not identified, and as not all work in the history of seventeenth-century philosophy before, say, 1980, was historically clueless, one might suspect that Garber and Ayers are destroying a straw man.

Moreover, it is not entirely clear what mechanism is supposed to be. We might be content with a vague account. For instance, Garber elsewhere says that, “according to the mechanical philosopher . . . everything in the physical world must be explained in the way in which we explain machines, through the size, shape, and motion of their parts” (Garber 2001, 2). Many seventeenth-century philosophers have some view such as this in common. However, even if each mechanist philosopher believes something that one could express by using those words, each does not thereby believe the same thing the others believe. For instance, a disagreement as to what counts as “everything in the physical world” will lead to a disagreement about what has to be explained in this mechanical way. Hobbes in *Leviathan* takes the mind to be susceptible to this sort

of explanation, but Descartes thinks that some mental activity needs a different sort of explanation. They disagree as to what counts as “everything in the physical world”. For Descartes, some mental activity is not activity of physical things. So, though Hobbes and Descartes in some sense agree on mechanism as formulated by Garber, in another sense they do not. From Hobbes’s perspective, Descartes is failing to explain all of the physical world mechanically.

That is, I take it, just a small example of a larger problem. It is hard to find some substantive, relevant belief shared by everyone whom one wants to call a mechanist. The shared belief attributed by Garber is fairly weak, yet still it is not straightforwardly believed by both Hobbes and Descartes.

One might respond to such difficulties by saying that one or other philosopher involved is not a mechanist, or not wholeheartedly a mechanist, or something of the sort. That may sometimes be the best approach. However, at other times to say that would be to change the topic. Suppose you come up with an account of mechanism that fits Locke and no-one else, and then say that only Locke is really a mechanist. You have started to use ‘mechanism’ as a name for some aspect of Locke’s view, and stopped using it as a name for beliefs or an approach shared by several philosophers. You might reasonably do that, but would no longer be explaining what the mechanical philosophy that ended Aristotelian dominance was.¹

I suspect that, if we stick to that project, we just have to say that certain philosophers are mechanists. They are so central to what thoughts we do have about what mechanism is that, unless we come to understand them radically differently than we usually do, we have to call them mechanists. Descartes and Hobbes are among these philosophers. So we need an account that, somehow or other, fits them both, or we have not really characterized mechanism.

¹There are other reasonable ways to use ‘mechanism’. Downing (1998), for instance, uses it as a name for Boylean corpuscular theory. Fair enough, but that is not something that Locke shares with Descartes.

So what, if anything, is this mechanism that Hobbes has in common with Descartes and others? I spend much of this chapter considering Michael Ayers's fairly detailed proposal as to what mechanism is. I argue that this fails to capture mechanism because it does not apply to Hobbes.² Next I look at some other suggestions as to how to characterize mechanism, none of which is entirely successful. Finally I suggest that there is a view that Descartes, Hobbes, and others share, and that non-mechanist Aristotelians deny. It is not a view about explanation. It is not even, on the face of it, a truly fundamental view. It is a view about secondary qualities. This is the view that Hume says that modern philosophers share (Hume 2000, I.iv.4). It is a substantive view, held by the philosophers we call mechanists and rejected by the Aristotelians they oppose, and it is the best candidate for what mechanist philosophers have in common.

7.2 Ayers's Account

Ayers describes his notion of mechanism at the beginning of a paper on Locke, saying that ““Mechanism” was the view that the laws of physics can be explained, in principle if not by us, by being deduced from the attributes possessed essentially by all bodies *qua* bodies; i.e. from the nature or essence of the uniform substance, matter, of which all bodies are composed ” (Ayers 1981, 201).

The key idea is deducibility.³ Here it is the deducibility of laws of physics from the essence of matter. Elsewhere Ayers invokes the deducibility of “powers from structure” (Ayers 1991, 2.145) and of operations from structure. He uses

²Ayers admits that it does not exactly apply to Descartes, and it's also unclear whether it applies to Locke.

³Ayers is not the only one to see deducibility as a key idea, though he does develop the thought most fully. Both Downing (1998, 381-2) and Atherton (1991, 67) say that this (or something very similar) is an important theme in seventeenth-century philosophy (though Downing does not want to call it mechanism, and Atherton thinks it is only half of the story).

the example of a millstone, taken from the *Port-Royal Logic* (Ayers 1991, 2.135). Here there seems also to be deduction of effects from causes. The case involves a square axle that runs through holes in two stones. The top stone has a square hole in it, into which the axle fits tightly, and the bottom stone has a round hole in it, into which the axle also fits. You are supposed to be able to deduce from the structure that turning the axle will turn the top stone but not the bottom one. Thus you are supposed to be able to deduce the effect (the top stone turning) from the cause (the axle turning).

Deducibility is, then, to be the main mechanist idea. However, Ayers connects this to views in apparently distinct areas. Thus I will discuss three parts of his view of mechanism. The first concerns explanation, in particular the use of powers in Aristotelian physical explanations. The second addresses views of the nature of accidents, and sees mechanist metaphysics as grounded in a combination of mechanist physics and an argument derived from Ockham. The third addresses deducibility more directly, and the relationship between physical and geometrical explanation.

7.2.1 Explanation

First, then, explanation. Ayers continues the passage I quote above by saying that

it is a central tenet of mechanism that essential attributes are actual and perspicuous, i.e. that they comprise no powers or occult qualities defined by their effects. For if occult qualities were included in the essence, any deduction of laws would be circular, explaining nothing. For mechanism, to treat a power as an essential and therefore irreducible attribute is to revert to Aristotelian pseudo-explanation (Ayers 1981, 210).

Thus mechanism is supposed to be better than Aristotelianism because it gives far better explanations. Mechanist explanations are “actual and perspicuous”, but Aristotelian explanations that invoke basic powers are “circular, explaining

nothing". It is not just that mechanist explanations are better than Aristotelian ones: the Aristotelian attempts at explanation explain nothing at all.

A criticism of scholastic physical explanations as trivial is often thought to be common to mechanists. Jokes about dormative virtue come to mind. Ayers, however, says that these criticisms are not just about explanation. They also, he says, target scholastic views about substances and accidents. This is one way in which mechanists, he thinks, tie metaphysics to physics. Thus he says that

explanations of the form, "This stuff puts people to sleep because of its dormative power", were objects of scorn not just because they were pseudo-explanations, too easy, undeniable, and vacuous to be useful, but also because, if taken as ultimate causal explanations, they entail an ontologically objectionable model of the relation between bodies and their accidents. Accidents are treated like plums stuck in a plum pudding, in effect as real parts rather than the abstractions they are. Students of seventeenth-century philosophy need to be sharply aware that the question of what makes a perspicuous philosophy of substance and accident was inextricably entwined with the question of how a world must be in which causality is fully perspicuous (Ayers 1991, 1.31).

Ayers says here that mechanists make two related points. First they say that explanations such as the dormative virtue explanation are trivial. Secondly they connect such explanations to a bad view of the relation of substance and accident.

I begin with the second point. Ayers says that mechanists criticize scholastic explanations that use powers because they involve a mistaken ontology of substance and accident. Causal explanations and basic ontology should both be perspicuous and intelligible.

The explanation that invokes dormative virtue allegedly says nothing. We want to know how and why some stuff makes people sleep. This explanation says that this stuff makes people sleep because it makes people sleep. That does not say how the stuff gives rise to its behaviour. A story about its inner construction might explain what we want.

The general scholastic substance-accident ontology allegedly says too little about how the accidents arise from the substance. On the scholastic model they are not grounded in the thing itself. Indeed they seem to be detachable parts.

However, the two missing explanations differ. The first would answer a question in natural philosophy, which the mechanists answer in terms of the primary qualities of parts. To answer this question is to say what it is about a thing that makes it act in some particular way. The second missing explanation would answer a question about the inherence relation, a metaphysical question. Both questions ask how a thing relates to its features, but they are not the same question about how a thing relates to its features. To say that both questions put the same objection, the objection that Aristotelians do not explain how a thing relates to its features, is misleading.⁴

Both questions could be (misleadingly) phrased as (i) How does a thing relate to its features? It is better, however, to distinguish (ii) and (iii). (ii) What features of a thing explain its behaviour, appearance, and interactions? (iii) What is the relationship between features (accidents, properties, modes) and the things of which they are features? One might answer (ii) as the stereotypical Aristotelian does, by saying for instance that its dormative virtue explains why a drug tends to make people sleep. One might alternatively answer it as the stereotypical mechanist does, telling stories about small parts that push against one another. These are both, however, answers to the same question (ii). Neither of these would count as an answer to (iii) though. Different sorts of answer are appropriate. Suarez's story about modes of inherence, for instance, is an answer to (iii), not to (ii) (Menn 1997). Given the distinction between (ii) and (iii), it is at best unclear how criticisms of Aristotelian physical explanations

⁴There's nothing in the passage in the earlier paper to clarify this – that just talks about the alleged circularity.

(criticisms of answers to (ii)) could have been criticisms of Aristotelian metaphysical views (criticisms of answers to (iii)). So far it looks like nothing more than a confusion of (ii) and (iii).

Let us turn to the apparently more straightforward point about explanatory triviality. Perhaps that will tell us more about what mechanism is and how it relates to Aristotelianism.

Ayers takes mechanists to say that Aristotelian physical explanations that invoke such features as dormative virtues are trivial, vacuous, or circular. Hobbes does sometimes argue that Aristotelian science is bad because its explanations in terms of powers are useless. His argument is weak though, and he thinks it unimportant. We may think of this as a typical mechanist argument, but Hobbes cares little about it.

His main example of such an argument is the explanation of bodies' falling in terms of heaviness. He uses the example twice in *Leviathan*. It is first an aside to a discussion of rest and motion (Hobbes 1994b, I.ii). He discusses it further in chapter forty-six. There he considers errors of the schools in metaphysics, physics, moral, and civil philosophy, including "particular tenets of vain philosophy, derived to the Universities and thence into the Church, partly from Aristotle, partly from Blindness of understanding" (Hobbes 1994b, IV.xlvi.14). His main point is that the schools cause errors in religion. He argues for that by arguing that their underlying philosophy errs. For instance,

for *physics* (that is, the knowledge of the subordinate and secondary causes of natural events) they render none at all but empty words. If you desire to know why some kind of bodies sink naturally downwards toward the earth, and others go naturally from it, the Schools will tell you (out of Aristotle) that the bodies that sink downwards are *heavy*, and that this heaviness is it that causes them to descend. But if you ask what they mean by *heaviness*, they will define it to be an endeavour to goe to the center of the earth, so that the cause why things sink downward, is an endeavour to be below (which is as much as to say that bodies descend or ascend because they do). Or they will tell you the center of the earth is

the place of rest and conservation for heavy things; and therefore they endeavour to be there (as if stones and metals had a desire, or could discern the place they would be at, as man does; or loved rest, as man does not; or that a piece of glass were lesse safe in the window, than falling into the street (Hobbes 1994b, IV.xlvi.24).

There are two arguments here. The first attacks the attribution of knowledge and motivation to inanimate things (see also Hobbes (1994b, I.ii)). The second alleges that the proffered explanation of fall is “as much as to say that bodies descend or ascend because they do”. So Hobbes apparently makes the stereotypical mechanist criticism of scholastic physics, that its explanations are empty and useless.

This passage does not, however, show all that it seems to. Hobbes is being sarcastic, not trying to evaluate Aristotelian philosophy carefully. *De Corpore* is Hobbes’s long-considered work on physics, and he does not give this argument there. He does reject various Aristotelian terms as meaningless when he considers abstract names (Hobbes 1999, I.3.4). That is a different point though, and he does not attack ‘heaviness’ when he makes it.

Moreover, Hobbes’s argument about powers is rather weak. Look at it again, to see what the alleged problem is. People explain the downward movement of things by their endeavour to be below where they are. This explanation is attacked as trivial: things move downwards because they move downwards. If the endeavour is a power though, the triviality is not straightforward unless we use ‘power’ in Hobbes’s sense in which power is reduced to act. Powers can outrun their actual effects: the book is still heavy when it rests on the shelf. Hobbes here assumes that endeavours are not powers such as this. Thus he begs the question. He rules out explanation in terms of powers over and above acts by assuming that there are no powers over and above acts. No doubt we conclude that bodies have this endeavour because we see many of them fall, and we explain the falls of those that do fall in terms of the endeavour. However, if

we allow powers to be powers, this is not as trivial as Hobbes makes it out to be. Thus, not only is Hobbes not terribly attached to a criticism of Aristotelian explanations that rely on powers, his version of the criticism is weak.

I do not deny that Hobbes criticizes scholastic physical explanations. This point about powers is not his favoured criticism though. That is his repeated point about ‘insignificant speech’. Look for instance at his criticism of theories of perception that invoke species. Hobbes says that

the philosophy-schools, through all the universities of Christendom, grounded upon certain Texts of *Aristotle*, teach another doctrine, and say, for the cause of *vision*, that the thing seen sendeth forth on every side a *visible species* (in English, a *visible show*, *apparition*, or *aspect*, or a *being seen*), the receiving whereof into the eye is *seeing*. And for the cause of *hearing*, that the thing heard sendeth forth an *audible species*, that is, an *audible aspect*, or *audible being seen*, which entering at the ear maketh *hearing*. Nay for the cause of *understanding* also, they say the thing understood sendeth forth *intelligible species*, that is, an *intelligible being seen*, which coming into the understanding makes us understand. I say not this as disapproving the use of universities; but because I am to speak hereafter of their office in a commonwealth, I must let you see on all occasions by the way, what things would be amended in them, amongst which the frequency of insignificant speech is one (Hobbes 1994b, I.i.5).

Some explain perception and understanding in terms of species. They err, because that talk is “insignificant Speech”. Hobbes translates technical terms to show how, when rendered plainly, they lose even the air of being explanatory that they had in Latin. He might seem to be complaining that the explanations discussed are trivial (sight is explained by a being seen), but the point he emphasizes is that his opponents use insignificant speech.

Hobbes makes similar criticisms elsewhere. Most prominently, chapter five of *De Corpore* says a lot about errors one can make because of errors in language. Much of it discusses the, “Seven types of incoherence of names, in which a proposition is always false” (Hobbes 1981, 273-4). These errors in the use of words are errors of reasoning, and thus particularly relevant in philosophy. Hobbes returns to this sort of alleged error time and again. His repeated

criticism of Aristotelian and other philosophers is not that they postulate unexplanatory powers, but that they are lead astray by language.

7.2.2 An Ockhamist Tactic

We saw above that Ayers relates criticisms of explanations to criticisms of ontology. He addresses mechanist criticisms of Aristotelian ontology again in a more recent paper. There he describes mechanists as deriving their new ontology by combining an Ockhamist argument with new, mechanical physical explanations. Ayers argues that

the New Philosophy simply reduced the qualities which had resisted Ockham's razor to those that it had successfully shaved off. All qualitative change, they claimed, does after all depend solely, in the object, on the movement of its parts. Given that thesis, there is no reason to regard any accident as an entity distinct from the substance in which it inheres (Ayers 1996, 92).

It is useful, I think, to discuss this in two parts. First there is a story about what Ockham says. Then there is a further claim about mechanists' use of Ockham's tactic.

Ockham in his *Summa Logicae* works through the categories, which he takes to be categories of terms, asking what is denoted by the terms in each of the categories. Thus the discussion, ostensibly about logic, has metaphysical consequences. Ockham finds that terms in most categories do not signify anything distinct from and present in the thing of which the terms are predicated. Some sorts of quality, such as shape, are also like this, but other sorts of quality, such as colours, are not: "for it is not simply because a thing or its parts undergo local motion that the thing becomes hot or cold. Consequently, these terms do designate things distinct from substance" (Ayers 1996, 91).

In most categories Ockham finds no need to suppose the existence of anything really distinct from substance. The crucial category for our discussion

here – the place where he says something different and explains why – is quality. Ockham says that “in the genus of quality there are certain terms that designate things that are distinct from substance, that are not themselves substances” (Ockham 1974, 178).

Ockham is also explicit here that the reason derives from a particular test: “predicables which, while incapable of being truly applied to one thing at the same time, can successively hold true of an object merely as the result of local motion, need not be construed as signifying distinct things” (Ockham 1974, 178). When Ockham applies his test to the category of quality he finds that in some cases – in the case of colours, for instance – you cannot give the sought explanation in terms of local motion. In these cases Ockham concludes that there is a quality really distinct from substance.

That is the argument, used by Ockham, that Ayers singles out as a “test for a really distinct entity” (Ayers 1996, 93), a test for whether a term signifies anything distinct from and present in the thing of which it is predicated. The test is this. Consider some feature that is first present, then absent, in a substance. Ask whether you can explain that change by talking only about the motions of the substance and its parts. If you can, there is no need to suppose that there is some accident really distinct from substance that explains the presence of that feature. Its presence is explained solely by the motions of parts.

The second part of Ayers’s story about mechanists’ Ockhamist argument is more directly about mechanists. Ayers thinks that mechanists’ approach is similar to and builds on Ockham’s. Mechanist physics looks at the qualities such as colours that Ockham cannot explain by the motion of parts and claims that they do arise from the motions of parts. Mechanists then use an argument related to Ockham’s. When they find that they can explain some feature in terms of the motion of parts, they conclude that they need not think of it as a ‘thing’ over and above and attached to substance. Thus they conclude that qualities such as

colours are not independent things over and above substance. Mechanists are looking to explain away unnecessary apparent things, and find in Ockham's test a plausible account of when they can do this.

Note first that mechanists, even on Ayers's account, do not quite do what Ockham does. The framework of the categories is gone, for a start. What they are said to do is apply a tactic of argument learned from Ockham in a different context. That tactic is 'if the motions of A explain A's features, then there is no need to suppose that the features are any thing over and above A and its motions'.

Hobbes, however, does not use this Ockhamist tactic. He is not the sort of Ockhamist mechanist that Ayers envisions. Hobbes explains many things in terms of motion, and thinks accidents are not things distinct from substance. Something like the Ockhamist tactic would explain why someone might come to think both of these things. But it is not the correct explanation of why Hobbes thinks them.

For one thing, this explanation of Hobbes does not engage with the details of his approach. When we look at those details, we find that Hobbes is doing something else. Recall from chapter five Hobbes's discussion of the nature of accidents. He does not connect that issue to the explanation of features by motion. Instead he argues that there is an error in allowing accidents to be even possibly substance-like, independent things.

With that in mind, we can see that the Ockhamist approach starts out in a way foreign to Hobbes. It allows, at least for the sake of argument, that there may be things that are not substances but are really distinct from substances. Hobbes does not, could not, discuss within philosophy whether things other than bodies are independent entities. Bodies are the only substances that philosophy considers.⁵ Hobbes's basic framework rules out any philosophical

⁵I discuss Hobbes's reasons for this in chapters two and three

explanations that involve independent things that are not bodies.

Ayers thinks that an argument from Ockham is important to mechanists. That argument and some new physical explanations lead them to their view of the nature of accidents. These reasons, however, are not Hobbes's reasons. So here too Ayers's account fails to fit a prominent mechanist, Hobbes.

7.2.3 Geometry

Ayers makes geometry central to mechanism. He introduces the so-called pure mechanist, the philosopher who most closely follows the mechanist ideal. The pure mechanist says that "the understanding which is in principle possible of mechanical processes is the same in kind as the understanding which can be achieved in geometry" (Ayers 1991, 1.135). This assimilates understanding of natural processes to understanding of connections in geometry. As it stands, this needs further explanation. It does not say how mechanists understand the understanding that is possible in geometry. Here we should expect that mechanists differ, so it would be wise to investigate their views more closely. Hobbes's infamous geometrical views should also be a warning. He does not just end up with distinctive results, he also has distinctive views about geometry's objects and procedures. Best to be careful, then, if we invoke what he says about geometry to explain other things.

Ayers argues for that relationship between explanation in natural philosophy and explanation in geometry. This is related to his making deducibility an important mechanist concept. Thus he quotes Locke on the relationship between real essence and properties:

Then the Properties we discover in that body, would depend on the complex Idea, and be deducible from it, and their necessary connection with it be known; as all the Properties of a Triangle depend on, and as far as they are discoverable, are deducible from the complex Idea of three lines, including a Space (Locke 1975, 379).

Ayers's idea seems to be this. Take the example of a triangle. Given that it is a closed figure with three straight sides, it must have interior angles equal to two right angles. This property is deducible from what a triangle is. Being deducible in something like this way is one of the aspects of geometry that Ayers thinks mechanists also seek in an understanding of nature. However, deduction of features from essences is not the only sort of deducibility that Ayers is interested in. Powers and operations are supposed by this mechanist to be deducible from internal structure, and causes from effects, as we saw before.

Ayers thinks that mechanists take geometry as their ideal of explanation. This brings in deducibility, and a particular sort of necessity of relationships. Hobbes – who is apparently a mechanist – thinks that geometry is successful and important, but does he find in geometry a method that he then applies to other areas? Some claim that he does. I argued in chapter six that he does not. His method derives, in large part, from that of Paduan writers on method such as Zabarella, from a tradition of discussion of method that you can trace back to the *Posterior Analytics*.⁶

Ayers thinks that mechanists model the natural on the mechanical and the mechanical on the geometrical. I argue that Hobbes adopts a method that applies most readily to natural philosophy, and makes geometry merely the most general part of his materialistic science of body. We can see this in his discussion of method, where there is a firm emphasis on *scientia* as knowing effects through their causes. Hobbes tries to fit geometry into an Aristotelian method that emphasizes causes, and he also allows only efficient causes. This method – especially as it is adapted into Hobbes's system – is first and foremost a method for natural philosophy, which Hobbes tries to use as a method for geometry too. He does not begin with a story about explanation that is based on geometry, then try to apply that to natural philosophy (as Descartes perhaps did). Below I

⁶On the relation of Zabarella's views to the *Posterior Analytics*, see Jardine (1976, 280-90).

will summarize some points from chapter five, in order to emphasize this point.

Zabarella thinks that a process called *regressus* is a key part of method. This has three stages. The first begins with confused sensory knowledge of the effect and moves syllogistically to confused knowledge of the cause. The second is *negotiatio*, in which you investigate the cause and come to have a better understanding of it, distinct knowledge. That allows you to tackle the third stage, in which you argue syllogistically from this distinct knowledge of the cause to distinct knowledge of the effect, a better understanding than you began with, which involves knowing the effect through the cause. Brief descriptions of Zabarella's view tend to gloss over the middle stage, to omit the syllogistic nature of the first and last stages, and to ignore the distinction between distinct and confused knowledge. All are relevant though to a comparison with *De Corpore* I.6, Hobbes's key writing on method.

I argue by a comparison of *De Corpore* I.6 to *De Regressu* that Hobbes's method follows Zabarella's. Philosophy, says Hobbes, is a sort of *cognitio*, of knowledge. It is knowledge acquired by correct reasoning: both knowledge of effects that you get through conception of their causes and knowledge of causes that you get through conception of their visible effects. Even in this basic definition we see signs of the Zabarellan picture, in which you come to know the cause by knowing the visible effect and to know the effect by knowing the cause. Moreover, Hobbes's model has a part analogous to *negotiatio*.

Hobbes allows only efficient causes and explains all physical change using motion. This complicates the comparison of his view to Zabarella's. In Zabarella's Aristotelian picture you seek causes, but causes can be of several sorts. For Hobbes, to find the causes is to find the efficient causes. Moreover, the efficient causes are all motions, so the search for causes becomes the search for motions and mechanisms. But you still have to investigate what Zabarella's method investigates with *negotiatio* – that is, the nature of the cause – at least

if you are to get *scientia*. This is so, even though Hobbes and Zabarella have different ideas of what the nature of the cause will be like.

Hobbes's method is structurally similar to, and likely has its historical roots in, Zabarella's *regressus*. Hobbes admires geometry, but does not take his ideas about method from the geometric tradition. This tells against Ayers's picture of Hobbes's mechanism. Ayers thinks that mechanists see geometrical explanation as an ideal sort of explanation. They try to achieve that same sort of explanation in physics. Hobbes gets his story about explanation from an entirely different model. Indeed the Zabarellan model, especially when restricted to efficient causes, seems to have more trouble explaining explanation in geometry than elsewhere. Mathematics is just where such causal explanations look hardest to give, but Hobbes's model of explanation commits him to trying to give them. This model of explanation is, we might say, just the opposite of the view Ayers attributes to mechanists: for from modeling all explanation on geometrical explanation, it models geometrical explanation on explanation in natural philosophy.

7.2.4 Evaluating Ayers's Account

Each of the three main parts of Ayers's description of mechanism involves explanation. The first concerns explanations, circularity, and Aristotelian ontology. The second picks up on the discussion of views about accidents and takes it further, giving an account of how mechanists explain away accidents that are separate entities. The third addresses explanations more directly, looking at whether mechanist explanation is geometrical. In each case I find that Ayers's model of mechanism does not fit Hobbes. This certainly seems like a problem for an account of mechanism, that it does not fit one of those whom one supposed at the outset that it would fit.

Ayers may respond that this is supposed to be a general historical narrative about backgrounds, influences, and strategies, not an account of the details of mechanists' arguments. Thus he might say that this approach links Hobbes to other mechanists. Though Hobbes does not explicitly say these things, they might still be the best way to capture what mechanism (including Hobbes's mechanism) is all about.

I think we should reject this approach. General accounts of mechanism should still be constrained by the texts and what people actually say. This way to read Ayers's view seems to leave that constraint behind. That is especially troubling because we have a better way to understand what Hobbes, at least, is doing. Thus in the end I think we should reject this version of Ayers's account because my reading of Hobbes above is a better explanation.

So much for Hobbes. Ayers's account would nevertheless be useful – and tell us something about Hobbes's relationship to his contemporaries – if it did fit other alleged mechanists. However, there are problems there too. Descartes and Locke are also, it would seem, paradigm mechanists. It is plausible that Ayers's account of mechanism fits neither of them.

As Ayers admits, Descartes is probably not a 'pure' mechanist (Ayers 1991, 1.135-9). Ayers thinks of pure mechanists as explaining the workings of physical things using only certain basic features of matter from which further features can be deduced. Descartes derives his laws of mechanics, not from the nature of essentially extended matter, but from God's immutability. God is the primary cause of motions, and "from God's immutability we can also know certain rules or laws of nature, which are the secondary and particular causes of the various motions we see in particular bodies" (Descartes 1984, 1.240). Descartes thus suggests that to understand the nature of matter's motion we need to understand not only matter but also God. There are various difficulties regarding how exactly to understand Descartes's point here. All I want to emphasize is

that Descartes – whom one might think of as the most prominent mechanist – hardly fits Ayers’s picture of the pure mechanist. This need not be devastating on its own, especially as Descartes’s picture is similar to the pure mechanist’s picture. When combined with the problems with fitting others into the picture, it becomes part of a real problem with Ayers’s reading of mechanism.

Look also at Locke. Margaret Wilson’s dispute with Ayers about Locke on superaddition of thought to matter raises problems for Ayers’s account of mechanism (Wilson 1999, ch. 13-4). Ayers’s emphasis on geometrical explanation includes the claim that all qualities of a thing are deducible from its primary qualities. A problem arises when Locke says that God might give matter the power of thinking (Locke 1975, 540-1). How could the modes of thought possibly be deducible from the basic qualities of matter? Wilson argues that features like these modes of thought “cannot be said to “flow from” the operations of Boylean corpuscles” and that “Locke tends to regard [such properties] as ‘superadded’ or ‘annexed’ to such operations by God” (Wilson 1999, 210). That is, if God makes matter think, thinking is an extra feature given to matter that is not deducible from the basic nature of matter. Ayers disputes that reading, arguing in part that such a reading is implausible because it makes what Locke says here so much at odds with what he says elsewhere (Ayers 1991, 2.144ff.). Now, this debate too raises difficult questions, and it is not obvious which view looks best at the end of the day. What there obviously is, though, is a serious doubt as to whether Locke really is a pure mechanist.

Thus it is plausible that Hobbes and Descartes and Locke were all not mechanists in Ayers’s sense. Seeing this, we should look for a better account: either a better account of mechanism, or a better narrative than the one that invokes mechanism.

7.3 Other Accounts of Mechanism

Ayers's is probably the most developed account of mechanism in recent literature. However, there are other accounts, some of which I discuss in this section. Note, though, that not every explanation of mechanism is really relevant. Some literature on Locke and Boyle uses 'mechanism' more narrowly, to describe Boylean physical theory, rather than a broad movement in seventeenth-century philosophy that includes Boyleans and many others.⁷ That literature does not really address the question I started with: what is this thing called mechanism that overturns Aristotelianism and becomes the dominant philosophy of the (second half of the) seventeenth century? However, some authors do address this question, and I will consider some suggestions in this section.

Margaret Osler, in her book on Descartes and Gassendi, points to matter being passive as a fairly distinctive view of mechanists.

In presuming that all natural phenomena can be explained in terms of matter and motion alone, and that there is no action at a distance, the mechanical philosophers departed from traditional philosophies of nature, which had endowed matter with various kinds of activity. For the Aristotelians, there exist natures, which endow bodies with tendencies to move in characteristic ways . . . Many Renaissance philosophers in the Neo-Platonic, Hermetic, and Paracelsian traditions portrayed a highly animistic world (Osler 1974, 177).

Osler's idea seems to be that mechanism takes matter to be passive. Bodies have no power to move themselves, but must be moved by outside forces.

That idea, if it's to help us understand mechanism, needs some working out. Even though one body cannot move itself, one moving body can apparently move another, even though matter is in a sense passive. And in moving from talking of 'matter' to talking of 'bodies' when she mentions Aristotelian views,

⁷Downing, for instance, endorses this narrower use of the term, finding the broader use "idiosyncratic" (Downing 1998, 381-2).

Osler makes a subtle shift to force mechanism and Aristotelianism onto opposite sides of the dichotomy. Aristotelians may have thought that bodies have these tendencies to motion, but not that matter did – the matter being the part of the body that isn't the form, and the form being the source of these tendencies. Moreover, even Osler admits that “the mechanical philosophers were not entirely successful in expunging activity from matter” (Osler 1974, 178, n.24).⁸ The view that matter is passive is perhaps a view that mechanists tend to have, but is not a truly distinguishing feature of mechanism.

Margaret Atherton, in a paper on Berkeley and Locke, suggests that ‘mechanism’ picks out two ideas, which she calls the geometric model and the machine model. The geometric model is much like the view that Ayers calls ‘mechanism’: it “appears in order to justify the claim that the causal world is described only by a few essential properties, without the rich diversity of the world of effect, and to provide a picture of how effects depend on causes—they flow from them or are necessitated by them” (Atherton 1991, 67). I argued above that this is not an adequate model of mechanism.

That leaves the machine model. It “is used to justify claims such as those that describe the behaviour of bodies too small to see by means of impact laws derived from the behaviour of impact bodies”, and it “emphasizes the use of analogy” (Atherton 1991, 67). This analogy – an analogy between the natural world and machines – “emphasizes the continuity between macroscopic and microscopic bodies. To deny [say mechanists] that the laws of mechanics apply to imperceptible particles would be like denying that the laws that apply to town clock apply to pocket watches” (Atherton 1991, 55). The natural world is like a machine. The laws that apply to machines apply to large and small machines alike. Those same laws apply to natural bodies as well as machines. And they apply to the small natural bodies as well as the large ones.

⁸Osler refers here to Henry (1986).

Is that machine model enough to give us a grasp on what mechanism is? Is it the widespread view that unites mechanists? Well, this machine model really doesn't take us beyond saying that mechanists think the world is like a machine. We want to know in just what way they thought it was like a machine. And Atherton hasn't really given us that. We might take her talk about deducibility as an attempt to explain this.⁹ But making deducibility the core of mechanism fails, as we have seen.

Atherton distinguishes two views that one might call 'mechanism'. We might go further still. McGuire, for instance, argues that there is no sufficient condition for being a mechanist. He lists thirteen of the many things that 'mechanical' meant to different seventeenth-century philosophers; "while they all agreed that contact action was a necessary condition for mechanical explanation, there was no settled agreement as to sufficient conditions" (McGuire 1972, 523, n.2). Instead, mechanists had several 'mechanist' views:¹⁰

1. contact action is the only mode of change;
2. first principles are to be integrated with empirical investigations;
3. regularities are to be explained in mathematical form;
4. all phenomena arise from matter in motion or matter and motion;
5. compound bodies are composed of vortices (Descartes);
6. compound bodies are composed of centres of force (Leibniz);
7. compound bodies are composed of tiny bits of matter conceived as atoms of corpuscles;

⁹However, she sees the geometrical and machine models as separate, so that move would go beyond what she says.

¹⁰This list quotes from and adapts the list of McGuire (1972, 523, n.2).

8. changes in phenomena result from the way in which internal particles alter their configurations;
9. the 'new science' conceives nature dynamically in terms of motion, rather than statically in terms solely of the shape and size of internal particles;
10. occult qualities are to be banished from explanations; nature is to be conceived in analogy to the operations of mechanical activities.

That is a long list, and McGuire suggests that one could add to it. Some items, though, might be better removed. We should perhaps remove the seventh item, saying that Leibniz is not a mechanist, in line with his saying that mechanical explanation of nature is insufficient on its own (Leibniz 1989, 54-5). And we should remove the second item, separating mechanical explanation from experimental method. But that still leaves many familiar ideas that mechanists had. This helps to make plausible the thought that there is no shared core mechanist belief.

Whether or not McGuire is right that there is no sufficient condition, he is right that 'mechanism', as name for a movement, hides much diversity of views. The diversity of mechanism comes out in a different way if we look at the several identifiable groups of seventeenth-century philosophers sometimes grouped together as mechanists: Descartes and the Cartesians; Gassendi and the Gassendists; Boyle and other Royal Society experimenters who were influenced by Bacon. These groups have a few things in common, but many points of disagreement. Aside from the groups there are several others with fewer followers: Hobbes himself, for instance. And several other philosophers, who one might not call mechanists, were around and engaged with those we do call mechanists: consider Thomas White, a seventeenth century Aristotelian who engaged with Digby and Hobbes. The notion of mechanism hides much important complexity.

Given all this diversity, is McGuire right that there is no way to give both necessary or sufficient conditions for being a mechanist, such that mechanism is a view shared by several prominent modern philosophers? There is, I think, one way, though it is not entirely satisfactory. I will argue for this in the next section.

7.4 A Suggestion

Consider Hume's description of "the modern philosophy":

The fundamental principle of that philosophy is the opinion concerning colours, sounds, tastes, smells, heat and cold; which it asserts to be nothing but impressions in the mind, deriv'd from the operation of external objects, and without any resemblance to the qualities of the objects (Hume 2000, I.iv.4).

Hume thinks that the modern philosophy is fundamentally a view about secondary qualities. His characterization of the view is perhaps suspect. Locke, for instance, makes it reasonably clear that he thinks that secondary qualities are qualities rather than ideas, and are thus features of the objects rather than features of our minds. He does not believe that secondary qualities are "nothing but impressions of the mind". (Admittedly, many people have read Locke as having the view Hume attributes to modern philosophers.) However, Locke does share some views about secondary qualities with other seventeenth- and eighteenth-century philosophers.

What are those shared views, the core of the modern view about secondary qualities? I suggest that we focus on the idea that experiences of secondary qualities do not resemble any qualities possessed by the bodies themselves. This is essentially what Hume points to, but stripped of the additional claim that there is nothing in then body itself that one might want to call, say, heat.

Suppose we take that as the definitive belief of a group of philosophers writing between, say, 1637 (when Descartes published the *Discourse*) and 1739

(when Hume published the first two volumes of the *Treatise*). What do we call them? We might just call them seventeenth- and eighteenth-century philosophers who deny that our experiences of secondary qualities resemble actual secondary qualities in the external objects. We might, with Hume, call them modern philosophers. But we might, in the hope that this is the sought-after definition, call them mechanists. The view is, after all, held by the people called mechanists and denied by the Aristotelians they oppose (see Hobbes (1994b, I.i)).

Why should we call these views about secondary qualities ‘mechanism’? Well, there is a link between the denial of the resemblance thesis and a commitment to mechanical explanation. Descartes, Hobbes, Locke, *et al* explain the appearance of secondary qualities by appeal to size, shape, and motion in the object, not to some quality that resembles the experience. Standard so-called mechanical accounts of the world fit well with this view about secondary qualities. So why not call it ‘mechanism’?

Perhaps the problem is that mechanism is supposed to be a fundamental view, and this view about secondary qualities isn’t. However, mechanists disagree about more fundamental views – about such issues as atomism vs. plenism or the truth of occasionalism – while agreeing about the status of secondary qualities.

That view is widely shared, shared by the people commonly called mechanists. If, at the end of the day, you don’t want to call that view mechanism, the alternative seems to be to say that there is really no such thing as mechanism. There is no view shared by all those people called mechanists. Their views overlap in places, are similar in others, and diverge in others still. There is no common core.

We could say that the view about secondary qualities is mechanism. Or we could say that, though it’s the best candidate to be mechanism, it’s not a good

enough candidate, so there is no such thing as mechanism. At this point the debate is more about terminology than history. However we use the terms, Hume got something right about the shared views of seventeenth- and eighteenth-century philosophers.

Chapter 8

Conclusion

The discussions of previous chapters relate and overlap in various ways. However, two main themes stand out. Chapters two through four discuss aspects of Hobbes's materialism. Chapters five through seven put Hobbes's work in a larger context by discussing how Hobbes fits in the narrative of mechanism and Aristotelianism. In this final chapter I want to recap the main points of the previous discussions, and then look at how this project may be developed further.

8.1 Materialism

The standard way of understanding Hobbes's materialism attributes to him the view that bodies are the only substances. I argue that Hobbes does not hold that view for most of his career. Throughout the 1640s and 1650s he holds a psychological thesis about which things we can think about using ideas (imagine) and which things we can merely conceive. He does, later in his career, come to think that all substances, including God, are bodies. That is a late development though, not his view in the main part of his career.

The psychological view is most clearly seen in some works of the early 1640s: the Third Objections, *De Cive*, and the critique of White's *De Mundo*. The main line of argument in the Third Objections is about ideas, especially the idea of God. The argument of the *Meditations* turns crucially on the existence and nature of the meditator's idea of God. Hobbes denies that we have an idea of God. If that's so, then Descartes's whole argument fails. His argument

for God's existence in the Third Meditation, which relies crucially on that idea, cannot get going.

Hobbes says we can have no idea of God because of his views about what ideas are. He thinks that ideas are images. Thus we can have no ideas of God or angels, because we can have no images of God or angels. We can use images in the course of thinking of such things. However, an image of an old man with a white beard sitting on a cloud cannot be of God in the same way that an image of a tree can be of that tree. It is an aid to thinking about God in some situations, but does not directly represent God.

Nevertheless, we can think about God, angels, and other items of which we lack ideas. Hobbes says that we can conceive of these things, even though we cannot imagine them. In the Third Objections and elsewhere he illustrates conceiving with the story of a man born blind who thinks about fire. This man has an idea of the heat caused by the fire. (This idea is not an image, strictly speaking. However, Hobbes allows the analogues of images for senses other than vision to count as ideas too.) The man has, though, no idea of the fire. Nevertheless, he can think about the fire. Hobbes says that the man conceives of the fire as the cause of the heat.

Conception, in general, allows you to think about things of which you have no ideas as the causes of other things of which you do have ideas. The blind man conceives of the fire as the cause of the heat he feels. This is not just a story about the blind man and the fire though. The most important case is that of thinking about God. We can, Hobbes says, conceive of God as the cause of the world, even though we can have no idea of God.

Hobbes's psychology thus divides external objects onto two groups. There are those objects of which we can have ideas, and those objects of which we can merely conceive. Many bodies are in the first group. Thus we can think about bodies and their features, and give full causal explanations that invoke

the features of bodies. We cannot however give full causal explanations involving things of which we can merely conceive. In those cases we can pick out the object involved in the cause, but cannot describe its features, and thus cannot describe the state or event that really is the cause. Scientific explanations will have to be about those things of which we can have ideas, bodies.

That's what's going on in the Third Objections and other texts of the early 1640s. I think it's also Hobbes's view in *Leviathan*, the first edition of which was published in 1651. This is contentious, because many reader of Hobbes think that in *Leviathan* he holds that God is a body, or that God does not exist at all. Indeed, much of the debate about materialism in *Leviathan* ends up as a debate about what Hobbes says about God and our knowledge of him. In the Third Objections Hobbes thinks that the human mind could be conceived of but not imagined, but in *Leviathan* he thinks the mind is material. He suggests too, though he does not quite say, that angels are material. So God is the only good example remaining of something we can conceive of but cannot imagine.

That brings me to the recurrent debate about whether Hobbes is an atheist. Ever since the seventeenth century there have been people who have said that Hobbes is an atheist. They have not all meant the same thing by 'atheist' though. Several early critics called Hobbes an atheist when they found his view morally dubious, or when he deviated from Christianity as they understood it. These claims are both distinct from the claim that Hobbes denies the existence of God. That claim, which is today's claim that Hobbes is an atheist, was rare in the seventeenth century, though Cudworth did make it.

To claim that Hobbes denies God's existence one must deny that he means everything he says. One has to claim that (i) Hobbes says some things that imply that God does not exist; (ii) he means those things; (iii) he intends and believes the consequence, that God does not exist; and (iv) he does not believe many other things he says, which either say or imply that God exists.

The evidence for making all of claiming (i)-(iv) is weak indeed. Even if we grant (i) – and as I argued in chapter four, (i) is dubious – we still need, crucially, to establish (iii). Consider an analogous case. Descartes’s initial strict definition of substance in the *Principles of Philosophy* implies that there is only one substance, God. He then presents a qualified definition, which allows for multiple substances. Suppose someone were to argue as follows. ‘Descartes really believes what Spinoza believes, that there is only one substance. He tries to cover that up with his later qualified definitions. We can, however, see through that cover to the more radical Spinozistic view, which is the view Descartes is really trying to tell us about. And who can blame him for hiding it, when we consider the reputation Spinoza acquired by saying this straightforwardly?’ That’s the wrong way to understand Descartes. He does believe there are multiple substances: the evidence is everywhere in his work. He has a problem with figuring out how to fit that view together with a clear and plausible definition of substance. That only shows Descartes hasn’t fully resolved all the difficulties in his position. Granted, Descartes presents the resources so someone such as Spinoza can come along and, taking the lead from the strict definition, argue that there is only one substance. Descartes doesn’t think that himself though. Analogously, Hobbes has problems combining his ethical views with Christianity, and his later materialism with his belief in God. These are problems with explicit views, and later atheists may find them suggestive, but they are not the clues to a hidden view.

In summary: Hobbes is not an atheist. He is also not, for the most part, a materialist. In the 1660s he does believe that all substances are bodies. And in *Leviathan* he is a materialist about the mind. For the main part of his career, however, he believes that there are things that we cannot imagine, and thus cannot know to be bodies. Whatever they actually are, we don’t know what they are. That rules out asserting the general materialist view that all substances are

bodies.

8.2 Mechanism and Aristotelianism

The narrative of mechanism and Aristotelianism is one way – currently a rather popular way – of telling the larger story of seventeenth-century philosophy. (Alternative stories may emphasize scepticism, or the conflict between empiricism and rationalism.) The great movement in seventeenth-century philosophy, so the story goes, is mechanism. Mechanists, for all their differences, are united in their approach. This approach comes to be the dominant one, taking that position from the Aristotelian philosophy that had long held it.

Hobbes is described as a prominent early mechanist, along with Descartes and Gassendi – less successful at acquiring followers perhaps, but nevertheless an important member of that early group of mechanists associated with Mersenne. He shares mechanist views with Descartes and Gassendi, and with later mechanists including Locke. He also shares with them a rejection of Aristotelianism.

In chapters five and six I looked at two particular cases of Hobbes's relationship to the Aristotelian tradition. Looking at his view of the nature of accidents, we see a definite engagement with and rejection of views within that tradition. His approach to method again engages with that tradition. In this case he finds more to accept and integrate into his own system.

So far we have a picture of Hobbes, in his relationship to Aristotelianism, that resembles recent pictures of Descartes. Both Hobbes and Descartes are aware – in part as a result of their formal education – of Aristotelian views. Both adopt those views when they think it appropriate to do so, even if they rarely admit this. Both also reject many Aristotelian views. They say much more about this negative part of their relationship to Aristotelianism than about the positive

part. Their rhetoric, unlike their practice, is consistently anti-Aristotelian, and can indeed give the impression that they have rejected all Aristotelian views and made a completely fresh start.

Another theme of recent historical writing is, as I have emphasized, a story about mechanism. What unites those such as Descartes and Hobbes whose views replace Aristotelian views is mechanism. However, as I argued in chapter seven, mechanism is hard to characterize in detail. If we look for some fairly precise and fundamental view that all so-called mechanists share, we find nothing.

We may, as I suggested, choose a less fundamental view that's shared by mechanists. They share a view about secondary qualities such as colours, the view that our ideas of secondary qualities do not resemble their causes. The causes are, in one way or another, small structures in the things that have the secondary qualities. At that small scale, there are no secondary qualities, merely primary ones. Particular combinations of primary qualities give rise to secondary qualities. We experience them as secondary qualities, as colours for instance, not as sizes, shapes, and motions.

It does seem odd to call that view – the view that Hume says characterizes modern philosophy – mechanism. From the way mechanism is discussed, it seems that it ought to be something more fundamental to one's view of the world. That is why I am reluctant to call this 'mechanism'. It does unite the right people though. Moreover, it is connected with mechanists' views about physics. Those views, which vary, all serve to explain how the sizes, shapes, and motions of the small parts of things give rise to our perceptions of the things as coloured.

8.3 Hobbes, Locke, and Hume

The difficulties with characterizing mechanism suggest that we might be better served by looking at other connections between seventeenth- and indeed eighteenth-century philosophers. I noted one such connection in chapter five. Hobbes's view about accidents – in particular about why many philosophers take accidents to be quasi-substantial – is close to Digby's view. That points to a connection to another philosopher, and also to a theme that we see in Hobbes's work elsewhere. He investigates the causes of our beliefs about metaphysical issues as well as the issues themselves. He is particularly interested in the limits of our cognitive abilities. When he does discuss metaphysics, he often concentrates on clearing up others' errors, errors which have to do with their use of meaningless words. It is plausible that Hobbes shares these approaches with Locke and Hume. I have not investigated that connection in this dissertation, but it is a way in which the project may be extended. In this final section I point to some interesting similarities between their views, similarities that suggest areas for further investigation.

Others have, of course, noticed similarities between the views of Hobbes, Locke, and Hume. Nidditch (1975, viii) discusses some general similarities and connections when he draws attention their “empiricism”, which

should be seen as a compound of several doctrines, not all of them exclusively epistemological. Among them are, at a first approximation: that our natural powers operate in a social and physical environment that we seek to adapt ourselves to, and that the variable functioning of these powers in that environment is the agency by which we get and retain all our knowledge, ideas, and habits of mind; that our capacities of conscious sense-experience and of feeling pleasure or discomfort are primary natural powers; that the abuse of language, especially in scholastic systems and indulgent speculative hypotheses, is a troublesome source of errors and of obstacles to intellectual improvement and moral and social stability; that religious fervour is contemptible and sectarian strife is deplorable;

and that although science, which proceeds by reasoning about propositions whose terms represent existent ideas or realities, deserves our respect, its scope for attaining conclusive success is extremely limited at best (Nidditch 1975, viii).

I want to pick up on two things Nidditch mentions: the point about the abuse of language, and the pessimism about how much we'll be able to know by means of science. Still, though I'm far from the first to notice these connections, there are new and important things to be said. These connections, especially to Hobbes, are more often alluded to than explicitly discussed.

Much as Hobbes discusses metaphysical issues, we find him trying to avoid sustained metaphysical discussion. There is a certain minimal amount of metaphysics we need to do to have a clear basis from which to progress into physics. Metaphysical inquiry beyond that minimal amount should be avoided though. Those who go in for such inquiry tend to end up in a mess, using meaningless words and making "gross errors". We see this tendency at work throughout Hobbes's discussions of metaphysical issues.

Consider what he says about body, accident, and cause. Hobbes denies for most of his career the materialist view that bodies are the only substances. He believes, rather, that bodies are the only substances we can imagine.¹ In his materialist-sounding discussions, Hobbes's emphasis is on our cognitive faculties and abilities, and on what we can understand.²

When he discusses the nature of accidents, Hobbes argues that accidents cannot exist apart from substances. However, as I argued in chapter five, he spends as much time considering why his opponents believe what they do. He

¹That view, together with his view of the relationship of imaginability to explanation, leads him to restrict philosophy to bodies. Thus he says that "the subject of philosophy, or the matter upon which it reflects, is every body of which any generation can be conceived and of which a comparison can be made after any consideration of it; or in which composition and resolution has a place, that is, every body that can be generated or be understood to have some property" (Hobbes 1981, 189).

²Except in some texts from about 1662 on, in which Hobbes thinks he knows that every substance is a body.

shares with Digby the claim that those opponents are following a pattern of thought that is common and corrigible, but does not always produce good arguments: the move from ‘I have an idea of X’ to ‘there is a thing, X, in the world’.

Finally, look at what Hobbes says about causation. He defines ‘cause’:

a CAUSE simply, or an entire cause, is the aggregate of all the accidents both of the agents how many soever they may be, and of the patient, put together; which when they are all supposed to be present, it cannot be understood but that the effect is produced at the same instant; and if any one of them be wanting, it cannot be understood but that the effect is not produced (Hobbes 1839a, 1.121-2).

That view of causation depends crucially on what we can understand. “It cannot be understood but that” is a key phrase in the definition. And it’s clearly understanding by humans that’s at issue, because Hobbes excludes talk of God and angels from philosophy. The makeup and limits of the human mind thus affect what is and what isn’t a cause.

In each of these three cases – body, accident, and cause – Hobbes invokes human understanding. More exactly, he invokes the limits and failings of human understanding. It’s not that incorporeal things are impossible, but that we can’t understand them. It’s not just that those with the wrong view of the nature of accidents are wrong, but that they are lead astray by a natural tendency to error in our minds. And a cause is not that which necessitates the effect, but that which we can’t understand as doing anything other than necessitating the effect. Especially in the cases of body and accident, Hobbes is as concerned with our beliefs as with the metaphysical issues those beliefs are about. In all three cases he’s thinking about the limits of our cognitive powers.

It is *prima facie* highly plausible that Locke holds similar views. Look at what he says he’s doing in the title of his book. The *Essay* is not a treatise on metaphysics, but on human understanding. That is, Locke’s purpose is “to enquire into the Original, Certainty, and Extent of humane Knowledge; together

with the Grounds and Degrees of Belief, Opinion, and Assent” (Locke 1975, 43). Locke’s statements of intent focus on the workings of the human mind. Moreover, he denies undertaking a metaphysical investigation of the human mind, an investigation of the true nature of the thinking thing: “I shall not at present meddle with the Physical Consideration of the Mind; or trouble myself to examine, wherein its Essence consists” (Locke 1975, 55). Locke wants to understand the mind, but not in a way that involves investigating the essence of the mind. That’s in line with Hobbes’s tendency to avoid metaphysical discussion as much as possible.

Two other aspects of the early pages of the *Essay* echo Hobbes’s approach. Locke attacks the meaningless language of many previous philosophers, and discusses the limits of our ability to know about the world.

We see the attack on meaningless language in the famous passage in which Locke describes himself as an underlabourer in a larger group. There he subordinates his project to those of some famous contemporaries: Boyle, Sydenham, Huygens, and Newton. We cannot all hope to be as great as those men: “*tis Ambition enough to be employed as an Under-Labourer in clearing Ground a little, and removing some of the Rubbish, that lies in the way to Knowledge*” (Locke 1975, 10). That passage is most commonly cited to show Locke’s connections to the scientists of his day (scientists in our sense of the word) – to show for instance that he sees his project as intimately related to Boyle’s. I want to use it for a slightly different purpose. Notice what the ‘rubbish that lies in the way to knowledge’ is. It is incorrectly-used language. In the passage that follows Locke talks about “uncouth, affected, or unintelligible terms”, “vague and insignificant forms of speech”, “abuse of language”, and “hard or misapplied words, with little or no meaning”. This abused language hinders progress, especially as it tends “to be mistaken for deep learning”, and few think that “the language of the sect they are of, has any faults in it”. Philosophers are hold tight to their

troublesome terminology, convinced that it is helpful.

That's not just a general initial declaration. Locke makes just this sort of argument about particular cases as he progresses through the *Essay*. He argues for instance that his investigation of language, and of general names in particular, will be useful in part because it will help us "to avoid the inconveniencies of obscurity or uncertainty in the signification of Words" (Locke 1975, 404). Consider also his criticisms of the view that there are innate principles in the mind. He makes his initial point that children and idiots are unaware of these supposed innate principles. He then notes that

To avoid this, 'tis usually answered, that all Men know and *assent* to them, *when they come to the use of reason*, and this is enough to prove them innate. I answer,

Doubtful Expressions, that have scarce any signification, go for clear Reasons to those, who being prepossessed, take not the pains to examine even what they themselves say (Locke 1975, 51).

Locke then offers two more precise things that that vague response could mean, and criticizes those precise views. But he gets to those criticisms by criticizing his opponents' sloppy use of language.

Another theme of the *Essay* that echoes Hobbes's concerns is the appeal to and investigation of the limits of our knowledge. Talk of our lack of knowledge, and the limits of our understanding, begins early. The epigraphs to the *Essay* – quotes from Cicero and Ecclesiastes – both concern our lack of knowledge.³ Then in the first chapter Locke says that

if by this Enquiry into the Nature of the Understanding, I can discover the Powers thereof; *how far* they reach; to what things they are in any Degree proportionate; and where they fail us, I suppose it may be of use, to prevail with the busy Mind of Man, to be more cautious in meddling with those things exceeding its Comprehension; to stop, when it is at the utmost Extent of its Tether; and to sit down in a quiet Ignorance of those Things, which, upon Examination, are found to be beyond the reach of our Capacities (Locke 1975, 44-5).

³See Buckle (1999, 3-5) for a discussion of these epigraphs.

Our powers of understanding have their limits: “the *Comprehension* of our Understandings comes exceeding short of the vast Extent of Things” (Locke 1975, 45). It would help us to know those limits. Locke suggests, indeed, that finding those limits is one of the aims of the *Essay*.

Look now at Hume, and at some things he says about his project in the Introduction to the *Treatise*. The project is, again, the investigation of human nature. This project has both Lockean and Hobbesian aspects.

The connections to Locke are easier to see, if only because Hume names Locke as one of those “late philosophers in *England*, who have begun to put the science of man on a new footing, and have engag’d the attention, and excited the curiosity of the public” (Hume 2000, Introduction). Hume names Locke, Shaftesbury, Mandeville, Hutcheson, Butler among these philosophers whom he sees as his immediate predecessors in the inquiry into human nature.

For Hume as for Locke the main project is an investigation of how the human mind works. And again, for Hume as for Locke, this is not the investigation of some hidden essence of the mind. Locke tells us that “the substance of Spirit is unknown to us; and so is the substance of Body, equally unknown to us” (Locke 1975, 313), and that he “shall not at present meddle with the Physical Consideration of the Mind; or trouble my self to examine, wherein its Essence consists” (Locke 1975, 43). Hume, following Locke, talks of “the essence of the mind being equally unknown to us with that of external bodies”, and says “I do not think a philosopher, who wou’d apply himself so earnestly to the explaining the ultimate principles of the soul, would show himself a great master in that very science of human nature, which he attempts to explain” (Hume 2000, Introduction). Both Locke and Hume want to investigate the mind in such ways as we can, even though they both also think that we are ignorant of the nature or essence of the mind.

Hume, indeed, echoes both Locke’s interest in finding out about the limits of

our mental powers and Locke's confidence that knowing those limits will help us with our project of finding out about the world more generally. Locke says that,

If by this Enquiry into the Nature of the Understanding, I can discover the Powers thereof; *how far* they reach; to what things they are in any Degree proportionate; and where they fail us, I suppose it may be of use, to prevail with the busy Mind of Man, to be more cautious in meddling with things exceeding its Comprehension; to stop, when it is at the utmost Extent of its tether; and to sit down in a quiet Ignorance of those Things, which, upon Examination, are found to be beyond the reach of our Capacities (Locke 1975, 44-5).

Similarly, Hume says that we should be content when our enquiry has reached the limits of our abilities: "When we see, that we have arriv'd at the utmost extent of human reason, we sit down contented; tho' we be perfectly satisfy'd in the main of our ignorance" (Hume 2000, Introduction). Locke and Hume have the same message for us. We should enquire into the human mind. However, the ultimate natures of things are closed to us, and we should accept this, and not waste our time in fruitless attempts to investigate what we cannot investigate.

The connections between Hume's project and Hobbes's are perhaps less obvious than those between Hume's project and Locke's. Hume does not name Hobbes in the Introduction. This is not so surprising, given the reluctance of philosophers to associate themselves with the disreputable Hobbes.⁴ That said, Hume does mention Hobbes by name twice in the *Treatise*: he cites Hobbes in a footnote to the discussion of why a cause is always necessary (Hume 2000, I.iii.3), and he tells us in his discussion of liberty and necessity (more specifically, of the regularities of human life) that he is "apt to think a traveller wou'd

⁴Hobbes's bad reputation leads others to avoid mentioning his name or acknowledging his influence. Rogers (1988) discusses the subsequent difficulties in being sure about Hobbes's influence. Malcolm (2002, ch. 14) discusses Hobbes's reception and influence in continental Europe.

meet with as little credit, who shou'd inform us of people exactly of the same character with those in *Plato's Republic* on the one hand, or those in *Hobbes's Leviathan* on the other" (Hume 2000, II.iii.1). These mentions make clear what we would have suspected anyway: that Hume was well aware of Hobbes's work.

There's more to the connection between Hobbes and Hume than that though. Hume says in the *Abstract* that the *Treatise* "seems to be wrote upon the same plan with several other works that have had a great vogue of late years in *England*" (Hume 2000, 407). As Russell (1985) notes, Hume's *Treatise* is structured in a Hobbesian, not a Lockean, way. Hume's three volumes discuss the understanding, then the passions, then morals. That's not the structure of Locke's *Essay*. Locke begins with an attack on nativism, in Book II works out his own story about the origin of ideas, in Book III discusses language, and in Book IV discusses knowledge. The *Treatise's* structure is, rather, the structure of Hobbes's *Leviathan* and *Elements of Law*. In the *Elements of Law* Hobbes first discusses cognition, then the passions, then moral and political philosophy⁵ In *Leviathan* he uses the same structure (at least in Books I and II) although the first two parts are compressed and the third is greatly expanded. Hume's book has the structure of Hobbes's book, and Hume himself in the *Abstract* makes this connection.⁶

None of these connections between Hobbes and Hume is terribly close. The same is true of other similarities that Russell (1985) points to, such as Hume's borrowing of an example from Hobbes. They do make a useful introductory point though: Hume is well aware of Hobbes's work, and think about it as he does his own work. Moreover, the view of Locke and Hume that there are limits to our power to understand the world has a clear antecedent in Hobbes. For

⁵See the diagram at Russell (1985, 55) comparing Hobbes's and Hume's structures.

⁶Moreover, the title, 'a treatise of human nature', is a phrase Hobbes uses to describe his own work. In *De Corpore Politico*, the second part of the *Elements of Law*, he refers to that first part as "That *Treatise of Human Nature*" (Hobbes 1839a, 4.125-6), quoted by Russell (1985, 54).

instance, the view of Locke and Hume that we cannot understand the nature or essence of the human mind is close to Hobbes's view about the mind in the Third Objections.

I've talked mostly about relationships to Hobbes and Locke that we can see in Hume's Introduction to the *Treatise*. We can see further connections if we think briefly about how Hume treats traditional metaphysical issues in the *Treatise*. In general what we get from Hume isn't an explanation of the metaphysical thing, but an explanation of our idea of it. So we get, in large part, an explanation of what we think about identity and substance and causation, rather than an explanation of the nature of mind-independent identity and substance and causation. Even if you think Hume is a sceptical realist about causation, you have to acknowledge that he does not spend much time discussing the realist causal relation. Instead Hume spends most time, in the sections of the *Treatise* that look at causation, on things such as "the *idea* of necessary connection" (I.iii.14) and "Rules by which to *judge* of causes and effects" (I.iii.15). Elsewhere, in I.i.6, where Hume says he will tell us about modes and substances, he actually tells us about our ideas of modes and substances. This is not surprising, given the Hobbesian and Lockean background to the *Treatise*, and given Hume's declaration that he's doing the science of human nature, not general metaphysical enquiry. Hume, like Locke and like Hobbes, is moving slowly away from metaphysical enquiry towards something we might call psychology.

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