

*Descartes, the Synoptic Philosopher*¹

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1. Philosophizing with Descartes

Why should one study Descartes? There are large numbers of philosophers working today who see little if any reason to go back to the writings of a seventeenth-century thinker whose views they take to have been long since superseded. In so far as they mention Descartes at all, he is simply a dummy on which to drape various suspect doctrines (such as ‘Cartesian dualism’), which enlightened contemporary work in science and philosophy prides itself on having abandoned. Far removed from subscribers to this progressivist conception of philosophy are those champions of the history of ideas who make it their life’s work to pay meticulous scholarly attention to the philosophical works of past ages. Some of this labour is focused on the detailed study of the texts themselves – involving the production of scholarly editions, critical apparatuses, and the like – while other work addresses itself to the additional but in many ways complementary task of situating a philosophical text in its precise historical environs. The idea is that to understand a text properly we need to immerse ourselves in the intellectual and cultural context of an age, so as to gain a better idea of how the relevant doctrines took shape.

Both the above sketches – that of the ‘cutting edge’ contemporary analytic practitioner and that of the scholarly historian of philosophy – perhaps represent somewhat extreme positions; so if we were to follow an Aristotelian model, we might suspect that virtue should lie somewhere in the middle. But I have no particular wish to impugn either of the approaches so far described. Vigorous engagement with the specialized and technical debates of contemporary philosophy (narrow and introverted though it may often be) can produce many stimulating arguments; and on the other side, historical scholarship (dry and fustian though it may sometimes seem) can succeed in throwing fresh light on crucial components of our intellectual inheritance. So in hinting at a middle way, I certainly do not want to denigrate anyone else’s conception of philosophy, nor to stake out any particular claim to philosophical virtue. Nevertheless, I should like to say a few words at the start of this chapter about my own reasons for studying Descartes, since they diverge somewhat from the models so far indicated.

In the first place, to engage in philosophical inquiry is, whether we like it or not, to be involved in a cultural tradition. A tradition need not be construed in a hyper-conservative manner, as a set of sacred doctrines to be handed on unchanged and unchallenged; seeing our ideas as forming part of a tradition is simply to acknowledge that our ways of thinking about ourselves and the world have been partly shaped by the efforts of those who have preceded us. In the case of philosophy, the very idea of the ‘love of wisdom’ – a zeal for reaching beyond unthinkingly accepted beliefs towards a deeper and more rationally defensible understanding of things – is an idea with a fairly specific history. It was forged, like so many vital elements of our intellectual culture, by the thought of Socrates and Plato, and began to take shape as a systematic academic discipline under the towering genius of Aristotle. That our subject has classical foundations, that during the middle ages it underwent a prolonged and dynamic integration with the other great source of Western culture, the Judaeo-Christian worldview, and that in the seventeenth century it was subjected to seismic rumblings that gradually gave rise to what we know as modernity – these historical facts are part of the framework without which philosophy as we know it simply would not exist. So even in order to understand what we are doing when we embark on philosophy, it seems indispensable to have some grasp of these building blocks of our philosophical culture. Even today’s most ‘anti-historical’ departments of philosophy seem partly to acknowledge this, in so far as introductions to classical and early-modern thought remain part of the syllabus for most if not all

¹ This is a draft typescript of the overview published as Chapter 1 of *Cartesian Reflections* (Oxford: Oxford University Press, 2006), pp. 3-49.

undergraduate courses in the anglophone philosophical world (not to mention the central role they continue to have for the universities of continental Europe).

Yet it is one thing to concede that the history of philosophy should remain somewhere on the academic syllabus, and another to make a serious attempt to understand the role of the great canonical writers in shaping our intellectual inheritance. Assigned to deliver routine introductory lectures on Descartes before serried ranks of easily distracted first-year students, the philosophy lecturer may be tempted to extract a few schematic arguments from the *Meditations* and then try to ‘hook’ the audience with glib philosophical challenges – ‘How do you really know you are not now dreaming?’ The danger here is that the historical Descartes becomes just a surrogate for introducing the agendas of modern epistemology. Those agendas may of course have much philosophical value, but they can often become ‘professionalised’ – a routine obstacle course the aspiring student or academic is expected to navigate – rather than (like the agendas of a Socrates or a Descartes) part of an integrated search for genuine knowledge and self-understanding. However tempting it may be for the hard-pressed philosophy instructor to treat Descartes as if he was obsessed with puzzles about ‘the existence of the external world’, or to link his malicious demon supposition with Hollywood fantasy films such as ‘The Matrix’, such approaches manage in a certain way to trivialize his work. The First Meditation, to be sure, does raise radical doubts, but not in order to play an academic game, or to indulge in speculative science-fiction. The purpose of his arguments, Descartes observed in the preface to his *Meditations*, was not to prove ‘that there really is a world, and that human beings have bodies and so on – *since no sane person has ever seriously doubted these things*’ (AT VII 15-16: CSM II 11, emphasis supplied). The Cartesian quest did not spring into existence as a set of intellectual puzzles or diversions, but fits into a long tradition (going back to Augustine and beyond), which sees the philosopher as using doubt and self-discovery as the first step in the search for objective truth. The point of his arguments establishing the external world, says Descartes, is that ‘in considering them we come to realize that they are not as solid or as transparent as the arguments which lead us to knowledge of our own minds and of God’ (ibid.).

The reference to God in this last quotation signals something about Descartes that is often filtered out in the philosophical agendas of contemporary analytic philosophy. By secularizing Descartes’s thought, treating his conception of the deity as if it was just an embarrassing piece of historical baggage, which he would have done better to discard in addressing the main epistemological and scientific questions that opened the door to modernity, we not only distort his philosophical achievement, but also destroy much of the point of studying his ideas. For part of the fascination of Cartesian philosophy is that it is a *system*: not just a discrete set of philosophical puzzles, grist for the specialized mills of today’s fragmented analytic academy, but an integrated structure of thought that supports a complete vision of the world and the place of humanity within it. And for Descartes, God is right at the centre of that system, the guarantor of genuine knowledge, the source of the logical and mathematical framework according to which the cosmos operates, and the fountain of goodness which allows finite human creatures like us, weak and imperfect though we necessarily are, to lead flourishing and worthwhile lives.

Philosophy for Descartes is the key to understanding this divinely created order, which includes our own human nature. His organic metaphor for the philosophical enterprise is well known: philosophy is a tree of which the roots are metaphysics, the trunk physics and the branches the more specific fruit-bearing offshoots – medicine, mechanics, and morals.² That may sound very odd to anyone whose view of philosophy is limited to what is typically done in today’s university departments. But Descartes’s synoptic vision is not only integral to how he conceives of himself as a philosopher, but is also something that can be properly understood only by seeing his relationship to the philosophical culture in which he was nurtured. One of the textbooks he read as a schoolboy at the Jesuit college of La Flèche was the *Summa philosophiae quadripartita*, the ‘Compendium of Philosophy in Four Parts’, by the scholastic thinker Eustachius e Sancto Paulo. The parts comprised

² Preface to the 1647 French translation of the *Principles of Philosophy* [*Principia philosophiae*, 1644], AT IXB 14-15: CSM I 186.

logic, physics, metaphysics and ethics, and the enterprise Eustachius saw himself as engaged on, inspired in turn by the conception found in the great compendia of Thomas Aquinas in the thirteenth century, was directed towards the goal of achieving a unified understanding of who we are, what we can know, and how we should live. Only such a holistic conception could serve the final end of a complete philosophical system, which Eustachius declared to be nothing less than ‘human felicity’.³ In similar vein, Descartes saw his philosophical system as yielding a complete morality which would constitute the *le dernier degré de la sagesse* – the ‘ultimate level of wisdom’.⁴

This may all sound very grand, not to say grandiose. But before we resign ourselves to resting content with the much lower-key ambitions of contemporary philosophy – unravelling conceptual confusions, mapping the logical structure of language, or serving the agenda of natural science as its ‘abstract and reflective branch’⁵ – it is worth seeing if the Cartesian picture has something to teach us. In the post-Darwinian climate of our modern age, many tend to see the universe as a randomly evolved process not in itself possessed of any intrinsic value or purpose, while our own lives are seen as not ordained towards any goal or end except that which we happen to choose to pursue. What is absorbing about Descartes is how some of his ideas foreshadow this bleaker modern picture, while at the same time other elements of his thought connect up with the more reassuring teleology that informed the worldview of many of his predecessors. In conceiving the physical universe as so much machinery, to be ‘mastered’ and utilized in order to improve the quality of human life,⁶ he speaks with the voice of the modern scientific technocrat, less interested in the ancient philosophical aim of living ‘in accordance with nature’ than in making nature conform to our own needs and desires. But in trying to discern how humans can live as they are meant to, he holds fast to a vision of timeless objective goodness and truth that compels our assent whether we like it or not, and to a picture of our human nature as so ordered that ‘there is absolutely nothing to be found that does not bear witness to the power and goodness of God’ (AT VII 87: CSM II 60).

In short, when studying Descartes in a philosophically fruitful way we need to look in two directions – forward to the ideas of our own age which Descartes’s thinking helped to shape, and backward to the medieval and classical culture which moulded so much of his own outlook. By deracinating Descartes, and extracting philosophical bullet-points out of his writings merely as ammunition for current philosophical sparring, we blind ourselves to that richness of texture which is indispensable for any but the shallowest understanding of the great philosophers. But on the other hand, by immersing ourselves in the historical detail to the point where his ideas become of merely antiquarian interest, connected backwards in time, but not really meshing with our present philosophical thinking, we also remove the life from his ideas: grubbing round too much in the roots of an organism can be as life-threatening as trying to pull it out of its native soil.

³ Eustachius a Sancto Paulo, *Summa philosophiae quadripartita* [1609], Preface to Part II. Translated extracts may be found in R. Ariew, J. Cottingham and T. Sorell (eds), *Descartes’ Meditations: Background Source Materials* (Cambridge: Cambridge University Press, 1998), pp. 68-96.

⁴ Preface to French edition of *Principles*, loc. cit.

⁵ The first of these three conceptions is represented by Ludwig Wittgenstein: ‘what is your aim in philosophy: to show the fly the way out of the fly bottle’ (*Philosophical Investigations* Ludwig Wittgenstein, *Philosophical Investigations* [*Philosophische Untersuchungen*, 1953], transl. G. E. M. Anscombe (New York: Macmillan, 1958), Part I, §309); the second by Michael Dummett: ‘only with the rise of the modern logical and analytic style of philosophizing ‘was the proper object of philosophy finally established, namely ... the analysis of the structure of *thought*, [for which] the only proper method [is] the analysis of *language*’ (‘Can Analytic Philosophy Be Systematic?’ [1975], in *Truth and other enigmas* (London: Duckworth, 1978), p. 458). The third and most recent, described by Brian Leiter, is the now increasingly popular view that philosophy should ‘either ... adopt and emulate the method of successful sciences, or ... operate in tandem with the sciences, as their abstract and reflective branch.’ (*The Future for Philosophy* (Oxford: Clarendon Press, 2004), Editor’s Introduction, pp. 2-3).

⁶ *Discourse on the Method* [*Discours de la méthode*, 1637], Part Six (AT VI 62: CSM I 142).

These reflections are necessarily of a somewhat schematic nature, and one cannot satisfactorily explain what makes a given philosopher worth studying without delving into the specific content of the ideas and arguments. But let me add one more general observation before coming to the particular issues that have engaged my attention in the papers that follow. In my undergraduate days, because of the peculiar structure of the ‘Greats’ course at Oxford during the nineteen sixties, I read the whole of two long masterworks of ancient philosophy (Plato’s *Republic*, and Aristotle’s *Nicomachean Ethics*), studying them in minute detail in the original Greek, and then jumped straight to R. M. Hare and P. F. Strawson and the latest puzzles of the (then) cutting-edge ‘linguistic’ philosophy, without pausing for breath or being asked by my teachers even to glance at anything in between. Not surprisingly, the resulting examination papers we had to sit, though extraordinarily intricate and demanding, seemed strangely isolated from each other, and indeed from virtually every other aspect of the cultural and intellectual landscape we inhabited. It was only later on, when coming to Descartes as a graduate student, that I started to become dimly aware of how those classical philosophical ideas had shaped the rise of modern culture, and, in turn, of why the debates of the latter-day philosophical luminaries were something more than a series of clever and abstract verbal games.

Descartes’s pivotal place in the development of Western philosophy gives his ideas a unique importance. But on top of that, his thought also offers an unusually compelling picture of what it is to philosophize, and it is this that gives him such an enduring power to draw the reader into the philosophical quest. With Descartes, one is confronted by the challenge to question one’s preconceived opinions and examine how much of what one claims to know can be justified. In a spiritual exercise of remarkable power, one is asked to imagine oneself quite alone, helpless, isolated and ignorant, and to confront the possibility that this very helplessness and finitude is only recognized through a residual awareness of something greater and higher. By pondering on what is involved in the very act of wondering and reflecting, one is launched into an inquiry about one’s own nature as a thinker, and its relation to the material world. Through reflection on how the essential structure of that world can be conceived in its clearest terms, one finds oneself confronting mathematical and logical ideas of such irresistible simplicity and transparency that it is impossible to doubt their validity. And by coming to terms with one’s own intimate involvement with that corporeal world, one’s essential and inescapable embodiment as a human creature of flesh and blood, one is forced to allow that such seemingly utterly alien domains as the realm of the mind and the realm of extended physical reality are somehow, mysteriously, intermingled, so as to make us what we are.

In every step of the Cartesian journey, and the scientific and ethical theories that come out of it, there are philosophical puzzles rich and fertile enough to occupy a lifetime’s reflection. And almost every result that Descartes himself reached along his own journey has, as we are now too well aware, been strongly and repeatedly challenged by subsequent philosophers, right down to the present day. But his philosophy does nevertheless survive, not just as a historical curiosity, nor just as target practice, nor just because he is a writer of wonderful precision and eloquence, but as a model for what philosophy can aspire to. In Descartes’s vision of how the reflective intellect can strive to achieve a systematic and coherent vision of reality, we find something that is unlikely to lose its hold on us completely, so long as the human impulse to philosophize continues. ‘A good man,’ he wrote in what may have been one of his last works, ‘is not required to have read every book or diligently mastered everything taught in the schools. But he needs to rid himself of the bad doctrines that have filled his mind and discover how to raise his knowledge to the highest level it can attain.’ And there then follows an extraordinary manifesto:

I shall bring to light the true riches of our souls, opening up to each of us the means whereby we can find within ourselves, without any help from anyone else, all the knowledge we may

need for the conduct of life and the means of using it in order to acquire all the most abstruse items of knowledge that human reason is capable of possessing.⁷

It sounds impossible, arrogant, exaggerated; and even Descartes's most devoted disciples would surely dispute the vaunted self-sufficiency of that phrase 'without any help from anyone else.' But for all that, his manifesto captures something about philosophy that makes it diverge radically from subjects which require us to align ourselves with a recognized body of doctrine, a specific area of empirical inquiry, or a corpus of received wisdom. Everyone who tackles philosophy is in one sense on his or her own, in a way that is quite unlike what happens in any other discipline, whether scientific or humane. Just as Socrates learned to trust his 'inner voice' over the opinions of others or the lure of expediency,⁸ so anyone who aspires to philosophize must, like Descartes, learn to set aside book learning and uncritical reliance on external authority,⁹ in the struggle to achieve a rationally secure understanding of what we can know, how we should live, and what is our human place in the scheme of things. The Cartesian voice still calls to us, and it would be a sad day for philosophy if should ever fall silent.

2. *Descartes's Position in Philosophy*

The essays contained in the three remaining parts of this volume are thematically divided for the reader's convenience into three groups. Part Two contains two papers which look at Descartes's celebrated role as the 'father of modern philosophy' and ask exactly what this title means, and how far it is justified. The opening paper, 'A New Start?', scrutinizes Descartes's claim to be an innovator. He highlighted that claim in 1637 in the brief intellectual autobiography he produced as part of his (anonymous) first publication, the *Discourse on the Method*, and it implicitly appears a few years later in his *Meditations*, in the graphic opening image of demolishing all the old buildings and 'starting again right from the foundations' (AT VII 17: CSM II 12). I argue in this paper that Descartes was quite genuinely an innovator in respect of the scientific programme he introduced to the public in the *Discourse*. Although he was not alone (Galileo has a just claim to be the co-inaugurator of the 'new' philosophy), there was something genuinely revolutionary in the idea which Descartes developed of a unitary template for understanding the physical world,¹⁰ based on mathematical principles, and including not just the inanimate world but the world of physiology and even a large part of what we now call psychology.

Yet in the parts of the Cartesian philosophy for which its author is best known nowadays, the 'method of doubt' and the metaphysical inquiries that generate the foundations of Descartes's system, what is striking, by contrast, is the significant continuity between his ideas and those of his predecessors. The wholesale challenging of preconceived opinions by systematic doubt is a device found well before Descartes was born.¹¹ And as for his appeal to the light of reason or 'natural light', Descartes's *lumen naturale* is no exception to the general principle that, however much philosophers may indulge the fantasy of having some kind of culturally detached hotline to the truth, their intuitions all too often reflect the intellectual atmosphere they breathed in their youth. Much of the background to Descartes's arguments for God's existence derives (as has often been pointed out) from the philosophical presuppositions of those medieval and renaissance writers he

⁷ *The Search for Truth by Means of the Natural Light* [*La recherche de la vérité par la lumière naturelle*], AT X 496: CSM II 400. The date and place of composition of this work are in doubt. It covers some of the same arguments as the *Meditations*, but the fact that it was unfinished, and that the (now lost) French manuscript is listed in an inventory of Descartes's papers made shortly after his death in Stockholm, suggests that it may date from the final year of his life.

⁸ See Plato, *Apology* [c. 390 BC], 40a2-c2.

⁹ See *Discourse*, Part One (AT VI 4-11: CSM I 112-116).

¹⁰ See *Rules for the Direction of our Native Intelligence* [*Regulae ad directionem ingenii*, c. 1628], AT X 378: CSM I 17).

¹¹ See the last two paragraphs of Chapter 2, section 2, below.

studied as a young man, and the language of the *Meditations* bears unmistakable traces of the scholastic philosophy which it was his stated aim to supplant.

Among the reflections which I go on to offer towards the end of Chapter 2 are some thoughts about how Descartes's scientific revolution might have been carried through in a more radical way, without all this residual metaphysical lumber. The notion of *substance* is pivotal here. Though it figures prominently in Descartes's philosophical-cum-scientific compendium, the *Principles of Philosophy*, the way Descartes conceives of it has its natural home in the world of Aristotelian scholasticism – a world of discrete individual objects, each defined by its essential attributes. In the scientific vision presented in his earlier (suppressed)¹² physical treatise *Le Monde*, by contrast, the behaviour of matter can be explained and predicted in purely quantitative terms, via the specification of the 'motion, size, shape and arrangement of parts' out of which it is composed (AT XI 25: CSM I 89), and it seems that substances and attributes play no real role here. In fact this new perspective turns out to be reflected, albeit somewhat circumspectly, even in the *Principles*, where despite the prominence of the notion of substance, there are no genuine individual substances, only the single, all-encompassing plenum that is *res extensa*, extended stuff. The proviso is added, moreover, that there is no real distinction between material substance and its defining attribute of extension;¹³ what this seems to imply is that once we have specified the various (quantitative) modes of the extended matter (motion, size, shape and arrangement of parts), no further scientific work is done by invoking the idea of substance. There is thus a kind of tension between Cartesian science, which all but dispenses with substance, and Cartesian metaphysics, to which the notion is integral.

Some of the issues involved here are historical and textual ones, but, as is implied in my general introductory remarks above, the interest in studying Descartes's thought is, according to the approach taken in these essays, never purely and simply historical; part of the fascination lies in seeing how the issues connect up with aspects of our own modern philosophical outlook. That outlook has been conditioned by a long and gradual eclipse of the notion of substance, accelerated in the eighteenth century by Hume's devastating dismissal of it as a 'metaphysical chimera'. It is of course true, as I should certainly have acknowledged when writing the paper under discussion, that the eclipse has never been total; indeed, with the current revival of traditional metaphysics, we find a good number practitioners defending the idea of substance as still philosophically indispensable. Nevertheless, it remains striking that modern science has little use for the notion, nor, more generally, for the kind of philosophical-cum-scientific agenda which we find in Descartes (and some of his partial followers such as Leibniz), namely that of bolting a mathematically-based physics onto something like a traditional metaphysical undercarriage. Part of what I aimed to show in this opening essay is just how difficult it is to make these two elements mesh together in any satisfying explanatory schema, and how the tension between them is inherent in much of Descartes's work. Today's debates over alternative (non-substance-based) metaphysical frameworks such as that of 'trope theory' (attractive to some of its supporters precisely because it seems to cohere better with modern theoretical physics) suggest that the tension Descartes wrestled with is still being worked out; and it remains to be seen whether the ultimate structure of reality can be described in ways that can dispense entirely with what seems such an intuitively natural model – that of an object characterised by essential properties or attributes.¹⁴

¹² Descartes withdrew *Le Monde* from publication on hearing of the condemnation of Galileo in 1633 (for advocating the heliocentric hypothesis which he too supported). The *Principles* [*Principia philosophiae*, 1644] conveyed Descartes's views in a somewhat more cautious way, and was composed with an eye to getting it accepted as a university textbook. See AT III 276: CSMK 167 and AT IV 225: CSMK 252.

¹³ *Principles*, Part I, art. 63 (AT VIII 30-31: CSM I 215).

¹⁴ Contrast the view of Peter Simons that 'with ... the apparent irrelevance of the concept of substance for modern science it has lost its central position in metaphysics' ('Substance', in J. Kim and E. Sosa (eds), *A Companion to Metaphysics* (Oxford: Blackwell, 1995), p. 481), with the view of Jonathan Lowe, in *A Survey of Metaphysics* (Oxford: Clarendon Press, 2002), which regards the category of objects, or individual substances, as indispensable.

In the second essay of Part Two, ‘The Cartesian legacy’, the argument shifts to the (generally very critical) way in which Descartes’s theories have been received in the modern academic world. ‘Rationalism’ and ‘Cartesian rationalism’ are labels that have often been used in a pejorative way; and though many of the confusions and exaggerations associated with such labelling have by now been exposed by those working in the history of philosophy, the widespread currency of the ‘rationalist’ tag has nevertheless left some distinctly negative impressions of Descartes’s approach among the philosophical community at large. The most general implication of calling someone a rationalist is that they suppose that substantive truths about reality can be arrived at purely *a priori*. Descartes certainly supposed that the innate ideas implanted in our minds by God give us accurate knowledge of the general logical and mathematical principles in terms of which the universe is structured. But it is highly misleading to think of him as an ‘armchair scientist’: not only does he not deny the necessity of observation and experiment in science, but he goes so far as to stress their crucial importance in deciding between rival explanatory hypotheses.¹⁵

More interesting and complicated is the charge of what I called ‘causal logicism’ – the view that real causal connections are logically intuitable or demonstrable in the manner of the truths of arithmetic or geometry. As is quite often the case with the way we react to Descartes, we tend to look back on him through a Humean lens: we assume that he must have subscribed to a model of scientific knowledge whereby it was supposed to be a logical impossibility that a given effect should not follow upon a given cause (a view tailor-made to be demolished by Hume’s acid observation that it hardly violates the law of contradiction to suppose that lunchtime’s nourishing bread will not poison me at supper).¹⁶ I argue that what is problematic here is not anything that Descartes proposed, but, on the contrary, the atomistic conception of knowledge and truth offered by Hume, which supposes that the logical status of a proposition can be evaluated in isolation from the system of which it forms a part. Descartes was indeed a deductivist in the sense that he conceived of explanation as the subsumption of phenomena under general laws that (in conjunction with various auxiliary hypotheses) entailed them – but one might add that this is pretty much how Hume himself conceived of it too,¹⁷ together with most if not all philosophers of science down to the present.¹⁸ This kind of hypothetical necessity (the necessity of an event given the laws which entail it) seems relatively unproblematic. What remains a matter for debate is the status of the covering laws themselves.

Here Descartes insists that we have innate knowledge of certain fundamental mathematical principles such that ‘after reflection we cannot doubt that they are observed in everything that exists or occurs in the world’.¹⁹ Clearly such optimistic apriorism as applied to physical reality diverges substantially from the way these matters have typically been thought about from Hume down to the present. Nevertheless, I continue to think it illuminating to notice a certain convergence between the two philosophical giants, one ‘empiricist’, one ‘rationalist’, when it comes to the status of the ultimate laws of nature. For Hume, these laws are purely contingent generalizations whose rationale, if any, must remain ‘totally shut up from human curiosity;’²⁰ while for Descartes, they are divinely decreed correlations, whose rationale we can never fully grasp, since they are subject to the ‘incomprehensible power of God’ (AT I 149: CSMK 25). Correlations decreed by the unfathomable will of God, or generalizations whose rationale is hidden from our knowledge: if we reflect on these formulations, I think we come to see that there is not in the end as

¹⁵ *Discourse*, Part Six (AT VI 64: CSM I 144).

¹⁶ David Hume, *An Enquiry concerning Human Understanding* [1748], from Sectn IV, part 2.

¹⁷ In so far as he spoke of the power of human reason to ‘reduce the principles productive of natural phenomena to a greater simplicity ... and resolve many particular effects into a few general causes.’ Hume, *An Enquiry concerning Human Understanding*, Sectn IV, part 1.

¹⁸ For the standard ‘nomological deductive’ model, see for example Carl G. Hempel, ‘Explanation in Science and in History’, in R. G. Colodny (ed.), *Frontiers of Science and Philosophy* (London and Pittsburgh: Allen & Unwin and University of Pittsburgh Press, 1962), pp. 7-33.

¹⁹ *Discourse*, Part Five (AT VI 41: CSM I 131).

²⁰ Hume, *Enquiry concerning Human Understanding*, Sectn IV, part 1.

vast a difference as might be supposed between the Cartesian and the Humean views of the nature of the scientific enterprise. Both philosophers are optimistic about the physicist's power to devise covering laws of maximum simplicity and generality, but both, in the end, have a certain humility about how deep our human understanding of the natural world can go.

The general moral to come out of this is that the 'Cartesian-rationalist' model of a scientific system emerges in tolerably good shape, if we take the core of that model to be what has since become the relatively uncontroversial view that the scientist's job is to construct precise quantitative laws under which the widest possible range of phenomena may be subsumed. Nevertheless, in rescuing Descartes from unfair caricatures, we should not try to gloss over genuinely problematic aspects of his system. As far as claims to certainty are concerned we do often get in Descartes's writings a whiff of the rather grandiose confidence that has tended to get his 'rationalism' a bad name. In offering his system to the world, he largely adopts the vocabulary that was still current in his day – the language of Aristotelian deductive certainty²¹ (in contrast to Hume's preference, on behalf of the scientist, for the more reticent tone of the sceptic); though this is perhaps partly a matter of presentation on Descartes's part – of his wanting to advertise his scientific system as fully meeting the standards expected by the epistemic models of his day. Towards the end of the paper under discussion I draw attention to what seems, with today's hindsight, another unwarranted element in Descartes's approach to explanation in physics – his confidence in the *transparent* nature of the underlying mechanisms of nature. This 'Cartesian simplicism', the insistence that 'nature always uses very simple means' (AT II 797: CSMK 215), led him to model the micro world on familiar structures in our human-scale environment; and while Descartes can hardly be called to account for having failed to predict the astonishing strangeness of the micro-world as disclosed by modern physics, he can perhaps be charged with assuming too readily that, even at the macro level, what was familiar was somehow wholly transparent in its causal workings. This links up with a major theme of our first chapter, namely the Cartesian failure to give systematic philosophical scrutiny to the concept of causation – an area where Hume was, so spectacularly, to earn his spurs. That said, the overall conclusion of the discussion is that there are central respects in which Descartes's 'rationalism' that has stood the test of time far better than is often supposed.

3. *Mind and World*

The essays comprising the third part of this volume are devoted to some of the most debated aspects of the Cartesian system. This part opens by looking at Descartes's account of the nature of thinking, in the context of his famous proposition in the Second Meditation that 'I am a thinking thing' (Chapter 4). There then follow two papers which discuss Descartes's views on the relation between thought and language: the first deals with the common charge that Descartes subscribed to a fallacious conception of the 'privacy' of thought (Chapter 5); the second examines the contrast in Descartes between psychological and logical aspects of the thinking process, a correct account of which reveals the Cartesian view to be considerably less 'subjectivist' than is often supposed (Chapter 6). The next two papers deal with Descartes's theory of colour (Chapter 7), a concept that has become particularly problematic in the philosophy of mind; and the Cartesian view of animals, focusing on Descartes's supposed denial of sensory faculties to the 'brutes' (Chapter 8). The final paper in this part of the book looks at Descartes's conception of the human being as the subject of attributes not reducible either to modes of thought or to modes of extension, and offers a 'trilateral' framework for understanding Descartes philosophy of mind, in contrast to the standard dualistic picture (Chapter 9).

(a) *Thought*

²¹ Aristotle defines demonstrative knowledge in science as depending on premises which are 'true, primary, immediate, and better known than, and prior to the conclusion ...' *Posterior Analytics* [*Analytica Hystera*, c.330 BC], Book I, ch. 2.

We have already noted how certain standard modern criticisms of Descartes involve distortions or over-simplifications of his ideas, and this is particularly true of his views on the mind. In Chapter 4, ‘Descartes on Thought’, I argue that there is good reason to be wary of the way many modern translators and interpreters of Descartes have understood one of the fundamental building-blocks of his system – what he called (in Latin) *cogitatio* or (in French) *la pensée*. Elizabeth Anscombe and Peter Geach, in a translation of the *Meditations* they produced in the 1950s, rendered *cogitatio* as ‘consciousness’; and the rationale for this rendering was bound up with their highly suspicious attitude to certain moves they took Descartes to be making in the Second Meditation, as Anscombe makes clear in an article published some years later:

A huge trick has been successfully performed. Nutrition and locomotion are now purely material, mechanical; sensation, on the other hand does not essentially require the body. The acts of ... immaterial substance are all those psychological states and events given expression in an indubitable first person present indicative: ‘I feel pain’, ‘I see’, ‘I hear’, ‘I have images’, ‘I will’, ‘I hope’, ‘I reflect’. They are all sub-species of *cogito* ...²²

So we are invited to suppose that when Descartes uses the verb ‘*cogito*’, he really means something like ‘I am conscious’ or (as the Anscombe-Geach translation sometimes has it) ‘I am experiencing’.

This seems to me a classic case of retrojecting modern confusions back onto Descartes. Nowadays, philosophers of mind are preoccupied with the ‘problem of consciousness’, and in particular the so-called ‘hard problem’ – of whether certain dimensions of experiential awareness (what it feels like to have a toothache, or to smell a rose) can be explained in physical or functional terms. But it is vital to remember that Descartes was writing well before the term ‘consciousness’ had acquired its modern connotations. The term *conscientia* nowhere appears in the text of the *Meditations*, and the term *consciuis* only once;²³ and when Descartes does, occasionally, use such terms elsewhere, they always, as one would expect, given that they are cognates of the Latin *scire* (‘to know’), relate to some kind of epistemic state – a kind of inner knowledge or judgement – *not* to some kind of experiential or phenomenological ‘what-it-is-like-ness’.

Philosophers, after years in the seminar room, often end up with systematically distorted linguistic intuitions, and there is no more striking example of this than a widespread modern philosophical conception of the domain of the ‘mental’, such that if you ask a certain kind of philosopher for an example of a mental state, they are as like as not to mention something as strange and ephemeral as a ‘green after-image’, or, even more bizarrely, a toothache – something which the ordinary dental patient would be baffled or highly irritated to have described as an event in the mind. Whatever justification can be concocted for this curiously stretched interpretation of ‘mental’, such an approach is miles away from Descartes. For Descartes, the mind is a *thinking* thing, and I argue in the paper under discussion that there is good reason to suppose that by this Descartes means precisely what he says, namely something that engages in various kinds of intellectual and judgemental activity – doubting, understanding, affirming, denying and so on. It is true that, almost as an afterthought, Descartes does in the Second Meditation tack on to this list ‘imagining and having sensory perceptions’, but this should not be read as implying any anticipation of the modern notion of ‘consciousness’, with its supposed philosophical intractability. Sense-perception and imagination count as cases of thinking only in a very special sense – a sense which requires us to read the *Meditations* as a whole in order to appreciate what is meant. So far from maintaining that ‘sensation does not essentially require the body’ (as Anscombe puts it), Descartes goes on to insist in the Sixth Meditation that sensations are the sure signature of our essentially embodied nature as human beings. It is true that we may, when performing the exercise

²² E. Anscombe, ‘Analytic Philosophy and the Spirituality of Man’ [1979], in Anscombe, *Human Life, Action and Ethics*, ed. M. Geach and L. Gormally (Exeter: Imprint Academic, 2005), pp. 5-6.

²³ When Descartes says, in the Third Meditation, that if I had the power to preserve myself from moment to moment I should certainly be aware (*consciuis*) of such a power (*Meditations* [*Meditationes de prima philosophia*, 1641], AT VII 49: CSM II 34).

of extreme doubt in the First and Second Meditation, ‘slice off’ a purely mental component of sensation, and talk of the judgement ‘it *seems* to me that I see, or hear’; but this, as Descartes explicitly states, counts as a ‘thought’ only if *sentire* is understood not in its normal sense, but in this ‘restricted sense’ (AT VII 29: CSM II 19) – that is, as referring to the ‘sliced off’ judgemental component.²⁴ So far from extending ‘*cogitare*’ to any conscious state, Descartes will count a conscious state as a *cogitatio* only if we restrict ourselves simply to the reflective mental judgement involved.

(b) *Privacy and objectivity*

The modern philosophical paradigm of the ‘mental’, as involving any ‘conscious’ item, is so firmly entrenched that we need to make a firm effort to leave it behind when approaching Descartes’s theory of the mind. Given that consciousness in this modern conception is widely supposed to be characterised by a certain interior dimension, ‘what it is like for the subject’,²⁵ it is an easy step to suppose that it has an ineliminably *private* aspect; and if Descartes is then interpreted (in the way just described) as inaugurating the modern notion of ‘consciousness’, it is another short step to lumbering him with a doctrine of the ‘privacy of the mental’ – a doctrine that many modern philosophers, in the aftermath of Wittgenstein,²⁶ have seen as responsible for a host of conceptual confusions. In Chapter 5, on thought and language in Descartes, I examine the supposedly ‘Cartesian’ thesis of the privacy of thought and argue that such a view can only be laid at Descartes’s door if we systematically ignore the approach he takes to mental phenomena in the vast majority of his writings. In his early scientific work, he is concerned to account for such psychological phenomena as sense-perception, memory and voluntary action in a very objective and public way, without any reference to a supposed ‘inner’ or ‘private’ domain; indeed, in his work on vision, he explicitly *attacks* the ‘homunculus’ model that supposes we can explain someone’s seeing an object by reference to a soul contemplating private images resembling external objects. The homunculus fallacy, so often foisted on Descartes, is one Descartes himself rejects as circular, when he scathingly attacks the view that makes it seem ‘as if there were yet other eyes within our brain by mean of which we could perceive [an image resembling an external object]’ (AT VI 130: CSM I 167). Daniel Dennett’s lampooning of Descartes, for taking the pineal gland in the brain to be a kind of ‘fax machine’ transmitting images to the soul,²⁷ invokes the kind of picture that Descartes himself expressly repudiates.

It is of course true that the perspective adopted in Descartes’s most famous work, the *Meditations*, is that of the solitary thinker, cut off from all contact with the outside world, and immersed in his own reflections. But countless ‘ideas’ of the meditator nevertheless have a publicly accessible structure – they are not dependent on the subjective psychological character of the meditator’s experience, but relate to those ‘immutable and eternal essences’ which Descartes insists are quite independent of his own mind (AT VII 64: CSM II 45). The common complaint that

²⁴ ‘For example I am now seeing light ... But I am asleep, so all this is false. Yet I certainly *seem* to see (*videre videor*). This cannot be false, and what is called “having a sensory perception” is strictly just this, and in this restricted sense of the term it is simply thinking’ (AT VII 29: CSM II 19). The Latin says: *sentire ... praecise sic sumptum est cogitare*. The ‘*sic sumptum*’ (‘taken in this way’) is significant. Descartes is *not* saying that from a proper and precise philosophical perspective sense-perception counts as a *cogitatio* because it is a psychological state, and any psychological or conscious state is a *cogitatio* (this is the anachronistic or ‘retrojective’ Anscombian view). Rather he is suggesting that (as will become fully clear in the Sixth Meditation) *sentire* is *not* properly a case of *cogitatio* unless we take it *sic precise*, in *this restricted way just specified*, namely as the mental act of supposing to myself that I see, or entertaining the judgement *videre videor*, literally ‘I *seem* to see’.

²⁵ Extremely influential in cementing this paradigm has been the famous (or notorious) paper of Thomas Nagel, ‘What is it Like to be a Bat?’ [1974], reprinted in Nagel’s *Mortal Questions* (Cambridge: Cambridge University Press, 1979), Ch. 12.

²⁶ Wittgenstein, *Philosophical Investigations*, Part I, §§ 256ff.

²⁷ See D. Dennett, *Consciousness Explained* (Boston: Little Brown, 1991), p. 106.

Descartes 'psychologizes' ideas fails to take account of Descartes's own definition of an idea: an idea not a thought, but the *form* of a given thought (AT VII 160: CSM II 28). What this implies is that an idea is not a subjective item in an individual's mind, but rather that it belongs in the intersubjective domain, in so far as two people's thoughts may have the same representational content.

In Cartesian metaphysics, the structure that grounds the objectivity of the essences so represented is none other than the mind of God – something as independent of the vagaries of any given individual's psychology as one might wish. But, once again, there is risk of missing this because of certain distorting paradigms that condition how Cartesianism is understood. Those who lambast Descartes for his 'private' theory of the mind tend to see him as doing philosophy 'all on his own' or 'from the inside', and implicitly contrast the more enlightened insights of those modern philosophers who have made the crucial links between ideas and language, and language and public rules; in short, the interpersonal domain of the social is taken to provide the necessary underpinning for objectivity which Descartes's approach supposedly lacks. But such a critique of Descartes's philosophical stance for its supposed subjectivism is only possible for the interpreter who implicitly secularizes Cartesian thought, subconsciously bracketing off the references to God as if they cannot really add anything substantial to the argument. If this is done, if the meditator is left adrift in the isolated world of his own psychology, then it is hardly surprising that the whole enterprise looks as if it is supposed to work in an entirely private domain. But that is not Descartes's way. His own philosophical journey is one which, almost simultaneously from its emergence from the morass of doubt and uncertainty, comes up against an objective reality that is the source not just of his own existence, but of those 'countless ideas' which relate to the 'determinate essences, natures or forms' which are 'not invented by me or dependent on my mind' (AT VII 64: CSM II 45).

Even if we leave aside the role of God as objective guarantor of the interpersonal domain of meaning and reference, there is a further independent argument for acquitting Descartes of being a 'privacy' theorist about the mind, namely that he explicitly links the phenomenon of thought to language use. Those who promote the myth of 'Cartesian privacy', and take this label as an apt way of condemning Descartes's approach to mental phenomena, are not well-placed to explain his thesis of the linguisticity of thought. This thesis is advanced by Descartes (amongst other places) in the course of his arguments in the *Discourse* about animal behaviour, where he draws the firmest distinction between simply reacting to stimuli in a patterned way, and being able to respond in a thoughtful and rational manner to all the contingencies of life – something only genuine humans can do. And the relevant criterion for engaging in thought is *not* the occurrence of some inaccessible private process, but something perfectly public and observable, namely linguistic competence. Here once more our stereotyped notions of Descartes's philosophy may easily blind us to what he is actually trying to do. If we always focus on his dualistic theory of the mind, then the notion of a mysterious immaterial soul will tend to occupy the foreground; and we will then be tempted to make a swift inference that the workings of this soul must be something interior and accessible only to the subject; so the stage is set for the standard picture of 'Cartesian privacy'. But Descartes's writings become much more interesting if we first take off our Rylean spectacles.²⁸ In many passages both here in the *Discourse* and elsewhere, Descartes approaches things from the *outside*, and asks how various kinds of observable phenomena (in humans and in animals) can be explained. Thinking, in one sense, is a publicly manifested phenomenon, something which is revealed in the astonishing and infinitely variable outputs of the human language user; and it is not some modern behaviourist or linguistic theorist, but Descartes, the supposed 'privacy' theorist, who underlines the point. It is of course true that, since he was unable to envisage any plausible physical mechanism that could account for thought, and its linguistic manifestation, Descartes ended up attributing the relevant capacities to an immaterial 'rational soul'. Many modern readers may regard such a move with distaste; but one moral of the essay under discussion is that they should

²⁸ For Gilbert Ryle's famous attack on the Cartesian theory of the mind as invoking the idea of a 'private theatre', see Ryle, *The Concept of Mind* (London: Hucheson, 1949), Ch. 1.

not allow such distaste to divert them from recognizing Descartes's remarkable philosophical and scientific insights into the unique (and objectively accessible) character of our human capacities for thought, reason and language.

In Chapter 6, I further develop some of the points already mentioned about the objective nature of ideas in Descartes. Modern views of the 'intentionality' of the mental (following on from the work of Franz Brentano)²⁹ focus on the representational content of our ideas – what they are *about*. If we construe Cartesian ideas along these lines, in a 'logical' rather than a psychological way, then much of what Descartes says about the relation between ideas and the 'things' which they represent falls into place. Nonetheless, the term 'idea' is, and has always been, a somewhat slippery one in philosophy, and a look some of the medieval antecedents of Descartes thinking reveals a host of tensions and ambiguities, mainly centring on the question of whether an idea should be thought of as a mode of cognition or, instead, as its object. Taking the second line preserves the 'objective' or logical character of an idea, while taking the first may tend to encourage the assimilation of ideas to the domain of individual psychology. These tensions come to a head in some protracted and inconclusive debates about the status of ideas in the decades following Descartes's death; and I suggest that for help in finding our way out of this maze it is illuminating to follow the lead of Descartes's disciple, Nicolas Malebranche, who distinguishes between, on the one hand, ideas proper, objects of cognition which do not depend on the vagaries of human psychology, and, on the other hand, the purely mental phenomena of sensations (or, in Malebranche's French, *sentiments*).³⁰ Going back to Descartes, we find a clear distinction between those clear and distinct ideas which represent, for example, the self,³¹ God, or triangles and other mathematical objects, and, on the other hand, those sensory ideas which are inherently confused, and which, perhaps, do not represent anything at all. The examples Descartes gives are the ideas of 'light and colours, sounds, smells, tastes, heat and cold', which 'I think of only in a very confused and obscure way', so much so that I do not really know whether they are ideas of things or of 'non-things' (AT VII 43: CSM II 30).

The picture of 'Cartesianism' as dumping all conscious phenomena into single catch-all container marked 'the mind' suffers another salutary setback here. One of the themes to which I have often found myself returning in these papers is not the homogeneity but the radical *heterogeneity* of mental phenomena in Descartes's scheme of things. When we make an inventory of our ideas, we find a striking distinction between two types. In the first place there are those that have intentionality, representing objects that exist independently of ourselves, and are apprehended intellectually, through our grasp of their content – a content that we can understand and specify as rational, language-using creatures. In the second place, we find obscure modes of sensory awareness whose informational content is much harder to specify in language, and whose representational object is often far from clear.

(c) Colour perception; opacity; animals

The point we have now reached, concerning the 'obscurity' of sensory awareness, lies at the heart of several vexed areas of Descartes's philosophy, including his account of colour perception. As I point out in Chapter 7, Descartes's treatment of colour plays an influential role in what can loosely be called the 'secondary quality' tradition – the idea found in different formulations in Locke, Malebranche and Hume that external objects are not 'really' coloured, at least in the way we may ordinarily suppose them to be. In fact, the Humean way of putting the matter, that 'colours are not really in bodies',³² is somewhat inept, or at least radically at odds with common-sense ascriptions of colour properties. Descartes puts things in a fashion less likely to violate ordinary ways of

²⁹ F. Brentano, *Psychology from an Empirical Standpoint* [*Psychologie vom empirischen Standpunkt*, 1874], transl. L. L. McAlister (London: Routledge, 1974), Bk II, ch. 1.

³⁰ Malebranche, *Entretiens sur la Métaphysique* [1687], Dialogue III.

³¹ Many philosophers would, of course, dispute that we have a clear and distinct idea of the self, including, interestingly, Malebranche. See Ch. 5, note 38 below.

³² See opening paragraph of Chapter 7, below.

talking when he says, in the *Optics* that ‘in the bodies we call “coloured”, colours are nothing but the ways in which bodies receive light and reflect it to our eyes’³³ – a formulation that does not deny that objects are coloured, but merely offers an account of what colour consists in. Consistently with his general view of the material world, he is prepared to attribute to objects only what can be defined in quantitative terms, as a function of the size, shape and movement of molecules; and there is simply no room in this scheme of things for irreducible, *sui-generis* qualities such as redness. A colour properly understood, scientifically understood, is simply a disposition of an object ‘which makes it able to set up various kinds of motion in our nerves’ (AT VII 322: CSM I 285).

It seems, then, that a full explanation of colour perception in human beings would have to add something not found in the physical account of the relevant causal chain of molecular motions from the object through to the human nervous system – namely the distinctive qualitative sensation that you or I have when we perceive, e.g., a red rose. Both Descartes’s conception of matter, and his conception of causation,³⁴ preclude this further event from being explained in scientific terms, so recourse has to be had to some wholly distinct type of explanation. This is precisely what we find in Descartes’s *Treatise on Man*: the requisite qualitative sensation results from the fact that God has made the nature of the human soul such that this sensation will arise on the ‘occasion’ of the nerves and brain being stimulated in a certain way.³⁵ This may be regarded (as I point out in the essay) as a striking anticipation of Malebranche’s occasionalism. Actually, it may be construed in two ways: if God is thought of as causally intervening to make a sensation of redness ‘arise’ in your mind whenever a certain pattern occurs in your brain, it does indeed pre-figure Malebranche; if on the other hand one thinks of God creating a soul with an innate and permanent structural disposition to come up with the right qualitative sensation when the body and brain are in a certain state, it is perhaps more of a pre-echo of Leibniz’s pre-established harmony. Either way, we see Descartes, as so often, setting the agenda for the metaphysics and philosophy of mind of succeeding generations of philosophers.

But, to return to point raised in the preceding section about the ‘heterogeneity’ of mental phenomena in Descartes, what is it, on his view, that makes the idea of redness ‘obscure and confused’, in contrast to the clear and distinct ideas of the intellect? Nothing, one might think, is more vivid and immediate than a colour sensation, and nothing more straightforward than the rules of language that determine the meanings of colour terms. So what it is about the intentional content of our judgements about colour that prevents them enjoying equal status with our judgments about, say, shape? It may be, as followers of Wittgenstein might be inclined to say, that Descartes has got himself into the fly-bottle here, allowing his (in itself perfectly reasonable)³⁶ scientific work on the corpuscular basis of colour properties in objects to confuse him into supposing that ‘the sun is yellow’ is somehow a more problematic judgement than ‘the sun is spherical’. But I end this chapter by arguing that there is indeed something suggestive and defensible about Descartes’s notion of a certain ‘opacity’ in our ideas of colour and other sensible qualities: the representational

³³ *La Dioptrique* [c. 1630, first pub. 1637], Discourse I (AT VI 85: CSM I 153). In the English version of this work provided in CSM the title of Descartes’s treatise was given simply as *The Optics*. Some scholars objected strongly to this, on the grounds that such a title is too general, and that the rendering ‘Dioptrics’ should have been used. (Dioptrics is the part of Optics that deals with refraction, while Catoptrics deals with reflection.) But not only is the less technical title more immediately informative to the general reader, but there is good reason to think that Descartes would have approved, since he described his work as one in which ‘besides treating of refraction and the manufacture of lenses, I give detailed descriptions of the eye, of light, of vision, and of everything belonging to catoptrics and optics.’ Letter to Mersenne of March 1636, AT I 340: CSMK 51.

³⁴ See Section 3 of Chapter 7, below.

³⁵ *Traité de l’homme* [c. 1630, first pub. 1664], AT XI 143: CSM I 102. Compare *Comments on a Certain Broadsheet* [*Notae in programma*, 1648], AT VIII B 359: CSM I 304.

³⁶ Reasonable, I mean, as far as the general methodology is concerned. The actual details of Descartes’s proposed physical explanations of colour properties, and of the neurological basis for our perception of them, have, of course, long since been superseded.

content of our idea of the sun as yellow does not provide us with a transparent representation of the nature of the solar property in question (as would be the case, for example, with our idea of it as spherical). As Descartes puts it, in a way that is a good deal more careful and philosophically plausible than the formulations of many of his successors, ‘when we say that we perceive colours in objects, this is really just the same as saying that we perceive something in the objects whose nature we do not know, but which produces in us a very vivid and clear sensation which we call the sensation of colour’ (*Principles*, Part I, art. 70).

Humans are not the only beings who have colour perception; common-sense and science would readily concur in supposing that there is no difficulty in principle in identifying those animals with colour vision and those without. Would Descartes have had any problem about attributing colour-perception to animals? As is well known, he frequently described non-human animals as mechanical automata; and this has given rise to the common view that he regarded them as pure mechanisms, to which no conscious states whatever can be attributed. Marjorie Grene has expressed the standard interpretation very vividly:

[T]he doctrine of the *bête machine*, which denies feeling of any kind to beasts ... relegates the human as well as the animal body to the status of an automaton. ‘Nature’ in the sense of the living scene made up of untold styles of life, nature in the naturalist’s sense, is not only inferior to the geometer-mechanist’s extended universe: it is illusory.³⁷

But as I point out in Chapter 8, there is a host of reasons for being wary of reading too much into Descartes’s mechanistic terminology. Interpreting it as a *relegation* of the animal ‘to the status of an automaton’ is misleading. All that the seventeenth-century use of the term ‘automaton’ properly implies is that the explanation of animal behaviour is to be found entirely in terms of (environmental stimulus plus) the organization and functioning of the various intricate internal organs, without reference to any external puppeteer (or indeed to any internal but incorporeal principle). And this, surely, is something that pretty much everyone now believes. One of Descartes’s own contemporary critics, Alphonse Pollot, objected to what he took to be Descartes’s view of animals, observing that animals ‘function by a principle more excellent than the necessity stemming from the dispositions of their organs, that is by an instinct which will never be found in machines or in clocks, which have neither passion nor affection as animals have.’³⁸ Descartes, in reply, invokes a thought-experiment. Imagine someone brought up in a mechanical workshop, involved in the manufacture of ingenious working models of animals, who later goes out into the real world, and learns something of the wonderful intricacy of micro-structure that supports the observed functioning of plants. If such a person is ‘filled with the knowledge of God’ (that is, understands how incomparably greater is the divine artifice than anything humans can devise), will he not easily conclude that real animals are ‘automata, made by nature, incomparably more accomplished than any of those he had previously made himself?’³⁹ An animal is a machine, a mechanical structure, an automaton (that is, machine capable of movement without immediate external power source) – all this is granted. But does it really entail the ‘ridiculous’ and ‘appalling’⁴⁰ doctrine that the beasts have no feeling?

Those who would answer this question in the affirmative may be inclined to cite to Descartes’s argument in Part Five of the *Discourse* (AT VI 56: CSM I 139, which closely matches the passage just discussed from the letter to Pollot). But the first thing that we need to notice about this line of argument, the main source of Descartes’s notoriety over animals, is that it is *an argument about thought and language, not about animal sensation*. Descartes is speaking primarily as a scientist: we do not need to posit a rational soul in animals in order to explain their behaviour,

³⁷ M. Grene, *Descartes* (Brighton: Harvester, 1985), p. 38.

³⁸ Letter from Pollot to Descartes of February 1638, AT I 514; cited in Grene, *Descartes*, p. 36.

³⁹ Descartes to Renner for Pollot, April or May 1638 (AT II 41: CSMK 100). Compare *Discourse*, Part Five (AT VI 56: CSM I 139).

⁴⁰ Grene, *Descartes*, pp. 38 and 46

since it can all be accounted for on mechanical principles; but we *do* need to posit a rational soul in man, since the infinite variety of human linguistic output could never be explained mechanically.⁴¹ So far from being an absurd or repugnant set of claims, this argument embodies a great deal that everyone today fully accepts. No modern biologist, so far as I know, thinks that the attribution of a soul is needed in order to provide a full explanation of animal behaviour; and conversely, many (from Noam Chomsky onwards) maintain that human linguistic abilities defy analysis in terms of stimulus-response mechanisms.⁴²

A further vital point to note is that scientific explanation of a phenomenon in terms of underlying structures is not necessarily 'relegatory' in the sense of eliminating the phenomenon to be explained or reducing it to the 'mere' operation of the underlying structures. If I explain the anger of my dog or the fear of my cat by reference to movements of vapour through the nerves (as Descartes does), or the rather more sophisticated apparatus of electrical impulses and the secretion of hormones (as modern biologists do), none of this denies the truth of the original statements, 'Rover is angry' or 'Tatiana is frightened'. There is no 'relegation' of Rover or Tatiana involved in such an explanation, any more than in explaining the properties of a medicine by reference to its molecular structure I am denying its genuine healing function, or somehow 'relegating' it to the status of a pseudo-medicine, a bunch of 'mere' chemicals.⁴³

Despite all this, an objector may insist that if something is mechanically explicable, it must be a mere 'zombie' (this term has come to be used in modern philosophy of mind as a quasi-technical term, to denote a device whose functional organization and behavioural output is identical with that of a real living creature, but which, it is supposed, lacks any true consciousness). So is not Descartes after all lumbered with the thesis that animals are mere 'zombies'? The key premise in this argument, that if something is mechanically explicable it must be a zombie, seems to me highly problematic (not least because it is not clear how it could possibly be established). But that aside, there are, as I point out in the chapter under discussion, plenty of places where Descartes does explicitly attribute all sorts of perceptual, sensory and emotional states to animals. The sounds animals make, for example, are often their way of 'communicating to us their impulses of anger, fear, hunger'; an animal's movements may be 'expressions of fear, hope and joy'.⁴⁴ To these texts I would add a crucial passage in the letter to the Marquis of Newcastle of 23 November 1646, where Descartes is absolutely clear that the movements of the passions occur in animals just as much (or more so) than in human beings, the only difference being that there is no accompanying thought:

As for the movements of our passions, even though in us they are accompanied by thought because we have the faculty of thinking, it is nevertheless very clear that they do not depend on thought, because they often occur in spite of us. Consequently they *can also occur in animals, even more violently than they do in human beings*, without our being able to conclude from that that animals have thoughts. (AT IV 573-4: CSMK 303, emphasis supplied.)

Serious problems remain, of course, about how far these claims about animal passions sit well with Descartes's famous mind-body dualism – a doctrine whose precise interpretation I shall be discussing in a moment. But the main point to emerge for present purposes (which connects up with many themes already broached in this overview) is that the line Descartes is again and again concerned to draw is the line between thinking (rational, language-using) human beings and non-human animals – *not* the line, which so preoccupies modern philosophers of mind, between the 'conscious' and the 'non-conscious' domains. I was therefore somewhat unfair to Descartes when I

⁴¹ AT VI 57: CSM I 140; see further Section 3 of Chapter 5, below.

⁴² See Noam Chomsky, *Language and Mind* (New York: Harcourt, Brace and World, 1986).

⁴³ I develop this argument further in my 'The Ultimate Incoherence? Descartes and the Passions,' in R. E. Auxier (ed.), *Essays in Honor of Marjorie Grene*. Library of Living Philosophers (Chicago: Open Court, 2003), pp. 451-64.

⁴⁴ Letter to More of 5 February 1649, AT V 278: CSMK 366; letter to Newcastle of 23 November 1646, AT IV 574: CSMK 303.

said in the essay under discussion that he ‘failed to eradicate a certain fuzziness from his thinking about consciousness and self-consciousness’. It would be better to say that he was writing well before these terms, in their modern sense, had started to play a central role in the philosophy of mind.

So obsessed has current philosophy of mind become with ‘what it is like’ to have a conscious experience that I think in a certain sense we have become more ‘Cartesian’ – more focused on the ‘inner’ – than Descartes himself ever was. We take it that notions like ‘being in pain’ stand for the occurrence of a mysterious private *quale*, accessible only to the subject. We then infer from Descartes’s mechanistic explanation of animal reactions that he must be denying that animals ‘have’ such in-principle-unknowable qualia, and swiftly proceed to accuse him of saying something monstrous and disgraceful. Yet one does not have to be a devoted Wittgensteinian to acknowledge that Wittgenstein’s private language argument successfully disposes of the idea that the meaning of terms like ‘pain’ and ‘hunger’ can be given by reference to a private beetle in my mental box⁴⁵ – a ‘beetle’ of a kind I can never, even in principle, know is occurring in the mental box of you, my fellow human, let alone Tatiana, my cat. Ascriptions of pain, and other mentalistic terms, must be subject to public criteria. Clear and compelling though this argument is, however, it does not quite settle the status of animal passions and sensations. For it seems very hard to deny that, when I have toothache, the damage to my tooth is signalled to me in a distinctive and urgent way, a way seemingly not captured even by the most exhaustive scientific description of my behaviour, or of what is going on in my brain; and this appears to allow me to ask meaningfully whether something similar is mirrored in your experience when your tooth is damaged, or in that of my dog when the vet probes its diseased tooth. Descartes, I have been suggesting, simply did not confront this issue as regards animals, and we should avoid retrojecting onto him the kind of position that, from our modern perspective, we are tempted to suppose he *must* have taken if he had addressed it. What may be said on Descartes’s behalf is that in his role as a scientist he offers an explanation of all phenomena within the animal realm, including animal anger, fear, hope, pain and the like, which does not make any reference to supposed qualia; but in that respect he does not differ from any other subsequent natural scientist. For since such qualia are, by their very nature, not accessible to scientific scrutiny, it can hardly be a complaint against the scientist that he does not accommodate them, let alone a complaint against Cartesian science in particular that it does not refer to them.

(d) Descartes as trialist

By now well entrenched in the way most philosophers think about Descartes is Gilbert Ryle’s famous denunciation of Cartesian dualism as promulgating the myth of the ‘ghost in the machine’.⁴⁶ I am not sure quite what Ryle meant by ‘ghost’, but it was not perhaps the happiest choice of term. A ghost, in normal parlance, is a departed spirit, a soul separated from its former body. So a ghost (if such things there be) still has, one would suppose, a certain hankering after its former life, a certain residual link with the corporeal state it once enjoyed. This has long been the common conception of a departed spirit – as something rather thin and incomplete and lacking.⁴⁷ Descartes’s scholastic predecessor, Eustachius put it like this:

Separated souls are *not*, like angels, whole subjects that are totally and in every respect complete ... A soul, even when separated, it always apt to inform the body and to be substantially united with it; but this is not true of an angel.⁴⁸

⁴⁵ Wittgenstein, *Philosophical Investigations*, Part I, §293.

⁴⁶ Ryle, *Concept of Mind*, Ch. 1.

⁴⁷ The notion is a very ancient one indeed; see Homer, *Odyssey* [c. 700 BC], Bk 11, lines 465ff.

⁴⁸ Eustachius, *Summa philosophiae*, Part III, Third Part, Treatise 4, Discourse 3, question 1; transl. in Ariew, Cottingham and Sorell (eds), *Descartes Meditations: Background Source Materials*, p. 91.

A human ghost or spirit, then, unlike an angel, cannot be conceived in utterly immaterialist or dualistic terms: it always retains that conceptual link with at least the possibility of embodiment. So perhaps ‘angel in the machine’ would have been a better phrase for Ryle to have used to characterise the Cartesian model he was attacking, in so far as his gripe was that Descartes conceived the mind in wholly dualistic fashion, as categorially distinct from the body. In fact, some twenty years before Ryle, the famous Thomist philosopher Jacques Maritain was already attacking Descartes along just such lines. ‘The sin of Descartes’, Maritain declared, ‘is a sin of *angelism*. He turned knowledge and thought into a hopeless perplexity ... because he conceived human thought after the model of angelic thought. To sum it up in three words: what he saw in man’s thought was *independence of things*.’⁴⁹

Whatever the subtle differences between angels and ghosts, Eustachius in the above quotation is clearly reflecting the standard Thomist line in saying that a separated human soul is not a whole subject. According to Aquinas, a human soul is a *substantia incompleta*, an incomplete substance.⁵⁰ Unlike an angel, a human soul always in principle needs union with the body that it ‘informs’ for its essential completion; and this is why the souls in purgatory are not (as popular myth perhaps represents them) human beings who have passed on to the ‘next world’, but are, rather, temporary beings or quasi-beings in a kind of suspended state, awaiting, indeed requiring as their very *raison d’être*, restoration to human status, when they will be rejoined to the body at the last judgement.

But where does Descartes himself stand on this question of the soul’s completeness or otherwise? At times, most famously in Part Four of the *Discourse*, he seems clearly to reject the standard scholastic view of the essential incompleteness of the human soul. I can, he says, form a conception of the *complete and total me*, ‘this me (*ce moi*), that is to say the soul by which I am what I am’, as separated and distinct from the body. And from this I know I am indeed such a wholly independent incorporeal being.⁵¹ This is (and was at the time) an extremely radical and controversial claim. And it shows that Maritain’s indictment does indeed constitute a strong case for Descartes to answer. The ‘sin’ (or at least the philosophical error) with which he stands charged is, as Maritain saw, *not* that he supposed we were ghosts in machines – that the mind was an incomplete or partial aspect of our human existence – but rather that he supposed we were, like angels, complete incorporeal substances that only *happen* to inhabit bodies.

Descartes’s brilliant contemporary Antoine Arnauld was on to this problem like a bull-terrier, long before Maritain (let alone Ryle). It seems, wrote Arnauld in the Fourth Objections,

that [Descartes’s] argument ... takes us back to the Platonic view ... that nothing corporeal belongs to our essence, so that man is merely a rational soul and the body merely a vehicle for the soul – a view which gives rise to the definition of man as a *soul that makes use of a body* (*anima corpore utens*).⁵²

I am not sure if Plato anywhere actually employs the Greek equivalent of this latter phrase, but it’s a recognizably Platonic conception. And certainly Plato’s disciple, Augustine, uses it: he describes

⁴⁹ Jacques Maritain, *Three Reformers* (London: Sheed & Ward, 1928, repr. 1947), pp. 54-5.

⁵⁰ Thomas Aquinas, *Summa theologiae* [1266-73], Part I, Qu. 75, art. 4 and Part I, Qu. 118, art. 2. Compare Francisco Suarez, *Metaphysical Disputations* [*Disputationes metaphysicae*, 1597] Disp. 33, sectn 1, §11: ‘anima etiamsi sit separata est pars ... essentialis, habetque incompletam essentiam ... et ideo semper est substantia incompleta.’ (‘A soul, even if it is separated, is essentially a *part*, and has an incomplete essence, and hence is always an incomplete substance.’)

⁵¹ *Discourse on the Method*, Part Four (AT VI 33: CSM I 127).

⁵² Fourth Objections, AT VII 203: CSM II 143. Six sets of *Objectiones doctorum aliquot virorum cum responsionibus Authoris* [sic] (‘Objections of several learned men with the Replies of the Author’) were published with the first edition of the *Meditations* in 1641; the second edition of 1642 included a seventh set of objections and replies.

a human being as a ‘rational soul *using* a mortal and earthly body’.⁵³ In responding to Arnauld, Descartes firmly rebuts the Platonic interpretation and refers Arnauld to the ‘proof’ in the Sixth Meditation that the mind is ‘substantially united with the body’.⁵⁴ Writing to Regius the following year, he insisted that a human being was indeed a genuine unified entity, an *ens per se*, not merely an *ens per accidens*: mind and body are united ‘in a real and substantial manner’ by a ‘true mode of union’.⁵⁵

We are thus faced with a clear inconsistency, or at least a serious tension in Descartes’s pronouncements. On the one hand he wants to say that the mind or soul is complete and independent in its own right. This is what we have come to call ‘Cartesian dualism’. But on the other hand he wants to preserve the traditional scholastic idea that it is genuinely and substantially united to the body – that we are *not* incorporeal angelic spirits inhabiting mechanical bodies, but genuine human beings of flesh and blood. To set it out formally:

- (1) *Pace* the Scholastics, the soul is a complete and independent substance (This ‘me’, by which I am what I am, is really distinct from the body).
- (2) *Pace* the Platonists, the soul is really and substantially united to the body so as to form a genuine unit.

This, I take it, is the fundamental tension that any interpreter of Descartes must confront. And when I first called Descartes a trialist, in the paper which forms Chapter 9, I was in part groping towards a way of trying to resolve the tension. How can I, *qua* ‘res cogitans’ be a complete incorporeal substance, yet at the same time *qua* human being be really and substantially embodied?

Looked at in one way, there doesn’t actually seem to be too much of a problem. *Qua* university professor, I am essentially attached to an academic institution; but *qua* person, I am not – I would still be the complete and total ‘me’ if I retired or resigned. So why not say that my body is like my affiliation: just as *qua* professor I have my affiliation essentially, but *qua* person I do not, so *qua* human being I am united to my body essentially, but *qua* thinking thing I am not? What makes the analogy hard to cash out satisfactorily in terms of Descartes’s position is his use of the language of substance, of real and *substantial* union. For supposing I said I was *really and substantially united* to my professorship, so that my professorship and I form a genuine and essential unity. An appropriately dry rejoinder would be that not even the notoriously cushy conditions of American academic tenure can deliver this strong a union. For once grant that the complete me could continue to exist without my Chair, it seems to follow that the link between me and my job can only be a contingent one – something that may be very important to me, but which cannot be deeply implicated in the kind of substance I essentially am. And so, *mutatis mutandis*, with the body. We seem to be back with Platonism.

In labelling Descartes a ‘trialist’ I was, in effect seeking to provide an interpretation of Descartes that preserves his commitment both to the independence of the thinking self (thesis 1, above) and to the essential union of mind and body (thesis 2). The ‘trialistic’ classification implies that a complete list of the essential attributes of thinking things and of extended things would not include sensory experiences; and conversely, that human sensory experiences are not wholly reducible to, or fully analysable in terms of, the properties either of thinking or of extended

⁵³ *De moribus Ecclesiae Catholicae* [387-9], 1, 27, 52. Compare also the following passage on pain, which puts Augustine firmly in the Platonic camp and is strikingly at variance with Descartes’s account: ‘The soul itself, which by its presence rules and governs the body, can feel pain and yet not pass away ... If we consider the matter more carefully, pain, which is said to belong to the body, is more pertinent to the soul. For feeling pain is a feature of the soul, not the body, even when the reason for its pain existed in the body.’ (*De civitate Dei* [413-26], 21, 3).

⁵⁴ Fourth Replies, AT VII 227-8: CSM II 160.

⁵⁵ For ‘we perceive that sensations such a pain are not pure thoughts of a mind distinct from a body, but confused perceptions of a mind really united to a body.’ Letter to Regius of January 1642 (AT III 493: CSMK 206).

things.⁵⁶ This is expressed by Descartes in terms of the claim that human sensory experience belongs to the ‘third primitive notion’ of which he spoke so emphatically to Princess Elizabeth.⁵⁷ Note the term: notion, *not* substance (a point to which I shall return in a moment).

Now the doctrine of the mind-body union as a ‘primitive’ may seem inconsistent with the official Cartesian position that humans owe their existence to just two basic substances, thinking substance and extended substance. But this criticism can be obviated by construing the ‘primitiveness’ of the union as asserting that the mind-body complex is something which is the bearer of distinctive and irreducible *properties* in its own right; in this sense we might say that water is a ‘primitive’ notion, meaning that it is not a mere mixture but a genuine compound, possessing attributes ‘in its own right’ (distinctive ‘watery’ characteristics that cannot be reduced to the properties of the hydrogen or oxygen which make it up). Or as Descartes puts it in the *Principles*, while he recognises only ‘two ultimate classes of things’, thinking things and extended things, nevertheless appetites, passions, and sensations, which arise from the close and intimate union of the two, are items which ‘must not be referred either to the mind alone or the body alone’.⁵⁸

Several commentators have misunderstood me on this point. I never spoke of Descartes believing in three substances. The kind of trialism I espouse, then, is very different from the ontological thesis of Martial Gueroult, who claimed that for Descartes the mind body union is a third substance – *une substance psychophysique*.⁵⁹ Instead, I suggest that we construe the trialism attributively; and so construed, Descartes’s trialism, property trialism or attributive trialism, is not formally inconsistent with his ontological dualism.

A further advantage of this attributive trialism, indeed perhaps a key reason in its favour, is that it accommodates, with considerable success, it seems to me, what Descartes says about the distinctive character of our sensory experience as embodied creatures. The appeal to sensations as proof of the union of mind and body is a recurring theme in Descartes. We know the distinction between mind and body, Descartes suggests to Elizabeth, but we *feel* the union (AT III 691-2: CSMK 227). A *pure* thinking being, like an angel, would have thoughts, but would not have sensations (AT II 493: CSMK 206).

But why not? Could not God implant sensations into the consciousness of an angel that inhabited a body? Presumably he could: on the occasion of bodily damage, he could give the angel an urgent and intrusive signal that threatened to disrupt the flow of its thoughts until the damage was attended to. This kind of ‘angelic occasionalism’ might seem a perfectly viable model for what happens when a Cartesian *res cogitans* feels pain in the body to which it is joined. And as we saw earlier, Descartes’s way of talking about human sensations does sometimes contain pre-echoes of the occasionalist position.⁶⁰ But his prevailing view is that human pain is an *irreducibly psychophysical process*. The human mind-body complex is a genuine unit, not a separate soul making use of a body or endowed with its creator to have certain kinds of awareness on the occasion of damage to the body it uses. When *my* body is damaged (and the ‘my’ is important for Descartes), *I* feel pain. And that gives us proof, the best kind of intimate proof – proof available, says Descartes, even to those who never philosophize – of the genuineness of the union.⁶¹

⁵⁶ So far as I know, the use of the term ‘trialism’ in this connection was first introduced in my ‘Cartesian Trialism’ (1985), reprinted as Chapter 9, below ; cf. J. Cottingham, *Descartes* (Oxford: Blackwell, 1986) pp. 127ff.

⁵⁷ Letter of 21 May 1642 (AT III 665: CSMK 218).

⁵⁸ ‘I recognize only two ultimate classes of things, first intellectual things, i.e. those which pertain to mind or thinking substance, and secondly material things, i.e. those which pertain to extended substance or body ... But we also experience within ourselves certain other things [appetites, passions or emotions, and sensations] which must not be referred either to the mind alone or to the body alone’ (*Principles*, Part I, art. 48).

⁵⁹ Martial Gueroult, *Descartes selon l’ordre des raisons* (Aubier: Paris, 1968), Vol. II, pp. 201ff.

⁶⁰ Section 3 (c), above.

⁶¹ Letter to Elizabeth of 28 June 1643, AT II 691-2: CSMK 227.

An important question remains. If the mind-body union is a genuine unit, how can the dualism be merely attributive? And indeed, does not Descartes's own use of substantively-flavoured language (such as *ens per se*)⁶² to refer to the union create problems for my interpretation? One cannot deny that Descartes does sometimes use such language (though he always stops short of actually calling the mind-body unit a substance); but the reason for this seeming vacillation or imprecision lies, I think, in an ambiguity found in the original Aristotelian usage of the term 'substance'. Aristotle uses the term in at least two senses: first ontologically, to mean a basic unit of independent existence (e.g. an individual man, or horse, or tree), and second logically or grammatically, to mean simply a subject of predication (as opposed to that which is predicated).⁶³ So for Descartes, even if ontologically speaking the union consists of only two distinct substances, mind and body (substance being taken in the first Aristotelian sense of a basic unit of independent existence), he still allows himself to talk of the human being as a substance in Aristotle's other sense, namely a *subject of predication* – that subject in which attributes inhere. It is the human being, the mind-body complex (and not either of the ultimate substances that make it up), that is the subject in which attributes of a certain distinctive type (namely sensations, passions and appetites) inhere, or to which they must be referred. This, it seems to me, gives us more than enough to support Descartes's use of the term 'substantial union' to characterize the human being, the mind-body complex, even though from an ontological point of view he always maintained there were only two ultimate kinds of existing thing involved, *res cogitans* and *res extensa*.

As with so much in Descartes, the germ of this way of thinking is derived from St Thomas Aquinas. Though Aquinas believed, like Aristotle, that the intellectual part of us could survive the death of the body, he insisted that a large number of basic human faculties (in particular, sensory ones) were irreducibly psychophysical:

Some operations that belong to the soul are carried out through bodily organs, such as seeing (through the eye) and hearing (through the ear), and likewise for all other operations of the nutritive or sensitive part. Hence the powers that are the sources of such operations *are in the compound as their subject, not in the soul alone*.⁶⁴

This last phrase seems to me to prefigure Descartes's position with uncanny exactness.⁶⁵ In a nutshell, then, Descartes's position is that ontologically speaking there are only two substances, but there are three distinct and irreducible types of attribute; and since the third type of attribute, comprising sensory and passional experience, inheres in the complete human being, as in a subject, we are justified in talking of a 'real and substantial union'. It is not, of course, a position free of all philosophical difficulty. But it is a considerably more subtle and interesting position than the exclusively dualistic caricature that is so often dismissed.⁶⁶

4. Ethics and Religion

⁶² Letter to Regius of December 1641, AT III 460: CSMK 200.

⁶³ Aristotle, *Categories* [330 BC], Ch. 5.

⁶⁴ *Summa theologiae*, Part I, Qu. 77, art. 5 (emphasis supplied). Peter King draws attention to this passage in an interesting article entitled 'Why isn't the mind-body problem medieval?' in H. Lagerlund (ed.), *Forming the Mind: Essays on the Internal Senses and the Mind/Body Problem from Avicenna to the Enlightenment* (Dordrecht: Springer, 2005), pp. 187-206.

⁶⁵ There are of course key differences between the two philosophers, of which the most striking one in the present context is Aquinas's grouping of nutrition with sensation as a function of the soul-body compound; for Descartes, it is a purely physiological function.

⁶⁶ For a different view, arguing that Descartes never succeeded in providing a satisfactory account of our distinctively human nature, and was increasingly prepared to accept some version of angelism, see Stephen Voss, 'Descartes: The End of Anthropology', in J. Cottingham (ed.), *Reason, Will and Sensation* (Oxford: Clarendon, 1994), pp. 273-306.

The fourth and final part of the book widens the purview to consider some highly significant, but often very neglected, implications of Descartes's thought for the realm of human life and the structure of ethical and religious belief. The opening two chapters in this part form something of a transition between Descartes's philosophy of mind and his ethics, by dealing with his account of the relationship between the intellect and the will. In Chapter 10, I address these issues in the context of Spinoza's famous critique of Descartes's view of judgement as a combined function of two supposedly distinct and separate faculties, intellect and will, while Chapter 11, 'Descartes on the Voluntariness of Belief' takes up the question of how far our beliefs are within our voluntary control – an issue which allows some significant conclusions to be drawn about the Cartesian account of religious belief. The focus then broadens out to the more general topic of the good life in Descartes. Chapter 12, 'Cartesian ethics: reason and the passions', explores how Descartes utilises the results of his scientific and psychological inquiries to tackle the ancient problem of how human reason can find a recipe for the good life that comes to terms with the often damaging influence of the emotions. Next, 'The Role of God in Descartes's Philosophy' (Chapter 13) argues that Descartes's religious commitments are an inescapable and central element of his world view: a theistically inspired vision lies at the heart of his recipes both for reliable knowledge of the workings of the world and for the sound conduct of life. Continuing this theme, Chapter 14, 'Descartes as sage' argues that, despite the 'modernising' aspects of his scientific thought, many of Descartes's deepest philosophical goals are best understood if we see his self-conception as a philosopher as stemming from the ancient idea of the 'sage' – one engaged on the search for wisdom and for a harmonious way of living. Finally, the concluding essay, 'Plato's sun and Descartes's stove' (Chapter 15), explores further aspects of the contrast between Descartes the proto-scientist, concerned to subjugate nature to man's understanding and control, and Descartes the contemplative, following in the footsteps of Plato and Augustine on a journey towards an integrated vision of reality.

(a) The role of the will

The opening essay of this section, on Spinoza's criticisms of the Cartesian account of the will (Chapter 10), begins by noting the moral dimension involved in Descartes's strategy for the avoidance of error in the *Meditations*. No abstract exercise in epistemology, but part of an overall pattern of theodicy, Descartes's arguments follow tradition in putting the blame for our going astray on the improper use of our power of choice. Finite creatures should suspend judgement when the truth is not clear; instead, we rush in and give our assent to obscure or dubious propositions and get ourselves into trouble. Spinoza offers a sharp critique of this framework when he refuses to separate the intellect and the will, arguing that the apprehension of an idea and the affirmation of its truth are inseparable. But a proper reading of Descartes's arguments in the Fourth Meditation shows that Descartes's own position is surprisingly close to this Spinozan picture: clear and distinct perception goes hand in hand with automatic assent. But what of cases where the truth is *not* clear? Here Spinoza complains that the Cartesian recommendation of 'suspending judgment' lays bogus emphasis on the idea of an independent act of free will, when what is really going on is simply a recognition of the inadequacy of our perception. But I suggest that a careful reading of Descartes's arguments for doubting our ordinary beliefs (in the First Meditation) again reveals a considerable degree of convergence with the Spinozan view. Descartes's procedure is not a matter of urging us to exercise a supposedly sovereign and independent will, but that of devising arguments which will counter-balance the weight of our preconceived opinions until we perceive the inadequacy of our grounds for being sure of them.

So far from being a merely technical debate in the philosophy of mind, or simply a matter of textual interpretation, this dispute between Spinoza and Descartes connects with the vital question of what human freedom ultimately consists in. Spinoza, like Leibniz, took Descartes to be proposing a 'contra-causal' account – that the power of the will is entirely independent and undetermined. Many subsequent thinkers have been very suspicious of this kind of supposed two-way power – the power to *X* or not to *X* even when all the relevant antecedent conditions and

circumstances surrounding the action are held constant. But the contra-causalist interpretation of Descartes by his close successors is in fact an early example of the phenomenon to which I have so often drawn attention in this opening chapter – the tendency for Descartes’s ideas to be subject to systematic distortion by his critics. Except in the special case of God, whose infinite power he frequently insists is beyond our comprehension, Descartes is actually very far from insisting on such absolute contra-causal liberty as constituting the essence of freedom. Clarity of intellectual perception, as we have seen, he regards as irresistibly constraining our judgement (a ‘great light in the intellect leads to a great propensity in the will’);⁶⁷ while the ‘indifference’ we feel where the evidence is insufficient to establish the truth is, for Descartes, no indication of some supposed splendid two-way power of choice, but on the contrary is a power of the ‘lowest grade’ – evidence not of any perfection but on the contrary of a mere ‘defect or negation’ (AT VII 58: CSM II 40).

Many of these issues return in the following essay, which discusses the control we have over our beliefs (Chapter 11). The issue is one of considerable importance for religious faith, which many traditions hold to be to be something meritorious and hence, one supposes, within our voluntary control. Committed Christians, including Catholics (of whom Descartes was one) are required to accept certain revealed truths on faith, following the injunction of the risen Christ to the doubting disciple Thomas, ‘Be not faithless, but believing!’ (John 20: 27). But it seems doubtful whether we can believe at will (‘just like that’, as Bernard Williams once put it),⁶⁸ since belief appears to be a largely involuntary response to the evidence: I do not will, or decide, to believe that there is a cup of green tea beside me as I write this sentence. What is more, Descartes himself, as we have just seen, regards the judgement of the will as constrained by what the intellect perceives through the ‘natural light’ of reason. So is there not a tension between the picture of the independent and autonomous agent, in charge of deciding what to accept, and the seeming passivity or automatic nature of the belief process?

The answer seems to hinge, in part, on the kind of determination involved. When my beliefs are determined by some process that subverts the possibility of rational evaluation (as, for example, in a hypnotically induced belief-state), then I am indeed placed in the position of a passive pawn, who has, as it were, no control over which doxastic square (which belief position) it occupies. But when the will spontaneously responds to the clearness and distinctness of the evidence (as when I spontaneously assent to the proposition ‘two plus two makes four’), then it seems that my agency and rationality, so far from being subverted, are protected and enhanced. Descartes’s ‘freedom of enlightenment’ or *liberté éclairée*, as the distinguished Cartesian scholar Ferdinand Alquié has termed it,⁶⁹ seems exactly the sort of freedom we have most reason to desire.

Those who doubt that this kind of freedom of spontaneity amounts to ‘all the freedom worth wanting’,⁷⁰ may still hanker for some more robust and independent power, of the kind widely held to be necessary for supporting full moral responsibility. If we are to be properly praised for our beliefs, or properly condemned for making doxastic mistakes, do we not need this stronger kind of autonomous choice? Descartes provides, I think, an interesting answer to this question in the course of his discussion of doubt and of the meditator’s contemplation of the clear and distinct truths that seem resistant to doubt. As I point out in the chapter under discussion, everything depends on the time dimension: as long as I focus on the relevant truths, I am unable to doubt them; but once I turn away from the light, doubts may arise. The mind, for Descartes, is a reliable instrument, but, like a lens, it requires attention and effort to keep it properly focused; and here there is scope for doxastic responsibility.

Descartes’s overall theory of the will thus seems to be both carefully constructed and philosophically attractive, bringing into harmony the subjective and objective aspects of belief

⁶⁷ Fourth Meditation, AT VII 59: CSM II 41. Compare *Principles* Part I, art. 42: ‘whenever we perceive something clearly, we spontaneously assent to it and cannot in any way doubt that it is true.’

⁶⁸ B. Williams, ‘Deciding to believe’, in *Problems of the Self* (Cambridge: Cambridge University Press, 1973), Ch. 9, p. 147.

⁶⁹ F. Alquié (ed.), *Descartes, Oeuvres Philosophiques* (Paris: Garnier, 1963-73), Vol. II, p. 461.

⁷⁰ See Daniel Dennett, *Elbow Room*, (Oxford: Oxford University Press, 1984).

formation – as a response to evidence that can be both psychologically spontaneous and also rationally justified – while at the same time managing to preserve the idea that we can be held responsible for our beliefs. Yet, at the end of the day, the status of religious faith does not appear to allow it to be accommodated into this comfortable Cartesian schema without a certain unease. For what Descartes calls the ‘supernatural light’,⁷¹ the light of faith (as opposed to the ‘natural’ light of reason), may induce a ‘divinely produced disposition of my thought’ (AT VII 58: CSM II 40), which makes me assent even when the evidence, by the normal standards of appropriate belief formation, is not perspicuous. This is the kind of faith the Christian disciple is supposed to have, and the kind which there is no reason to doubt that Descartes himself held to throughout his life. But before condemning Descartes’s support for this kind of belief as inherently unreasonable, we should remember that there are many instances, for Descartes (and indeed for all of us), where it is prudent for our ordinary welfare to put our trust in people and objects without waiting for epistemic certification of their reliability. We trust, for example, in the continued wholesomeness of certain foods, or the continuing trustworthiness of certain friends, without clearly and distinctly perceiving that they have not become poisonous, or treacherous, since we last encountered them. If this kind of confidence, in the absence of rational proof, is necessary for our material and emotional survival,⁷² then it does not seem wholly unreasonable to suppose that something similar might apply to our spiritual well-being.

(b) The good life; the place of God

Even in the rather specialized context just discussed, namely the Cartesian view of the voluntariness of belief, it should be clear that the position Descartes adopts is not simply a stance taken up for purposes of academic debate, but connects up quite closely with crucial elements of his moral and religious outlook. In the next two chapters, I move on to address directly the structure of Descartes’s moral theory, and the position of God in his philosophical system. ‘Cartesian Ethics: Reason and the Passions’ (Chapter 12) fills in the main outlines of Descartes’s theory of the good life. The management of the passions had of course been a long-standing concern of moral philosophers, going right back to Plato and Aristotle, and the Stoics, but in Descartes’s substantial and under-appreciated contributions to this topic we see him applying many of the distinctive ideas we have already had occasion to refer to in connection with other parts of his system. One of the aims of Cartesian science was to provide a comprehensive explanatory account of the workings of the body and nervous system, and Descartes’s ethics now proposes to draw on this in helping us to understand the physiological basis of the passions. But the earlier Platonic and Stoic programmes, whether for rational dominance over the passions or their complete suppression, are superseded in Descartes by a more sophisticated account. In discussing how we can learn to manage the passions, Descartes compares the way in which animals are trained; but he goes beyond the Aristotelian model of habituating children to virtue through the right kind of induced imitation and repetition,⁷³ since he envisages something more akin to a systematic process of reprogramming, undertaken in the light of the understanding provided by research into the workings of the nervous system. Yet it is crucial to see that this is not merely a matter of the application of Cartesian science in the way it might be applied to, say, bridge-building or medicine – that is, it is not merely a matter of the mathematical and mechanical analysis of extended substance, and its manipulation so as to produce the molecular events we desire.

What provides the extra dimension here is the recurring theme of Descartes’s conception of human nature as a union of mind and body, with the special and distinctive attributes that arise from this union.⁷⁴ While the body and its physiology is a part of Descartes’s *res extensa*, and the mind, with its understanding and willing, and its resulting plans for the good life, belongs in the

⁷¹ *Meditations*, Second Replies (AT VII 148, line 27: CSM II 106).

⁷² Compare Discourse, Part Three (AT VI 22: CSM I 122).

⁷³ Aristotle, *Nicomachean Ethics* [c. 325 BC], Bk II, Ch. 1.

⁷⁴ See Section 3(d), above.

realm of *res cogitans*, human passions themselves are neither the clear perceptions of the mind, nor the mathematically analysable jostlings of physical particles. In contrast to the transparent domains of thinking substance and of extended substance, the passions have an inherent opacity, arising from the mysterious union of mind and body. One of the paradoxes of our human condition is that this opacity cannot be dissolved either by intellectual meditation or by scientific analysis; there is an inherent obscurity there that derives from our hybrid nature. We have already discussed Descartes's conception of a certain basic lack of transparency even in ordinary sensory states such as those we have when perceiving coloured objects,⁷⁵ but for Descartes there is now a further factor, attaching specifically to the emotions and passions, which makes them resistant to being fully understood in terms of purely rational inclinations or transparent desires. This further factor is one that Descartes, in a striking anticipation of Sigmund Freud, traces to early childhood experience:

The intellectual element in [our] joys and loves has always been accompanied by the first sensations which [we] had of them and even the motions or natural functions which then occurred in the body ... It is because of the confused feelings of our childhood, which remain joined to the rational thoughts by which we love what we judge worthy of love, that the nature of love is hard for us to understand.⁷⁶

One might hope, as Freud did, that this opacity could be dissolved by delving back into the past, and dragging the forgotten memories of early childhood into the light of conscious reflection: 'where id was, there shall ego be'.⁷⁷ Descartes certainly notes in his own case that careful reflection on childhood experience can help us to dismantle the distorting projections which afflict our emotional perceptions in adult life;⁷⁸ so there is evidence that he glimpsed the need to add something like what we have come to call psychoanalytic methods to his strategy for managing the passions. But it was by no means Descartes's aim to tame the power of the passions, or to reduce the passionate life to the life of pure reason. The overall picture to emerge from this part of his ethics is the extent to which Descartes embraces the affective dimension of our human experience, notwithstanding that it is often so hard to understand. Condemning the 'grimness' of those moral systems that reject them,⁷⁹ he accords the passions a primary place in the good life; when properly channelled, they can become, as they should be, the greatest source of joy in this life.⁸⁰

The tone of many of these Cartesian pronouncements on ethics (in the *Passions of the Soul* and elsewhere) may perhaps leave the impression that Descartes is working within a largely naturalistic framework. It is true that considerations about ordinary human nature play a central role in his moral philosophy (as they do with so many moral philosophers, from Aristotle all the way down to such completely secular thinkers such as J. S. Mill); and there is much in Descartes's fascinating account of the good life for humankind which does not invoke any directly support from theistic premises. Nevertheless, Descartes himself underlined the integral interconnections between his ethics, his physics and his metaphysics; and (as will emerge in the final section of this overview) a full understanding of Descartes's moral theory requires close attention to the religious worldview which pervades his philosophy as a whole.

⁷⁵ See Section 3(c), above.

⁷⁶ Letter to Chanut of 1 February 1647, AT IV 606: CSMK 308.

⁷⁷ 'Wo Es war, soll Ich werden'; Sigmund Freud, *New Introductory Lectures on Psychoanalysis* [*Neue Folge der Vorlesungen zur Einführung in die Psychoanalyse*, 1933], Lecture XXXI, in *Standard Edition of Complete Works*, transl. J. Strachey (London: Hogarth, 1953-74), Vol. XXII, p. 80.

⁷⁸ See Descartes's account of his tendency to be attracted to cross-eyed women (letter to Chanut of 6 June 1647, AT V 57: CSMK 323), discussed in Chapter 12, below.

⁷⁹ 'The philosophy I cultivate is not so savage or grim as to outlaw the operation of the passions; on the contrary, it is here, in my view, that the entire sweetness and joy of life is to be found.' Letter to ?Silhon of March or April 1648 (AT V 135).

⁸⁰ *Passions of the Soul* [*Les Passions de l'âme*, 1649], art. 212.

Chapter 13 prepares the ground for the two concluding papers of the volume by providing an introductory account of the role of God in Descartes's philosophical system. In some of the earlier chapters, I tended to show some sympathy for what is a fairly widespread view of Descartes's metaphysical interests, namely that they were motivated solely by his desire to provide an acceptable base for his scientific work.⁸¹ But speculation on what may have personally motivated Descartes, or indeed any other great writer, is probably largely beside the point. What can be said, by looking at the character of the writings themselves, is that the great bulk of the works produced in Descartes's early career were works of what we should now call natural science; moreover, when theistic metaphysics does enter the picture, in Part Four of the *Discourse*, the arguments initially offered are, to say the least, somewhat perfunctory.⁸² But as so often happens in philosophy, ideas may have a life of their own, and arguments can lead us to destinations that were not at the front of our mind when we drew up our route map. Descartes was brought up as a Catholic, and his education had steeped him in the heavily theistic metaphysics of scholasticism, which was itself imbued with the thought of the early Church fathers and with a pervasive knowledge of biblical scripture. As the overall structure of Descartes's world begins to be fleshed out, in the composition of his masterpiece, the *Meditations*, all manner of features that may initially have seemed less prominent start to occupy the foreground. God, the source of the 'light of reason' that drives Cartesian science, emerges not just as a kind of epistemic guarantor of the axioms for science, but as the fountain of all truth and goodness, the 'immense light' toward which finite creatures must reach, not just in a spirit of cold rational inquiry, but in awe and wonder, as their hoped-for future destiny and source of their present joy.⁸³

Such language may seem to come from a mouth very different from that of the Descartes familiar from the standard historiography of philosophy, but if this is so it is a result of the systematic secularizing tendency which it is the aim of the chapter under discussion to question. Interpretative distortions, I argue, have arisen from two very different sources: first, the academic agendas of current philosophy, with their tendency to exclude anything that does not pass through the fine-grained mills of contemporary analytic specialisms, and, second, the image of Cartesianism purveyed by the ecclesiastical establishment, which encapsulate a wariness that the Church has long displayed towards one of its most famous philosophical sons. To those in the first camp, Descartes's 'modernism' is welcome, but only in so far as he can be fitted into the mould of a proto-natural-scientist, or a proto-analytic-epistemologist; to those in the second category, his 'modernistic' tendencies are the ominous early signs of a corrosive secular subjectivism that would reduce all reality, even the divine, to the scope of individual human consciousness. Yet, as should already have emerged several times in this overview, Descartes's philosophy is in fact far more objectivist than the latter picture suggests, and it is far less fragmented and more holistic than is suggested by the former picture. If we can manage to free ourselves from these pre-processed versions of Descartes, we may discover a thinker who is less familiar to our conditioned palates, but who may in the end give us a great deal more to chew on.

(c) External control and interior discipline

The penultimate essay of the volume, 'Descartes as Sage' (Chapter 14), traces the roots of many central Cartesian ideas to conceptions which he inherited, ultimately, from Plato and Augustine. Descartes as a young man envisage himself entering the stage 'masked' (AT X 213: CSM I 2), and he remained extremely reticent about his philosophical aims, and also about his philosophical debts – something that has perhaps allowed many subsequent commentators to fasten onto him images of their own devising. Several of these images of Descartes have already surfaced to a greater or lesser extent in our discussion so far: the proto-epistemologist preoccupied with sceptical puzzles; the

⁸¹ See below, Chapter 2, note 16.

⁸² See below, Chapter 2, note 27.

⁸³ The formers, says Descartes, is apprehended through faith, the latter known by experience. Third Meditation, AT VII 52: CSM II 36.

natural scientist struggling with the metaphysical debris of an earlier age; the subjectivist obsessed with the private theatre of the mind; the proto-secularist who would ‘bring all reality within the ambit of the Cogito’.⁸⁴ But if, as there are several good reasons to do, we take the *Meditations* as the definitive statement of Descartes’s philosophy, an unprejudiced reading reveals a quite different *persona* – that of the philosopher in the traditional sense, going back to Plato, of the searcher for truth and the lover of wisdom.

In the tradition Descartes inherited, ‘wisdom’ included knowledge of how everything is related to its ultimate causes;⁸⁵ and for Descartes, following in the footsteps of Plato and Augustine, the path which will lead to such wisdom involves the discipline of *aversio*, turning the mind away from the confusing world of the senses. This is the discipline which is begun on the first day of the *Meditations*, and its fruits are gathered in a great systematic sweep as the days proceed. The ultimate cause, God, ‘supremely good and the source of truth’ is provisionally acknowledged in the First Meditation (AT VII 22: CSM II 15), glimpsed again at the start of the Second Meditation (AT VII 24: CSM II 16), firmly proved to exist by the middle of the Third Meditation (AT VII 45: CSM II 31) and contemplated with joy and wonder at its end (AT VII 52: CSM II 36); declared at the start of the Fourth Meditation to be the hidden fountain of ‘wisdom and the sciences’ (AT VII 53: CSM II 37) and recognized by its end to be the perfect bestower of all we need to avoid error (AT VII 43: CSM II 62); shown near the start of the Fifth Meditation to be as firmly and demonstrably knowable as the truths of mathematics (AT VII 65-6: CSM II 45) and seen, by its end, to be the sole guarantor of ‘the certainty and truth of all knowledge’ (AT VII 71: CSM II 49); and finally, throughout course of the Sixth Meditation, it is vindicated as the creative power of ‘immeasurable goodness’ (AT VII 88: CSM II 61) that shaped our human nature with a view to our survival and our flourishing.

This catalogue may seem strangely out of step with the list of topics that occupy today’s typical lecture courses on Descartes’s *Meditations*; but it is not meant to suggest that the familiar topics – doubt, the Cogito, thought and extension, freedom, mind and body – are not a perfectly valid way of carving up Descartes’s arguments for expository purposes. What it does draw attention to, nonetheless, is the theistic thread that holds everything together, and which links the moral and epistemic domains in the prescribed search for truth and goodness – a search which, I argue, it is not inappropriate to call a genuinely spiritual one. Is this just fastening another mask on to Descartes, or imposing a spurious unity on a heterogeneous collection of arguments? I doubt if this criticism could survive a careful scrutiny of the pattern of references catalogued in the previous paragraph; nor, it seems to me, could it satisfactorily account for Descartes’s own insistence on how he wanted the reader to approach his work. He stressed the holistic character of the *Meditations*, warning that little benefit would accrue from trying to extract individual arguments and assess them piecemeal; and he presented his work as a genuine exercise in meditation, urging no one to read the book ‘except those who are able and willing to meditate seriously with me, and to withdraw their minds from the senses’ (AT VII 9-10: CSM II 8). There are, of course, many ways of deriving benefit from a philosophical work, and we do not have to follow any prescribed method of study, even one proposed by the author himself. But Descartes’s invitation to each individual reader to accompany him on his meditations remains a powerful one; and at the very least it may be worth considering whether light can be thrown on his metaphysical inquiries by seeing how they conform to an ancient and rather grand model of philosophical inquiry, as a subject that requires not just agility of mind and logical acumen, but a certain kind of moral seriousness.

The fifteenth and final chapter of the volume (Plato’s Sun and Descartes’s Stove’) attempts, in a certain way, to bring together distinct strands of Cartesian interpretation and exegesis that have been apparent throughout the collection. Two elements in particular emerge as prominent in Descartes’s way of expressing himself: the contemplative and even devotional voice, deriving from

⁸⁴ See the quotation flagged at Chapter 13, note 8, below.

⁸⁵ Thomas Aquinas, *Summa theologiae* [1266-73] IaIIae (First Part of the Second Part), Qu. 57, art. 2.

Plato and Augustine, to which we have just been attending, and the more ‘modernistic’ voice, referred to earlier in the current discussion, of the Cartesian scientific innovator. One might suppose these elements to be wholly compatible: Descartes himself maintains, after all, that the scientist draws on the divinely implanted knowledge of mathematics in order to understand the universe (AT VI 41: CSM I 131); so why should not Descartes have been attracted to a familiar kind of Christianised Platonism, seeing the natural world as a rational and value-laden cosmos, reflecting the beauty and order of its creator? There are many reasons why he did not speak this way: his rejection of teleology in physics which he judged to be sterile from an explanatory point of view (AT VII 55: CSM II 39); his discarding of a qualitative account of matter (for similar reasons) in favour of a more neutral and ‘bleached-out’ quantitative framework (AT VIII 79: CSM I 247); and, perhaps most crucial, his vision that the ‘ordinary laws of nature’, the universal covering laws of matter in motion, would be all the physicist needs to explain the intricate order and organization of the natural world (AT XI 37: CSM I 92-3). None of this, of course, has in itself any tendency to undermine the theistic world view; indeed, Descartes always insists that the power behind these laws of physics is God. But for all practical purposes this makes no difference to the physicist, whose job is to work out the simplest and most elegant covering principles to subsume the widest possible range of phenomena.⁸⁶ The Cartesian methodology of physics opens the door to the autonomy of modern science; and such autonomous knowledge of the workings of nature brings with it the possibility of a wholly new and ultimately much less reverential relationship to the natural order.

Acknowledging these tensions brings us back to the Janus-faced character of Descartes’s thought – the way in which it looks forward to our own time, as well as back to the world of his predecessors. This theme recurs, as we have seen, in Cartesian ethics, where the idea of technological control which appears in his early scientific programme re-surfaces in his blueprint for the management of the passions, and seems to take him towards a more manipulative view of how we might control our human destiny than anything found in Classical or Medieval visions of the good life.

We could simply take note of these tensions and leave it at that; for a philosopher’s greatness is not necessarily a function of whether all aspects of his thought can be made consistent, and the Cartesian system would lose none of its interest for us if offered us an unresolved tension rather than a proposed reconciliation. Nevertheless, I think we can see in Descartes’s writings the wherewithal to resolve these tensions. The question he has left us with, as I point out at the end of the final chapter, is whether we should take charge of our destiny, leading our lives as would-be controllers of our environment, and indeed our own human nature,⁸⁷ or whether we should adopt the more ‘spiritual’ path of conforming to lives to the more permanent values that command our allegiance whether we will or no. For inhabitants of the twenty-first century, like those of the seventeenth, there is no possibility of turning our backs on the increased knowledge, and associated power, that the ‘new’ science has given us; but for all his implicit commitment to the autonomy of the scientific method, Descartes never makes the mistake of supposing that autonomy could be extended to the ethical domain – at least not in the sense envisaged by Friedrich Nietzsche, that we

⁸⁶ In the case of Descartes’s three laws of motion (*Principles*, Part II, arts. 36-42), there is some attempt to derive first law from the nature of God (whose immutable nature makes it ‘most reasonable’ to think that the quantity of motion is always preserved); but such appeals become less prominent with the remaining laws, and the reader is in any case left throughout with a sense that it is the physics, not the metaphysics, that is wearing the trousers. For example, if the behaviour of matter had been better explained on the assumption of a principle of curvilinear rather than rectilinear inertial motion, then, one imagines, curved lines might have presented themselves to the author as more consonant with the divine nature than straight ones.

⁸⁷ The possibility of genetic engineering has now given extra urgency to this essentially ‘Cartesian’ question, in the light of the now vastly increased opportunity for technological manipulation and control of our very genetic inheritance.

humans can somehow create our own values by an autonomous act of will.⁸⁸ On the contrary, as we have seen, he firmly retains the older vision of an objective domain of goodness that constrains our assent: we may turn away from the light, but we cannot deny it. In the end, then, the power of the new technology to change our world, and even our own psycho-physical nature, remains of value, in the Cartesian scheme of things, only in so far as it is used in the service of that ‘immense goodness’ which is revealed to us by the natural light.

At the end of our reading of Descartes we thus come up against a philosophical and indeed wider human problem of enormous importance. To put it at its most urgent, it is the problem of whether we can hope to survive as a species without the help of a moral vision powerful enough to guide us properly in the use of the increasing power we have over the natural world and our own nature. For Descartes, the requisite kind of moral vision was generated by Christian metaphysics, the objectivity of whose value system, for all his vaunted programme of doubt, he never seriously questioned. And so, finally, this believer in philosophy as an organic unity was able to achieve a truly synoptic philosophical vision. As understood by Descartes, the extended world of nature is one that we can understand and control as a result of the God-given power of reason; but that same power of reason also enables us to perceive what is objectively good; and a benevolent creator has given every single human being the power to dispose their will so as to resolve to pursue that good.⁸⁹ This secure metaphysical underpinning for his ethics perhaps accounts, more than anything else, for the pervasive optimism we find in Descartes’s moral writings, and his sense that true ‘tranquillity of soul’ was within the grasp of all.⁹⁰ Whether our own worldview, major parts of which Descartes so significantly helped to shape, can find a basis for sustaining that tranquillity is something that remains to be seen.

⁸⁸ See Friedrich Nietzsche, *Beyond Good and Evil* [*Jenseits von Gut und Böse*, 1886], transl. W. Kaufmann (New York: Random House, 1966), § 203.

⁸⁹ *Passions of the Soul*, art. 154.

⁹⁰ *Passions*, art. 148.