

Materialism and Right Reason in Hobbes's Political Treatises: A Troubled Foundation for Civil Science

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Abstract

After abandoning the approach taken in *The Elements of Law*, Hobbes used *De cive* to establish his new civil science on a materialist basis, thus challenging the dualist foundations of Descartes's mechanical philosophy. This shift is analysed here with close reference to the discontinuity in Hobbes's use of the concepts of 'laws of nature' and 'right reason'. The article argues that, the descriptive nature of mechanics notwithstanding, *De cive*'s foundational aim left civil science with the normative task of producing its own material conditions of possibility until, in *Leviathan*, Hobbes went as far as reconsidering Plato's philosophical commitment to political pedagogy.

Keywords: Hobbes, Descartes, Plato, materialism, laws of nature, right reason, political pedagogy.

Introduction

By the time that Hobbes had fled to Paris in November 1640, he had already completed *The Elements of Law Natural and Politic*, his materialist account of human nature and its powers, and of the body politic, which contains all the main elements of his political ideas. Once in Paris, however, he set about writing *De cive* in an attempt to establish a new *scientia civilis* within the framework of his *Elementa philosophiae*, the scientific system he had been developing since his encounter with the mechanics of Galileo Galilei.¹ It is my belief that in *De cive* Hobbes was directly challenging Descartes's metaphysical foundation of

¹ Hobbes's system was eventually brought to fruition with the publication of *De corpore* (1655) and *De homine* (1658). The three sections only appeared in their proper systematic order (*De corpore*, *De homine* and *De cive*) as *Elementa philosophiae* in 1668, in a collection that also included the Latin *Leviathan*. See A.P. Martinich, *Hobbes. A Biography* (Cambridge, 1999), pp. 324–5. Hobbes's political treatises are abbreviated as follows: *EL* — *The Elements of Law Natural and Politic*, ed. F. Tönnies (London, 1889); *DC* — *Elementorum philosophiae sectio tertia, de cive*, in *Thomae Hobbes malmesburiensis opera philosophica quae latinae scripsit omnia*, ed. Sir W. Molesworth (London, 1839–45), II, 133–432, trans. *On the Citizen*, ed. R. Tuck and M. Silverstone (Cambridge, 1998); *Lev* — *Leviathan. The English and Latin texts*, 2 vols., ed. N Malcolm (Oxford, 2012). For all other references I will use the standard editions: *EW* — *English Works of Thomas Hobbes of Malesbury*, ed. Sir W. Molesworth (London, 1839–45), 11 vols., and *OL* — *Thomae Hobbes malmesburiensis opera philosophica quae latinae scripsit omnia*, ed. Sir W. Molesworth (London, 1839–45), 5 vols.

mechanics, and that the difficulties he faced in constructing an alternative system on a materialist basis had a major impact on the development of his political ideas during the 1640s. This article will analyse the change of approach between *The Elements of Law* and the two editions of *De cive* (1642, 1647) in order to show how the attempt to provide an adequate foundation for civil science drove Hobbes to go as far as to question the overall purpose of political theory. At the end of the decade, Hobbes openly reconsidered Plato's philosophical commitment to political pedagogy, writing his third political treatise in the form of a highly innovative mirror for princes that did not display any of the traditional and explicitly normative contents typical of the genre's Renaissance tradition. In fact, as I will argue, *Leviathan* (1651) was instead shaped as a theoretical instrument for the justification and exercise of state pedagogy.

Hobbesian scholars have traditionally been divided between those who stress the 'empiricist' Baconian characteristics of Hobbes's philosophy on the one hand, and those who emphasise its 'rationalist' nature, inspired by Galileo and the conflict with Descartes, on the other. This opposition usually reflects different understandings of the place occupied by Hobbes's political thought in the *Elementa philosophiae* project. Hobbes has either been viewed as a political thinker whose natural philosophy was of little importance,² or else his political philosophy has been interpreted as having been closely related to the development

² Cf. M. Frischeisen-Koehler, 'Die Naturphilosophie des Thomas Hobbes in ihrer Abhängigkeit von Bacon', *Archiv für Geschichte der Philosophie* 15 (1902), pp. 370–99; A. E. Taylor 'The Ethical Doctrine of Hobbes', *Philosophy* 13 (1938), pp. 406–24; L. Strauss, *The Political Philosophy of Hobbes: Its Basis and Genesis* (Oxford, 1936); T. Sorell, 'Hobbes's Scheme of the Sciences', in *The Cambridge Companion to Hobbes*, ed. T. Sorell (Cambridge, 1996), pp. 45–61, has more recently insisted on Hobbes's debt to Bacon by pointing out the limitation of his system due to the irreducibility of human nature to mechanics. On Hobbes's Baconism, see also the recent A. Milanese, *Principe de la philosophie chez Hobbes. L'expérience de soi et du monde* (Paris, 2011).

of early modern mechanics.³ My research furthers the second approach, and is intended as a contribution to the elucidation of the close connection between the systematic project pursued by Hobbes within the margins of mechanical philosophy, and his work on political theory. In this respect, the incompatibility between Hobbes's materialist monism and the dualist agenda of Descartes will prove crucial to understanding the development of the former's political thought.⁴

By separating the freedom of *res cogitans* from the deterministic account of *res extensa*, Descartes's dualism excluded the human soul and moral life from the universal mechanism and therefore from the field of mechanical philosophy. By contrast, Hobbes's intention was to extend his materialism into the ethical and political sphere, and his scientific system therefore grounded civil science on the universal and stable terrain of mechanics. Nevertheless, there can be no transcendental foundation for reason and scientific knowledge in a world formed exclusively of matter in motion, and therefore the principles of civil science themselves can hardly be conceived as eternal, immobile and detached from the vicissitudes of human affairs. Born out of this epistemological puzzle, the text of *De cive* reveals a series of tensions dependant on the contradiction between the materialist assumption and the foundational objective that characterises Hobbes's

³ Cf. F. Brandt, *Thomas Hobbes's Mechanical Conception of Nature* (London, 1928); J. Watkins, *Hobbes's System of Ideas* (London, 1965); M.M. Goldsmith, *Hobbes's Science of Politics* (New York, 1966); T. Spragens, *The Politics of Motion. The World of Thomas Hobbes: Its Basis and Genesis* (Lexington, 1973). On the whole issue see N. Malcolm, 'Hobbes's Science of Politics and His Theory of Science', in Malcolm, *Aspects of Hobbes* (Oxford, 2002), and the synthetic overview provided by D. Jesseph, 'Hobbes on 'Conatus': A Study in the Foundations of Hobbesian Philosophy', *Hobbes Studies* 29 (2016), pp. 67–9.

⁴ Many scholars dealing with the troubled relationship between Hobbes and Descartes have recently insisted on the epistemological stakes at play in their debate due to the issue of materialism. G. Mori, 'Hobbes, Descartes, and Ideas: A Secret Debate', *Journal of the History of Philosophy* 50(2) (2012), pp. 197–212; P. Sprinborg, 'Hobbes's Challenge to Descartes, Bramhall and Boyle: A Corporeal God', *British Journal for the History of Philosophy* 20(5) (2012), pp. 903–34; M. F. Cammellone, 'Hobbes, Descartes and the *Deus deceptor*', *Hobbes Studies* 26 (2013), pp. 85–102.

plan for a complete system.⁵ The attempt to overcome this contradiction led *De cive* to mirror, at the epistemological level, Descartes's dualist metaphysics, and Hobbes's *scientia civilis* was therefore derived from a twofold method that he took some time to acknowledge openly. When reworking the book for its 1647 edition, Hobbes felt the need to make clear that it is possible for civil science specifically to take a dual approach: besides being deducible from the first principles of mechanical philosophy (like any other science), it also rests 'upon its own principles known by reason'.⁶

This article analyses the political implications of this methodological dualism by following the development of Hobbes's political thought. In particular, it focuses on Hobbes's changing conception of the influence of reason and science on human minds and actions, and, consequently, on the changing relationship between civil science and political power. In my view, the methodological shift realised in *De cive* eventually forced Hobbes to abandon his original plan to build an entirely deductive system, and led him instead to seek a foundation for civil science in political power and thus to write *Leviathan*. I am therefore starting from the assumption that *Leviathan* is not the product of an entirely consistent

⁵ My analysis of the tensions characterising Hobbes's materialist epistemology does not stand in contrast to, but rather is based on, the consistent picture of Hobbes provided by P. Machamer, 'Thomas Hobbes: Mechanist and Materialist', *Hobbes Studies* 27 (2014), pp. 1–12. Such tensions are also captured by Pacchi's interpretation of Hobbes's 'hypothetical' or 'critical materialism' as a complex attempt to conciliate his materialism with an 'epistemological phenomenalism', the eventual 'shipwreck' of which is represented by *De homine*. See A. Pacchi, *Convenzione e ipotesi nella formazione della filosofia naturale di Thomas Hobbes* (Florence, 1965), pp. 96, 217, 232. According to E. Cassirer, 'Hobbes', in *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit*, vol. II (Berlin, 1907), Hobbes's 'hypothetical materialism' provided unity to the 'epistemological phenomenalism' on which his scientific method was based. What follows will add a diachronic perspective to these considerations, explicitly connecting them to the development of Hobbes's political thought. I will maintain that, although Hobbes's foundationalism and his materialism were theoretically contradictory from the outset, his materialism only became 'critical' and 'hypothetical' after the failure of the attempt made in *The Elements of Law* to provide a complete ontological 'deduction' of the body politic (see below, note 32).

⁶ *DC Praef.*, p. 151.

development in Hobbes's political thought,⁷ and indeed I endorse Quentin Skinner's argument that the book contains clear signs of discontinuity. In *Leviathan*, Hobbes partially abandons the rationalist and anti-humanist standpoint of *The Elements of Law* and *De cive*, and acknowledges the need to return to the systematic use of the *ars rhetorica* as a support for reason and science, and as the means with which to make them politically effective.⁸ However, when highlighting the anti-rhetorical approach of *The Elements of Law* and *De cive*, Skinner overlooks the epistemological distance between them, and is therefore blind to the impact of Descartes's foundational enterprise on Hobbes's political thought in the early 1640s. My reading therefore aims to expand the notion that philosophical development is influenced by political motivations, and to demonstrate that a proper analysis of the 'epistemological agenda' that Hobbes derived from Descartes should complement the 'political agenda' taken by Skinner in his attempt to explain the fluctuations in Hobbes's political thought as having been linked to the events of the English civil war.⁹

⁷ On this score, see Hoekstra's 'archetypical' opposition between the two main streams of interpretation of Hobbes's changes in political theory, those of the Philosophers and of the Historians: while the former tend to accuse Hobbes of theoretical inconsistency, the latter usually provide an explanation of these changes in terms of a *political* agenda. K. Hoekstra, 'The De Facto Turn in Hobbes's Political Philosophy', in *Leviathan after 350 Years*, ed. T. Sorell and L. Foisneau (Oxford, 2004), pp. 33–73. However, all those scholars who see a development tend to consider *Leviathan* as the apex of Hobbes's political theory. See in particular F.S. McNeilly, *The Anatomy of Leviathan* (London, 1968), but also P. Zagorin, *Hobbes and the Law of Nature* (Princeton, 2009).

⁸ Q. Skinner, *Reason and Rhetoric in the Philosophy of Hobbes* (Cambridge, 1996). Skinner relies on Johnston, who sees a circular route from the rhetoric displayed by Hobbes in *Thucydides* in service of history to the rhetoric in service of philosophy that he adopted in *Leviathan*, by way of the 'dry discourse' of philosophical demonstration characterising *The Elements of Law* and *De cive*. Cf. D. Johnston, *The Rhetoric of Leviathan* (Princeton, 1996), p. 91. Both interpretations focus on Hobbes's political agenda and, therefore, fail to notice the epistemological shift between *The Elements of Law* and *De cive*.

⁹ I also endorse Skinner's assumption that 'Hobbes's claim to originality lies to a greater degree at the epistemological level', Skinner, *Visions of Politics III. Hobbes and Civil Science* (Cambridge, 2002), p. 307, although I apply this to the whole of Hobbes's philosophy. In this sense I shall follow Zarka's suggestion that in Hobbes's speculative structure, 'it is at the political level that one has to look for an answer to the problem posed at the metaphysical level'. Y.C. Zarka, *La décision métaphysique de Hobbes: Conditions de la politique* (Paris, 1999), p. 25. However, because his study specifically focuses on *Leviathan*, Zarka does not take into account the methodological discontinuity between *The Elements of Law* and *De cive*. See also Y.C. Zarka,

The article will start by showing that Hobbes quickly abandoned the task he set himself in *The Elements of Law* of providing an ontological description of the body politic. In *De cive* he instead sought an epistemological foundation for civil science that would be as secure as the one that Descartes was establishing for natural philosophy. My analysis of this transition will focus on two connected issues, namely the concepts of the ‘laws of nature’ and ‘right reason’, and will demonstrate the discontinuity in the use of these concepts between *The Elements of Law* and *De cive*. It will therefore also establish that this theoretical development helped, along with the political agenda dictated by the ongoing civil war, to persuade Hobbes of the need to ground the ‘small power’ of reason and science firmly on civil power.¹⁰ This eventually led him to confront Plato’s political philosophy in *Leviathan*, and to elaborate a more ‘modest’ but nevertheless essentially political form of rationality. From the highest vantage point of his political thinking, Hobbes was thus forced to acknowledge that, despite all pretensions to scientific neutrality, his new *scientia civilis* was inherently committed to producing its own material conditions of possibility.

From the ontology of *The Elements of Law* to the epistemology of *De cive*

Hobbes intended his first political treatise, *The Elements of Law Natural and Politic*, as a scientific treatise that entails a mechanical ontology of the *natural* human body and the *artificial* body politic, and also contains a physical ontology of knowledge.¹¹ The book harnesses Hobbes’s radical materialism in order to

Hobbes et la pensée politique moderne (Paris, 1995), p. 55. In my view, this is one of the reasons why he overlooks Hobbes’s attempt to conciliate his materialist epistemology and ontology in *De cive*. For a critique of Zarka’s interpretation of Hobbes’s materialism as merely ‘methodological’, see J. Terrel, *Hobbes, matérialisme et politique* (Paris, 1994), pp. 79–80, 124–5.

¹⁰ ‘The Sciences are small Power’. *Lev X*, p. 134; *EW III*, p. 75.

¹¹ The 1650 edition of *Human Nature; or the Fundamental Elements of Policy and De Corpore Politico; or the Elements of Law Moral and Politic*, was in fact the unauthorised disjunction of this

advance the possibility of an explanation of knowledge as a physical motion that begins in the senses and rises, via memory and imagination, to reason and science. Consequently, Hobbes analyses sense, memory, imagination, passions, and reason itself as ‘powers’ belonging to mankind, that is as motions arising internally within parts of the human body that react to movements in the outside world by producing images, passions, concepts, and so forth. Conversely, these internal motions produce the external motions of the human body (actions and speech), which impact on the movement of other bodies. For this reason, all human knowledge should be considered to be ultimately reliant on the same fundamental mechanisms of local motion, an assumption that Hobbes retained throughout his subsequent work, albeit in different ways.

In this sense, the philosophy of *The Elements of Law* should be considered as a straightforward ontology of matter in motion that *includes* a complete epistemology. The model for this ontology was provided by the science of optics: for both Hobbes and Descartes the theory of light, due to its clearly geometrical structure, offered a possible explanation of vision conceived in entirely mechanical terms.¹² Because vision arises from local motion and pressure from contact between particles, the model could in principle be applied to all processes of knowledge that depend on sense perception. However, it could not easily be used to explain the noblest activities of the mind, such as memory, imagination, and reason. Descartes, in fact, offered an alternative solution to account only for ‘reason’, one which was not present in his unpublished *Le monde, ou traité de la*

unitary manuscript, which Hobbes never intended to publish. F. Tönnies, *The Editor’s Preface*, in *EL*, pp. v–vii.

¹² In the letters on optics Descartes and Hobbes debated the relation between ontology, epistemology and metaphysics, both being aware that they had not found a theory of light that could provide a consistent solution to their physical *and* epistemological problems. *Correspondence of Thomas Hobbes*, ed. N. Malcolm, (Oxford, 1994), vol. I, letters n° 29–34, 35–6, pp. 54–119. Significantly enough, the quarrel on optics became particularly bitter when it touched on the issue of materialism, as Descartes’s responses to Hobbes’s *Objections to Meditations* clearly demonstrate.

lumière (c. 1629–33) but was on full display a few years later in the *Principia philosophiae* (1644). While a theory of light could not be considered a sufficient foundation for scientific knowledge, the latter work provided a sound epistemological foundation by means of the *res cogitans*, which was treated as consubstantial to the ideal perfection of mathematical objects. Hobbes, on the other hand, continued to look to the science of optics for the key concepts required for a materialist explanation of all the activities of the human mind for some time longer.¹³ In this sense, the systematic project pursued in *The Elements of Law* was not yet concerned with all the mathematical and physical topics that would find their place in *De corpore* and *De homine* fifteen years later, but it did at least attempt to resolve — within a materialist framework — the epistemological problem of the emergence of scientific knowledge from natural motion.¹⁴

Crucially for the present argument, this approach allows Hobbes, in the *Elements of Law*, to preserve his fundamental faith in the *physical* power of reason by referring to ‘powers and acts of the mind, both cognitive and motive [i.e. leading to motion]’,¹⁵ and in particular to the power of speech. With perfect circularity, the path towards any ‘experience’, including the perfect ‘evidence of truth’ that Hobbes refers to as ‘wisdom’, starts from the motion determining sense

¹³ In 1646 Hobbes still considered optics, along with civil science, to have been his own creation. See F. Giudice, ‘Optics in Hobbes’s Natural Philosophy’, *Hobbes Studies* 29 (2016), p. 87–8. Perhaps one should not concede to Brandt that in his first political treatise Hobbes succeeded in marking ‘the foundation of modern empirical psychology’ (Brandt, *Thomas Hobbes*, p. 151), but certainly in the work optics serves as the model that shows how ‘the great deception of sense ... also is by sense to be corrected’. *EL*, I.II.10, p. 7.

¹⁴ Tönnies’ early claim that a ‘systematic plan ... did not yet occupy the philosopher’s mind at the time when he wrote it [*The Elements of Law*]’ (Tönnies, *The Editor’s Preface*, p. vii), is still debated. See also R. Tuck ‘Hobbes and Descartes’ in *Perspectives on Thomas Hobbes*, ed. G.A.J. Rogers and A. Ryan (Oxford, 1988), pp. 37–9. Tuck recognises the closeness of Hobbes’s first political treatise to an optical ontology, but he does not analyse the consequences of his changing views on political theory during the following years.

¹⁵ *EL*, I.XIII.1, p. 64.

experience,¹⁶ and the internal motions of the human body eventually return to the external motion, having first passed through the ‘motive’ power ‘by which the mind giveth animal motion to that body wherein it existeth’.¹⁷ One can therefore argue that in *The Elements of Law* the attribution of a ‘motive power’ to reason and science is strictly related to the claim of an ontological homogeneity between the objects of civil and natural philosophy.

Nevertheless, leaving aside the presumed uniformity of the objects of all sciences, Hobbes attributes to civil science a specific epistemological status. It is true that the methodological chapters of *The Elements of Law* involve an assumption that all sciences should be based on the same method, as is seen in chapter VI, in which Hobbes first introduces ‘the four steps of science’ and clearly differentiates between science and history while making no mention of any separation between natural and political philosophy.¹⁸ The point is even clearer if we look at chapter XIII, in which Hobbes remarks on the distance between mathematical and dogmatic knowledge and thus indirectly confirms the presumption of the homogeneity of all sciences.¹⁹ Yet despite this, Hobbes argues that civil science is the only science truly concerned with effective ‘laws’. The abstract propositions of natural philosophy are not proper ‘laws’, because they are not capable of producing any *effects* in their objects (i.e. natural bodies). The propositions of civil science, on the other hand, can in fact influence their motions by prescribing laws to govern the *natural* minds and bodies of men. They can therefore have a real influence on the *artificial* motion of the body politic because of the possible connection between the natural laws discovered by civil science, and the civil laws imposed by the sovereign and obeyed by the people.

¹⁶ *EL*, I.VI.3–4, p. 25–6.

¹⁷ *EL*, I.VI.9, p. 8.

¹⁸ See Skinner, *Reason and Rhetoric*, pp. 4–5.

¹⁹ *EL*, I.XIII.4, p. 67.

Civil science thus allows reason to exercise its power over human natural motion and, by extension, over the artificial motion of the body politic. The logic of this connection is inscribed in human ‘nature’, and Hobbes therefore calls it ‘law of nature’. Through the study of *The Elements of Law Natural and Politic*, men *can* learn how to position the concurrent persistence of their own natural motion (i.e. life) *into* the political bodies that allow it. The book presents an account of the means with which the ‘natural’ motion of the individual body can be preserved by being linked to the preservation of the ‘artificial’ motion of the collective body politic, and it therefore connects natural and civil laws *logically*.²⁰

Unfortunately, while this logic exists eternally, the knowledge it produces does not. In fact, as all kinds of knowledge, science included, depend on of the overall internal motions of human minds and bodies, they are naturally in motion. Hence Hobbes is forced to conclude that there is a need for a sort of artificial counterpart whose coherent motion should not be dependent on the natural variability of passions. This stable counterpart is civil power, and Hobbes’s first political work therefore intertwined the epistemological issue of the *stability* of scientific knowledge with the exercise of political power irreversibly. By linking science to civil power Hobbes was side-stepping a whole set of epistemological problems that haunted his plan for a mechanistic theory of politics: How is it possible for reason to grasp the ‘laws of nature’ scientifically? How can the ‘dictates’ of reason be firmly established, given that reason is a motion of the human body? This lack of structural foundation was probably the reason why

²⁰ I am assuming here that no *ontological* connection of any kind is provided between natural law and civil law in Hobbes’s political thought. See N. Bobbio, *Thomas Hobbes and the Natural Law Tradition* (Chicago, 1993). However, as I will explain, this does not exclude that in Hobbes’s view they can and should have an influence on each other, as recently explained by D. Undersrud, ‘On Natural Law and Civil Law in the Political Philosophy of Hobbes’, *History of Political Thought* 35(4) (2014), pp. 683–716.

Hobbes's encounter with Descartes's fable of *The World* as a set of 'phenomena' was so important.

Through the confrontation with Descartes — who had responded directly with a metaphysical solution to the problem of providing a precise foundation for the scientific knowledge of mechanical motion that Hobbes seemed to have left unquestioned — the structural limitations of the 'physical' epistemology contained in *The Elements of Law* (little more than a 'fancied' realistic ontology) soon became evident to its author. As soon as 1641, in a letter to Charles Cavendish written during the long quarrel with Descartes on the subject of optics and materialism, Hobbes was forced to admit that the science of optics, like in fact the whole of natural philosophy, was forcedly hypothetical, and therefore fell well short of the ideal perfection promised by mathematics.²¹ Moreover, it was clear that in *The Elements of Law* he had failed to provide a complete geometrical 'deduction' of the body politic and its knowledge from the mechanical knowledge of matter in motion. On the contrary, the work presented Hobbes with his first understanding of the inadequacy of his materialism for such an enterprise.

From this perspective, *De cive* can be read as Hobbes's first attempt to solve the epistemological problem inherent in the materialist ontology set out in *The Elements of Law* by providing a new foundation for the entire system. Shortly after his arrival in Paris Hobbes abandoned the realist approach he had adopted in *The Elements of Law*, and his intention when starting work on *De cive* was therefore to launch an entirely new field of scientific research. In *The Elements of Law* he had assumed that mechanical understanding and geometrical deduction of

²¹ *Correspondence*, vol. I, p. 83. Although Hobbes had formerly admitted, in a letter to William Cavendish (29 July/8 August 1636), the limitations of optics and natural philosophy in general, the reason for such limitations did not rest on their epistemological status, but rather on the more strictly ontological reason that the invisibility of subtle bodies is an obstacle to scientific knowledge (p. 33).

the body politic would correspond and even overlap, following the example provided by optics. In *De cive* he was attacking the same problem on entirely different grounds, by developing the third part of a philosophical system in which every science – civil science included – had to be grounded on the general principles, definitions, and terminology established by first philosophy in accordance with the model of geometry. More than a decade after the publication of *De cive* Hobbes was still expressing his unshakable conviction that the work represented a radical innovation, even when compared to his earlier political treatise: ‘Natural Philosophy is therefore but young; but Civil Philosophy yet much younger, as being no older ... than my own book *De cive*’.²²

Hobbes’s faith in the power of reason was probably at its peak when he was writing *De cive* and runs through its optimistic *Epistola dedicatoria* (1641), which attributed any limitations inherent in civil science to its ‘youth’.²³ This confidence was based on the adoption of geometry as the undisputed model for all sciences, and on the presumption that all domains accessible to human reason were based on a shared methodology.²⁴ These new confident perspectives on the development of civil science were built on the same basis as natural philosophy,²⁵ and epistemology had now clearly gained primacy over ontology, meaning that scientific research would henceforth need to be grounded on a solid and pre-established theory of knowledge. As a result, during the short period between *The Elements of Law* and *De cive*, Hobbes’s civil science was subjected to a shift in methodology: his previous physics of the body politic, based on a ‘human nature’

²² *De Corpore Ep.*; *OL* I, not paginated; *EW* I, p. ix. Hobbes uses the expressions ‘civil philosophy’ and ‘civil science’ interchangeably. I prefer to use the latter, because it is a direct translation of the Latin expression ‘*scientia civilis*’ that he adopts in order to establish his new political science.

²³ Although in the Molesworth edition the *Epistola dedicatoria* is dated 1 November 1646 (*DC*, p. 140), the original manuscript copy dedicated to William Cavendish is dated 1 November 1641. K. Schuhmann, *Hobbes, une chronique* (Paris, 1998), p. 73.

²⁴ *DC Ep.*, pp. 136–7.

²⁵ *DC Ep.*, pp. 137–8.

conceived as a set of clashing *powers*, gave way to a civil science founded on a ‘natural law’ conceived as a set of *principles* the scientific knowledge of which would allow men to escape the fearful conditions of their lives ‘in the state of nature’ once and for all.²⁶

The Elements of Law defined human nature as a jumble of ‘faculties and powers’ that were implicitly established as mechanical, and which included reason: ‘Man’s nature is the sum of his natural faculties and powers, as the faculties of nutrition, motion, generation, sense, reason, &c. For these powers we do unanimously call natural’.²⁷ Hobbes reiterates this identification between what was traditionally referred to as ‘*facultates*’ and mechanical ‘powers’ in a later passage: ‘By this power I mean the same with the faculties of body and mind, mentioned in the first chapter, that is to say, of the body, nutritive, generative, motive; and of the mind, knowledge’.²⁸ The same idea recurs in the fourteenth chapter, which contains a brief summary of the same argument, but on this occasion the reference to ‘faculties’ disappears completely: ‘In the precedent chapters hath been set forth the whole nature of man, consisting in the powers natural of his body and mind, and may all be comprehended in these four: strength of body, experience, reason, and passion’.²⁹

In an analogous chapter that serves as the introduction to *De cive*, Hobbes is forced to turn back to the Latin term *facultates*: ‘the faculties of human nature [*humanae facultates*] can be reduced to four kinds: physical force, experience,

²⁶ DC I.X, p. 164.

²⁷ EL I.I.4, p. 2.

²⁸ EL I.VIII.4, p. 34. In Hobbes the body/mind distinction is never ontological, of course, since he always refers to effective ‘powers’ that are both related to cognition and motion. He would abandon this distinction completely in *Leviathan*, where the term ‘faculty’ serves only to differentiate between ‘natural’ and ‘acquired’ powers. See E. Marquer, ‘Ce que sa polémique avec Descartes a modifié dans la pensée de Hobbes. Histoire d’une controverse’, in *Hobbes, Descartes et la métaphysique*, ed. D. Weber (Paris, 2005), p. 30.

²⁹ EL I.XIV.1, p. 70.

reason, affects'.³⁰ It is important to stress that this is not merely a linguistic matter, since it is clear from the beginning of *De cive* that Hobbes's approach has changed: rather than referring primarily to *physical* powers he is now concerned with the *epistemological* conditions that might provide an adequate premise for a theoretical construction of the body politic through the logic of covenants, in keeping with 'the fundamental laws of nature'.³¹ For this reason, he is no longer dealing with the question of human nature as a set of ontological powers, but rather as the basis from which a doctrine providing the *a priori* 'conditions of society and peace among men' can be geometrically 'deduced'.³² From this perspective, civil science can even be considered superior to natural philosophy, since its 'constructive' method is absolved of the epistemological limitations characterising physics, which must necessarily make use of hypotheses.³³ As Hobbes states in a later work, just as geometry is 'demonstrable, for the lines and figures from which we reason are drawn and described by ourselves' so civil science is also demonstrable 'because we make the commonwealth ourselves'.³⁴

In May 1640, no more than a few months before starting *De cive*,³⁵ Hobbes wrote *The Epistle Dedicatory to The Elements of Law*. This brief text throws considerable doubt over the scientific status of civil science, which it depicts as being well-removed from the perfection of geometry, and defends on the basis of its civilising value rather than for its scientific achievements: 'it would be an incomparable benefit to commonwealth, if every man held the

³⁰ *DC* I.1, p. 157.

³¹ *DC* I.1, p. 158.

³² *Ibid.* Only in *De Cive* does Hobbes use the word 'deduction' to refer to a logical operation starting from first principles, which is *not* what the ontological approach of *The Elements* is specifically concerned with. See Pacchi, *Convenzione e ipotesi*, p. 220.

³³ Hobbes had stressed this epistemological limitation of the natural sciences since the *Latin Optical Treatise*, written in c. 1641–42. See Hobbes 'Tractatus Opticus', ed. F. Alessio, *Rivista critica di storia della filosofia*, 18 (1963), p. 147.

³⁴ *EW* VIII, p. 184.

³⁵ See above, note 23.

opinions concerning law and policy here delivered'.³⁶ Nevertheless, Hobbes continues to assert his intention to 'put such principles down for a foundation' in order to make his 'doctrine' 'inexpugnable'.³⁷ Thus only a short time after the completion of his first political treatise, we find Hobbes using *De cive* to set out an entirely new basis for political theory by shifting away from an ontology of the body politic to the construction of an epistemological foundation for the principles of civil science.

In fact, rather than abandoning his original plan to integrate political theory into a physics of motion, in *De cive* Hobbes put the entire problem to one side. Due to his urgent desire to establish an alternative *epistemological* basis for the new science to the immaterial one explored by Descartes, Hobbes abandoned his attempt to reduce all epistemological questions to a physics of sensation and, ultimately, to the optical model of a theory of light. Instead, in order to establish a whole system of science he definitively embraced the powerful model of geometry and did so on completely different metaphysical grounds to those of Descartes. I propose to retrace this new direction and to explore its consequences by focusing on two classical concepts that play a key role in the connection between Hobbes's epistemology and his civil science: the 'laws of nature' and 'right reason'.

On the laws of (human) nature

Analysing Hobbes's use of the concept of the 'laws of nature' serves to highlight the tension brought into his materialism by the methodological change introduced in *De cive*, and to explain more fully the connection between his own attempt to

³⁶ *EL Ep.*, p. xvi.

³⁷ *EL Ep.*, p. xv. The entire book is imbued with a contradictory tension between the conflicting aims of theoretical demonstration and political persuasion. See Johnston, *The Rhetoric*, pp. 28–9.

establish a complete philosophical system and the one made by Descartes. In the early seventeenth century the word ‘law’ was rarely used to refer to natural regularities, and it does not feature in the writings of Galileo and Mersenne.³⁸ This ‘technical’ use of the term was in fact coined by Descartes when attempting to establish his science of the principles of motion, which he referred to as ‘rules, i.e. laws of nature’.³⁹ An early letter to Mersenne, dated 15 April 1630,⁴⁰ demonstrates that Descartes was quickly aware that the use of the word ‘law’ was capable of supporting his mechanistic view of nature, via a metaphysical foundation of its principles, which he believed had been implanted in the human mind by God himself and were therefore stable and eternal. And in effect, this metaphysical reference to a divine sovereign legislator as the creator of the machine of nature enabled the expression ‘laws of nature’ to become generalised and extended — by way of the legal metaphor — into the domain of the new physics.

By contrast, in Hobbes’s philosophy the use of the word ‘law’ is invariably linked to civil science through the formulas of the ‘law(s) of nature’ and ‘natural law’. What he calls ‘laws of nature’ are in fact laws of *human* nature, which can be considered laws only in the sense of being ‘commands’ from God that, while ‘unalterable’, entail no physical necessitation and can always be broken. This fact clearly makes it impossible to interpret the ‘law’ in the title of *The Elements of*

³⁸ S. Roux ‘Les lois de la nature au XVII siècle: le problème terminologique’, *Revue de Synthèse* 122 (2001), pp. 531–78. See also F. Oakley, *Natural Law, Laws of Nature, Natural Rights: Continuity and Discontinuity in the History of Ideas* (New York, 2005), pp. 60–1. For a concise history of the concept see J.R. Milton, ‘Natural Law’, in *The Cambridge History of Seventeenth-Century Philosophy*, ed. M. Ayers and D. Garber (Cambridge, 1998), pp. 680–701. The most wide-ranging collection of essays on the subject is probably L. Daston and M. Stolleis, *Natural Law and Laws of Nature in Early Modern Europe. Jurisprudence, Theology, Moral and Natural Philosophy* (Farnham, 2008).

³⁹ *Œuvres de Descartes*, ed. C. Adam and P. Tannery (Paris, 1897–1913), vol. VIII, p. 62. See also *Le monde* (where yet the ‘rules’ are confined to the phenomenal horizon of the fable): ‘The rules [règles] by which these changes take place I call “laws of nature”’. *Ibid.*, vol. II, p. 37.

⁴⁰ *Ibid.*, vol. I, p. 145.

Law Natural and Politic as being related to the eternal ‘laws of nature’ theorised by Descartes. Although the idea of a natural *necessity* may have been part of Hobbes’s convictions since the time of the *Short Tract*, he did not display a general theory of determinism prior to his dispute with Bramhall (May–July 1645): determinism was neither fundamental to his physics nor a principle of his civil science.⁴¹ Thus if we abandon the *incipit* of the book and proceed through the remainder of the text, we discover that Hobbes hardly ever uses the word ‘law’ to describe movements of natural bodies, even human ones, with the exception of only one phrase in which the word ‘law’ is used, quite notably, in relation to a natural phenomenon related to optics, namely ‘the laws of refraction’.⁴² The claim that refraction is subject to ‘laws’ adhered fully to Hobbes’s epistemological programme at a stage in which he was inspired by the ontology of light and attempting to reveal the material motions (‘the things that really are in the world without us’) that lie behind the ‘seemings’ of human perception and understanding.⁴³ Nevertheless, *The Elements of Law* does not establish any clear overall conception of nature on the basis of the ‘law of nature’.

Despite this, the title of Hobbes’s first political treatise leaves no doubt that he saw ‘law’ as being a key concept that linked natural-human motions to those of artificial-political bodies, something that is confirmed by his claim that, ‘The true and perspicuous explication of the Elements of Laws, Natural and Politic ... dependeth on the knowledge of what is human nature, what is a body politic, and what it is we call a law’.⁴⁴ The promised explication ‘of the nature and

⁴¹ Leijenhorst explains that ‘like most mechanical philosophers, Hobbes is convinced that nature follows a deterministic course. And nevertheless ... differently from Descartes, Hobbes cannot legitimate this necessity in a theological and transcendent way’. C. Leijenhorst, ‘La causalité chez Hobbes et Descartes’, in *Hobbes, Descartes et la métaphysique*, ed. D. Weber (Paris, 2005), p. 91.

⁴² *EL* I.II.8, p. 6.

⁴³ *EL* I.II.10, p. 7.

⁴⁴ *EL* I.I.1, p. 1.

sorts of law', finally appears in the last chapter of the book: 'All laws are declarations of the mind, concerning some action future to be done, or omitted'.⁴⁵ Besides effectively relieving the term 'law' of any direct relevance to natural philosophy, this statement clearly interprets the laws of nature as principles guided by reason, the efficacy of which is not based on any natural tendency inherent in human nature. In general, the concept of law — as Hobbes defines it in EL I.XIII.6 — refers to a command 'sufficient to move us to action'. Irrespective of whether such a command derives from civil law (which changes depending on the changing will of the sovereign) or from the law *of nature*, or reason⁴⁶ (which, being dependant on the will of God is instead 'unalterable'⁴⁷), it *can* have the effect of compelling a human body to respond appropriately but never suggests the idea of a natural necessitation of any kind.

In *De cive* Hobbes instead makes frequent use of natural analogies in order to explain the necessitation of human behaviour. Such comparisons recur particularly when Hobbes attempts to explain liberty as a physical phenomenon. At various points in the text he equates the human power of movement to the natural tendency of a stone to fall or of water to flow once any obstacles are removed, and he subsequently defines human liberty as 'the absence of impediments to motion'.⁴⁸ Overall, the analogies used in *De cive* come together to reassert the relation between human motion and the general 'motion of natural bodies'.⁴⁹ Indeed, in the opening chapter of the first section (on *Liberty*) Hobbes

⁴⁵ EL II.X.1, pp. 184–5. And these 'declarations' can be either 'promissive', that is 'covenants'; 'provisive', that is 'counsels'; or 'imperative', that is 'commands'.

⁴⁶ 'There can therefore be no other law of nature than reason'. EL I.XV.1, p. 75.

⁴⁷ EL I.XVIII.4, p. 96.

⁴⁸ DC IX.9, p. 259.

⁴⁹ DC XII.1, p. 284. The analogies of the stone and of water recur once again in DC III.9 and DC XIII.15 when Hobbes refers to the artificial collective motion of the body politic. For a discussion of Hobbes's conception on liberty, see at least F.C. Hood, 'The Change in Hobbes's Definition of Liberty', *The Philosophical Quarterly* 17 (1967), pp. 150–63, and Skinner, *Hobbes and Republican Liberty* (Cambridge, 2009).

goes so far as to use the law of free fall to describe man's natural sense of self-preservation, which 'happens by a real necessity of nature as powerful as that by which a stone falls downward'.⁵⁰

Yet it should be noted that the array of new physical images used in *De cive* to explain the natural necessity of human behaviour is in striking contrast with Hobbes's frequent claims that the '*immutable and eternal*'⁵¹ laws of nature should drive human actions rationally for the good of the body politic. As a matter of fact, in *De cive* human nature and all its characteristics are seen as being describable in 'physical' terms *and*, at the same time, as depending on the normative contents 'dictated' by the 'geometrical' and immutable principles of reason. In this account, human reason itself is dramatically split: as a natural power, it is just one component (and not a particularly powerful one) of the motions of the human body that may contribute to the functioning of the body politic; but as the starting point for the true knowledge of the laws of nature, it is stable enough to provide the basis for their geometric deduction. It is evident that these two characterisations do not even occupy the same sphere and are scarcely compatible. One might even venture to say that the methodology of *De cive* is a contradictory combination of a neutral description of human nature and human reasoning, and a normative endorsement of the laws of human nature and human reason otherwise known as the 'laws of nature'.

The new civil science outlined in *De cive* is thus disjointed and infused with dramatic tension from the outset due to Hobbes's attempt to keep two incompatible characteristics of reason together: its materiality and its foundational aim. While in the ontology of *The Elements of Law* reason was assumed, without complication, to be a physical 'power' or 'faculty' whose dictates could help

⁵⁰ *DC* I.7, p. 163.

⁵¹ *DC* III.29. This is also restated by referring to the 'law of nature' (in the singular) in *DC* IV.20.

shape the body politic, in *De cive* the analysis of reason as a physical power exists independently of an entirely new examination that sees it *also* as a theoretical model of geometrical knowledge whose ‘dictates’ should be somewhat removed from the interplay of physical powers. The shift between the two perspectives is clearly marked by the way that throughout *De cive* the very foundations of the laws of nature — the ‘dictates of *natural* reason’ — become the ‘dictates of *right* reason’.⁵² As I intend to demonstrate, this change in terminology was in fact a conceptual ‘translation’ responding to a foundational purpose that could hardly be compatible with Hobbes’s materialist ontology of motion.

The powerless superiority of *recta ratio* over civil power

The Greek concept of ‘right reason’ (*ὀρθὸς λόγος*), referred to a sort of ethically ‘purified’ form of reason that played a role both in theoretical and practical philosophy. In Cicero, where it is associated with ‘natural right’, the concept of *recta ratio* took on a more noticeably juridical bent without abandoning its underlying constitutive relation to both the divine mind and the mind of the Wise where it is fully developed (*perfecta*).⁵³ The gradual absorption of the concept into Christian philosophy unequivocally rendered it a theological issue related to God’s perfection, while the possibility of connecting it to human reason was always highly disputed and criticised, particularly within the Ockhamist tradition. The notion of *recta ratio* would eventually be widely used in political theory as a

⁵² ‘*Dictatae rectae rationis*’ is a recurrent expression in *De cive* that never appears in the English of the *The Elements of Law*, where Hobbes only refers to the ‘dictates of natural reason’. See *EL* I.XVIII.1, p. 95.

⁵³ See Cicero, *De legibus*, in M. Tulli Ciceronis, *De republica, De legibus, Cato maior de senectute, Laelius de amicitia*, ed. J. G. F. Powell (Oxford, 2006), II. 9–11, pp. 197–9.

rhetorical tool, and during the seventeenth century it was duly extended to the field of mechanical philosophy.⁵⁴

The general structure of the rhetorical argument built on right reason is presented with great clarity in the *Eikon Basilike*, the autobiography purportedly written by Charles I before his execution, in which the link between right reason and God's Word encourages the condemned king (or whoever was writing on his behalf) to realise the need to obey his own command: 'No man can be more forward than My self to carry on all due Reformations, with mature judgement, and a good Conscience, in what things I shall (after impartiall advise) bee, by God's Word, and right reason, convinced to be amisse'.⁵⁵ In this sense one might argue that the approach taken by Descartes when establishing the clarity and distinctiveness of reason on the twin bases of the consistency of human reason as *res cogitans* and God's immateriality was relatively traditional.

The conceptual and rhetorical path chosen by Hobbes, however, was completely different, although it did not lead to entirely dissimilar results. As we have seen, Skinner sees no crucial epistemological change between *The Elements of Law* and *De cive*, and thus from his perspective *recta ratio* is an unproblematic 'addition' of a certain Baconian influence that augments *De cive*'s methodological approach to developing a perfect civil science already sought in *The Elements of Law*.⁵⁶ According to Skinner, Hobbes only abandons this path in *Leviathan*, once the pedagogical inadequacy of relying on *recta ratio* without complementing it with a systematic use of rhetoric is revealed. As I will explain, I believe that things are quite different, and that the theme of *recta ratio* is at the heart of an

⁵⁴ See R. Hoopes, *Right Reason in the English Renaissance* (Cambridge, M.A., 1962), and L. Mulligan, 'Robert Boyle, "Right Reason," and the Meaning of Metaphor', *Journal of the History of Ideas* 55(2) (1994), pp. 235–57.

⁵⁵ *Eikon Basilike. The Portraicture of his Sacred Majestie in His Solitudes and Sufferings* (London, 1648), p. 116. See also *Ibid.* XVII, pp. 152–3.

⁵⁶ Skinner, *Reason and Rhetoric*, p. 294.

epistemological turn that in fact took place between *The Elements of Law* and *De cive*.

The expression ‘right reason’ appears in *The Elements of Law* only twice. It is used once in the fifth chapter as a rhetorical device to differentiate between contradiction and absurdity.⁵⁷ But more significantly, when it reappears three times in the concluding chapter, it is referred to as a ‘common measure’ that does not exist ‘in *rerum natura*’, and whose *function* must therefore be supplied by sovereign power:

In the state of nature ... it was necessary there should be a common measure of all things that might fall in controversy ... This common measure, some say, is right reason: with whom I should consent, if there were any such thing to be found or known in *rerum natura*. But commonly they that call for right reason to decide any controversy, do mean their own. But this is certain, seeing right reason is not existent, the reason of some man, or men, must supply the place thereof; and that man, or men, is he or they, that have the sovereign power, as hath been already proved.⁵⁸

This almost sarcastic ‘call into inexistence’ of right reason and its pragmatic commitment to the artificial will of the sovereign concludes *The Elements of Law*. But having assumed the epistemological approach of *De cive*, Hobbes finds himself in need of principles of human nature as clear as the principles of motion that underpin natural philosophy. Yet since the complexity of human nature cannot be easily deduced from the first principles of motion — or at least Hobbes believed himself unable to do so before the completion of *De*

⁵⁷ *EL* I.V.12, p. 22.

⁵⁸ *EL* II.X.8, p. 188.

corpore — he takes a shortcut towards a different kind of foundation: in *De cive* ‘the natural law’ becomes, quite plainly (*hoc est*), ‘the dictate of right reason’.⁵⁹

Thus, no more than a year after having explicitly expelled right reason from nature in *The Elements of Law*, Hobbes was openly reincorporating it into human powers. While during the period of *The Elements of Law* Hobbes was still placing his emphasis on human *natural* reason and on wisdom as ‘evidence of truth’,⁶⁰ in *De cive* he was establishing *right* reason as the safe ground for a systematic philosophy identified with ‘true wisdom’: ‘True wisdom [*sapientia vera*] is simply the science of truth in every subject. Since it derives from the remembrance of things, which is prompted by their fixed and definite names, it is not a matter of momentary flashes of penetrating insight, but *of right reason, i.e. of Philosophy*’.⁶¹

This should explain why the expression ‘*recta ratio*’, along with the concept of wisdom,⁶² is surprisingly diffuse in *De cive*, where it recurs thirty-eight times.⁶³ Although it sometimes functions as a rhetorical device, in the work, right reason generally corresponds to the ideal of a perfect science of natural law independent of any powers, including political power. Hobbes is thus able to endorse the ‘ideal’ anteriority of civil science to any instituted power, and can even imply that the law ‘*of commonwealths*’ is dependent on the natural law ‘*of*

⁵⁹ *DC* I.15, II.1, pp. 167, 169. In *EL* I.XVIII.2, p. 96. Hobbes also mentions ‘descriptions of natural reason’, while in the analogous paragraph of *De cive* he speaks of ‘descriptions of right reason’ (*descriptio rectae rationis*), adding that ‘it has been shown before that the natural laws are its dictates’ *DC* IV.2, p. 200.

⁶⁰ *EL*, I.VI.4, p. 26.

⁶¹ *DC Ep.*, p. 136, my italics.

⁶² Wisdom, opposed to eloquence, conjugates theoretical knowledge (truth) and practical knowledge (deliberation). *DC* XII.12, pp. 294–5.

⁶³ I have counted 38 occurrences summing up ‘*recta ratio*’ (4) and its declinations ‘*rationis rectae*’ (1), ‘*rectae rationis*’ (13), ‘*rectae rationi*’ (2), ‘*recta rationem*’ (12), ‘*ratio recta*’ (1), ‘*recta ratione*’ (5). Yet the expression ‘*dictamina (humanae) rationis*’ covers the same meaning. To these we should add the expression ‘*ratiocinatio recta*’ and the various conjugations of ‘*recte ratiocinare*’ (8). For more evidence and a detailed analysis of Hobbes’s use of the expression ‘right reason’ and its relatives between 1640 and 1651, see R. A. Greene ‘Thomas Hobbes and the Term ‘Right reason’: Participation to Calculation’, *History of European Ideas* 41(8) (2015), pp. 997–1028.

men'.⁶⁴ The latter, at least in principle, precedes the former and can be accessed by human reason in the state of nature: 'the natural law did give rise to obligation in the natural state ... Therefore the obligation to observe those laws is older than the promulgation of the laws themselves'.⁶⁵

Despite these claims for their superiority and even anteriority to civil power, the laws of nature on which Hobbes's civil science is grounded cannot be enough to guarantee its establishment. Although the new perspective increases the epistemological power of reason, in practice this cannot be more powerful than other human 'powers', because — just as 'reason' in *The Elements of Law* was an element of human 'powers' — in *De cive* 'right reason' *also* continues to be 'a part of human nature as any other faculty or passion of the mind'.⁶⁶ Furthermore, because a law can compel only when understood and obeyed as a command,⁶⁷ the laws of nature dictated by right reason and presented in the books of philosophers (and in the laws of the jurists) can hardly be treated as true 'laws' that have an effect without the consent of the sovereign.⁶⁸

Indeed in *De cive* right reason exists, outside of any connection with civil laws, as a purely formal model of scientific knowledge, and it can *also* exist and be an effective command in the body politic. However, the two sides can no longer simply be associated in the same way as in *The Elements of Law*, where a non-existent right reason was *de facto* embodied in civil power. What *De cive* allows one to conclude *scientifically* about 'what is to be done and not to be done'⁶⁹ is clearly and eternally founded on right reason, and *therefore* can have no

⁶⁴ DC XIV.4, p. 316.

⁶⁵ DC XIV.9–10, p. 319.

⁶⁶ DC II.1, p. 169.

⁶⁷ DC III.26, p. 194.

⁶⁸ DC XIV.15, p. 323.

⁶⁹ DC III.33, p. 198.

ontological relation to the civil laws of the commonwealths.⁷⁰ Civil science thus becomes, in principle, a major force in political pacification, precisely when its perfection becomes a hindrance to its effectiveness.

Hobbes's *De motu*,⁷¹ which he completed soon after *De cive*, also contains no clear connection between the 'critical faculties' of human nature (that is intellect and reason) that serve every individual's struggle for survival, and what *is* true and right in itself. Indeed, *De motu* does refer to 'right reasoning [*recta ratiocinatio*]', in other words to the genuine ability of some men to produce a 'true' chain of propositions whose power [*potentia*] is grounded on right reason [*recta ratio*].⁷² However, 'right reason' is still divided into two contradictory elements, namely the means and the model: 'those who live in a body-politic and are placed under its laws, by virtue of right reason ... consider the civil laws as concurrent with right reason'.⁷³ One might assume that in *De motu* 'right reasoning' (i.e. thinking 'by virtue of right reason') is Hobbes's tentative solution to the challenge of bridging the gap between right reason as a model and reason as a human power. Once again, however, this *logical* solution provides no

⁷⁰ The attempt to overcome this difficulty led Hobbes to rely on a quasi-dualist argument. In *De cive* the assumption that laws only pertain to man, and are completely indifferent to the rest of nature ('law as a species is coeval in nature and time with the human species' DC XIV.14, p. 322) is carried on as far as transforming nature itself into something outside the very boundaries of the reign of God to which only human beings (and not even all of them) would belong because of their ability to understand his '*precepts and threats*' DC XV.2, p. 332.

⁷¹ First published in the original Latin as *Critique du De mundo de Thomas White* (1973). The English translation appeared with the title *Thomas White's De Mundo Examined*, trans. H. W. Jones (London, 1976). I will mainly follow this translation, but will modify it on the basis of the Latin original when needed.

⁷² T. Hobbes, *De motu*, XXX.22, 348r–v.

⁷³ *Ibid.* XXX.22, 348v. Commenting on the same passage, Greene claims that, throughout his political theory and *De motu*, Hobbes brought up the traditional use of the term in order to dismiss it satirically, with the exception of his 'positive use of the expression' in *De cive*'s note on *recta ratio*, which he explains is the result of the Latin book's different audience (see Greene, 'Thomas Hobbes and the Term Right reason', pp. 1012–4; see also pp. 1920–1, 1024–6). In what follows I will argue that this thesis should be complemented by some attention to Hobbes's theoretical transitions. In my view, Hobbes's contradictory use of the expression 'right reason' in *De motu* represents a recurrence of an unsolved problem from *De cive*, which Hobbes preferred to abandon rather than solve in *Leviathan* by identifying 'right reason' with 'reasoning aright', a notion conceived as a purely procedural rationality. See below, note 92.

ontological connection between the eternal principles of right reason and the human powers that actually construct the body politic.

It is therefore not surprising that Hobbes's concept of right reason collapsed relatively quickly due to the precariousness of this balancing act and the events of the English Civil War. At the beginning of 1646 Hobbes made some important revisions to the text of *De cive*, adding a *Praefatio ad lectores* and a number of explanatory notes, including one expressly devoted to the concept of 'right reason'.⁷⁴ This appears to have been his only methodological attempt to make clear that right reason exists 'in men's natural state', beyond the safety of civil law, in other words 'outside of a Commonwealth, where no one can distinguish right reason from false except by making comparison with his own'.⁷⁵ Moreover, at this point Hobbes *connects* right reason to the 'act of reasoning' [*ratiocinandi actum*]. Since it is an 'act of reasoning', right reason must be something more than one of many faculties of simple 'reason', and yet it is 'not [even] an infallible faculty'. The 'act of reasoning' is a real process that *also* deserves to be called 'true': it is 'the act of reasoning, that is, a man's own true Reasoning' about the effects of his actions.⁷⁶

This attempt to investigate a 'true' and 'right' act of reasoning in order to find a form of mediation between 'right reason' as a model and 'reason' as a material faculty inscribed in human nature is eventually continued in *Leviathan* in the more well-known definition of human 'reason' as an operation of 'addition and subtraction', or more accurately as an act of 'reckoning' connected to 'speech'

⁷⁴ In the spring of 1646 he allowed Sorbière to use this version as a basis for the Amsterdam edition of 1647. This means that 'by early 1646 Hobbes had made all the substantive changes that he thought necessary'. N. Malcolm, *General Introduction in Leviathan* (Oxford, 2012), p. 2; see also Skinner, *Reason and Rhetoric*, p. 330.

⁷⁵ *DC* II.1, p. 169–70.

⁷⁶ *Ibid.* Hobbes does not abandon here the additional and more 'formal' definition of 'true reasoning' as the correct deduction of conclusions 'from true principles correctly stated'.

which clearly recalls the definition of reason as ‘the calculating of names’ provided in *De motu*.⁷⁷ In *Leviathan* reason is right reason and it also exists. It is true that Hobbes argues, echoing *The Elements of Law*, that right reason can never coincide with any ‘one mans Reason’, thus making it necessary, in the event of controversy, ‘to set up for right Reason, the Reason of some Arbitrator’.⁷⁸ But he nevertheless also clarifies that, despite the fact that the potential for error never disappears, ‘Reason itself is always Right Reason, as well as Arithmetique is a certain and infallible Art’.⁷⁹ However, this solution does not allow Hobbes to overcome the ambiguity of his concept of right reason completely. On the contrary, the dual characterisation of reason as both an entirely naturalised act of thought and an empty universal truth which requires the will of the sovereign to supply its content renders the *Leviathan*’s final word on right reason into an insurmountable antinomy.⁸⁰

***Leviathan* and the purposes of civil science**

In my interpretation, the paradoxical form taken by right reason in *Leviathan* was the final outcome of the foundational aim assumed by Hobbes in *De cive*. In *The*

⁷⁷ *Lev* V, p. 64; *EW* III, p. 30. See *De motu*, XXX.22, 348r–v. Along with curiosity and admiration, the use of language is the mark of humanity throughout Hobbes’s political theory. However, in the *Elements of Law* the relation between ‘speech, which is the motion of his tongue’ and reason is quite problematic, with the former being the effect of ‘the passions of man’ and the cause of the transferral of ‘the discursion of their mind ... into discourse of words; and *ratio*, now, is but *oratio*’ (*EL* I.V.14, p. 23). Instead, in chapters 5 and 7 of *Leviathan* (expanding *EL* I.VI.4), Hobbes specifically connects science to speech, given that the latter be adequately grounded on ‘definitions’ (*Lev* V, pp. 66–8, VII, pp. 98–100; *EW* III, p. 31–3, 52–4). In my view, this provides further evidence of Hobbes’s attempt to solve, in *Leviathan*, the foundational problem posed by *De cive*, by anchoring science to a specific feature of human nature, i.e. by ‘naturalising’ right reason.

⁷⁸ *Lev* V, p. 66; *EW* III, pp. 30–1. Hobbes’s choice of the lower case for the first word of ‘right Reason’ should be noted here, in contrast to the former passage where ‘Right Reason’ was presented as natural rather than artificially represented by the sovereign. The Latin text confirms Hobbes’s consistent, and in my opinion quite meaningful, use of upper and lower cases. *Ibid.*, p. 67; *OL* III, p. 33.

⁷⁹ *Ibid.*, p. 66; *EW* III, pp. 30–31. To clarify this convoluted sentence see also the Latin version, *Ibid.*, p. 67; *OL* III, p. 33.

⁸⁰ Consistent with this, the expression ‘right reason’ appears only ten times in a book that is almost twice as long as *De cive*, and seven of these occasions, including one in a *précis*, are confined to Chapter V, ‘Of Reason, and Science’.

Elements of Law Hobbes had implied an ontological continuity between the laws of nature as ‘principles’ and the laws of nature as ‘causes’ of the body politic, and concluded that the sovereign’s will was the necessary embodiment of right reason, which did not exist in nature. In this sense, it might be said that he initially adopted the same equivocal identification of the ‘principles’ of knowledge and the ‘causes of things’ that he later attributed to Aristotle.⁸¹ Descartes’s mechanical philosophy, however, called for a separation of the epistemological domain of principles and the ontological domain of causes. Following this path, in *De cive* Hobbes made a distinction between the method of civil science, whose principles, definitions, and names were accessible to right reason, and the material causes of the science’s subject matter, namely the body politic.

In *De cive* Hobbes took the position that civil science should not even deal with the actual *causes* of a body politic, but only with the universal *principles* of its knowledge, which could not provide a grounding either for ‘the Justice of particular actions’, the ‘particular laws’, or the classical decision on the best form of government.⁸² Civil science was therefore born, in keeping with the Cartesian model, as a universal and neutral form of knowledge. It had broader, and in principle complete, autonomy from civil power but, in a perfect reflection of the Cartesian *res cogitans*, it also had almost no political effect. Such a conclusion stood in obvious contradiction with Hobbes’s materialism, which did not permit any neutral or ‘external’ perspective on the motion of human matters, and it led Hobbes to use *Leviathan* to bolster the supposedly neutral civil science conceived in *De cive*. Hobbes’s third political treatise thus went a step further, ascribing the foundation of the ‘principles’ of civil science to sovereign power, which effectively became their ‘cause’.

⁸¹ *De Corpore* V.XII; *OL* I, p. 56; *EW* I, p. 63.

⁸² *DC Praef.*, p. 152.

In keeping with this, in chapter XXXI of *Leviathan* Hobbes presents his book as a *speculum principis*, which ‘may fall into the hands of a Sovereign, who will consider it himself’ and ‘by the exercise of entire Sovereignty, in protecting the Publique teaching of it, convert this Truth of Speculation, into the Utility of Practice’.⁸³ Significantly, in the concluding paragraph he turns to Plato to lament the ineffectiveness of reason in general and political theory in particular when these are not personified in the philosopher-king:

And now, considering how different this Doctrine is, from the Practice of the greatest part of the world, especially of these Western parts, that have received their Morall learning from *Rome*, and *Athens*; and how much depth of Morall Philosophy is required, in them that have the Administration of the Sovereign Power; I am at the point of believing this my labour, as uselesse, as the Common-wealth of *Plato*; For he also is of opinion that it is impossible for the disorders of State, and change of Governments by Civill Warre, ever to be taken away, till Sovereigns be Philosophers.⁸⁴

⁸³ *Lev* XXXI, p. 574; *EW* III, p. 358. Malcolm provides a complex and convincing argument concerning Hobbes's decision to write *Leviathan* as a pedagogical treatise aimed at influencing the policies of the young king Charles II when serving as his tutor in Paris at the end of 1649. This would be particularly true for parts one and two, while parts three and four were written with a larger audience in mind. Malcolm, *General Introduction*, pp. 30–5, 51–60. According to Malcolm, this is part of the political agenda that made Hobbes shift from the defence of sovereignty as such displayed in *De cive* to the specific support of monarchy as the best form of government in *Leviathan*. *Ibid.*, p. 22.

⁸⁴ *Lev* XXXI, p. 574; *EW* III, p. 357. *Leviathan*'s Chapter XXXI, *Of the Kingdome of God by Nature*, is a close translation of *De cive*'s chapter XV, *Of God's Government by Nature*, with the addition of the two final paragraphs that evoke Plato. However, the same chapter has a completely different structural function: while in *Leviathan* it concludes the second part, *Of Commonwealth*, in *De cive* it is the introductory chapter of the third part, on *Religion*. In the dramatic reduction of the number of references to ‘right reason’ (see Greene, ‘Thomas Hobbes and the Term Right reason’, pp. 1018–9), one difference is worth noticing, which seems to confirm the naturalisation of right reason in *Leviathan*: ‘the dictates of right reason’ become ‘the Dictates of *Naturall Reason*’, while ‘right Reasoning’ itself becomes ‘Right Reason’, and ‘the dictates of right Reason’ become the ‘naturall Dictates of Right Reason’. See *DC* XV.3–4, pp. 333–4, and *Lev* XXXI, p. 556; *EW* III, p. 345.

As we have seen, Hobbes had first referred to the possibility of a twofold method for civil science in the *Praefatio ad lectores* to the 1647 edition of *De cive*, and later clarified this in *De corpore* by contrasting a strongly elitist ‘synthetical’ science based on deductive demonstration and a more popular ‘analytical’ science based on the internal experience of directly apparent first principles.⁸⁵ In *Leviathan*, however, he surprisingly claims that geometry ‘is the onely Science that it hath pleased God hitherto to bestow on mankind’⁸⁶, and, when exhorting the sovereign to ‘read in himself’ the universal features of human nature, he goes so far as to admit that evidence for civil science can only be found through internal *introspection*, because ‘this kind of Doctrine, admitteth no other Demonstration’.⁸⁷

Thus in *Leviathan* the secondary access to civil science first theorised in *De cive* is seen as the very reason why the discipline had the potential to be politically effective. It is precisely because it is possible to take a shortcut away from the ideal path of a systematic geometrical deduction that civil science is not under the exclusive control of the philosopher. On the contrary, the object of civil science — ‘the science of natural justice’ — can be accessed directly by sovereigns through their own nature, without needing to ‘be charged with the Sciences Mathematicall, (as by *Plato* they are)’.⁸⁸ Plato’s overly demanding model of rationality and his conception of the eternal truth of ideas has ultimately

⁸⁵ *DC Praef.*, p. 151. In *De corpore* an ‘analytical’ method for civil science is declared possible for those who ‘have not learned the first part of philosophy, namely *geometry* and *physics*’ *De Corpore* VI.7; *OL* I, p. 65; *EW* I, p. 74. In *De homine* X.5 he eventually clarifies that civil and moral philosophy are *a priori* deducible as geometry, but starting from principles internal to themselves, namely what is just [*justum*] and equitable [*aequum*]. *OL* II, p. 94.

⁸⁶ *Lev* IV, p. 56; *EW* III, pp. 23–24.

⁸⁷ *Lev* Introduction, p. 20; *EW* III, p. xii.

⁸⁸ *Lev* XXXI, p. 574; *EW* III, p. 357.

been replaced by a more ‘modest’ form of rationalism, which at least has the potential to be more effective.

Hobbes had already made clear in *De cive* that ‘truth is the same with a true Proposition’, when evoking (not by coincidence) Plato’s pedagogical intent by declaring a link between *aletheia* and *mnemosyne*, while also warning against the risks inherent in a situation in which meaning is subject to change and the collective memory is weak.⁸⁹ Yet it is only in *Leviathan* that Plato’s politico-pedagogical model finally emerges as a possible alternative to the Aristotelian model that had been fought over for so long.⁹⁰ In the final chapter of *Leviathan* Hobbes refers to Plato as the only philosopher — of those who founded a school for teaching ‘to the youth of the City’ — to have ever presented geometry as a precondition for philosophy.⁹¹ Consistently with this, Hobbes also makes a final point about the superiority of philosophy (i.e. science) as ‘*the Knowledge acquired by Reasoning*’ over prudence, which instead is a mere ‘Memory of successions’. He does this by referring to the geometrical model and relying not on ‘right reason’ but on ‘reasoning aright’, which is now described as a purely procedural rationality capable of leading to ‘generall, eternall, and immutable Truth’.⁹²

⁸⁹ *DC* XVIII.4, p. 419.

⁹⁰ In *De cive* Plato merely appears generically associated with Aristotle, Cicero, and Seneca, as he also does in the quoted passage on memory, but in *Leviathan* he appears clearly as ‘the best philosopher of the Greeks’. He is referenced (sometimes implicitly) throughout Hobbes’s repeated attacks on Aristotle. Also when in the *Epistola dedicatoria* of *De corpore* Hobbes evokes ancient Greek Sophistry, the ‘phantasm’ of philosophy and Aristotle, the ‘internal enemy’ of the Christian faith, he also refers with agreement to the less pernicious doctrines of Plato (*De Corpore Ep.*; *OL* I, not paginated; *EW* I, ix–x).

⁹¹ *Lev* XLVI, pp. 1058–9; *EW* III, p. 668.

⁹² *Lev* XLVI, p. 1052; *EW* III, p. 664. See above, note 73. On the problematic connection of Hobbes’s right reason with ‘Plato’s project’, see D. Johnston, ‘Plato, Hobbes, and the Science of Practical Reasoning’, in *Thomas Hobbes & Political Theory*, ed. M.G. Dietz (Lawrence, 1990), pp. 48–49. On what I call Hobbes’s ‘modest’ Platonism, see L. Foisneau, ‘Les savants dans la cité’, in *Thomas Hobbes. Philosophie première, théorie de la science et politique*, ed. Y.C. Zarka and J. Bernhardt (Paris, 1990), pp. 191–2.

Since, as we have said, ‘reasoning aright’ only concerns ‘general truth’, it cannot make up for natural prudence’s lack of predictive power. Reason provides a ‘neutral’ framework and method, but not the solution to political problems. And nevertheless, in *Leviathan* a procedural form of rationality can be implemented *before* the *Elementa* system is fully endorsed by some supreme geometer-king. This makes it possible to establish an effective civil science even without achieving perfect knowledge, and not merely through a rear-guard battle, as appeared to be the case with Descartes’s provisional morality. Hobbes intends his solution to be as definitive as Plato’s yet not dependent on the all-too-rare intellectual intuition of truth through right reason. This solution must be morally neutral with respect to any specific content in order for any form of government to be able to implement it ‘technically’, and mechanical philosophy is perfectly suited to this. By challenging Descartes’s metaphysical veto, the *Leviathan*’s ‘modest’ Platonism opens up the space needed for a politically effective use of reason.

By establishing the conditions for the *exercise* of ‘right reasoning’ — rather than for the quasi-mystical *access* to ‘right reason’ — in *Leviathan* Hobbes is quite pragmatically giving civil science a series of objectives whose fulfilment depends on a whole set of rhetorical techniques that in fact contradict the system’s alleged neutrality. Besides being a book of science, *Leviathan* is in fact also a work of rhetoric, something that is particularly true of parts three and four, which are devoted to theological analysis.⁹³ In keeping with this, Hobbes’s analysis of the English Civil War in *Behemoth* leads him to discern a need for all disputes to

⁹³ The ‘persuasive’ nature of *Leviathan* conceived as an ‘exhortation to peace’ contrasting with the scientific rigour of *De cive* had been noticed as early as 1938 by A. E. Taylor, ‘The Ethical Doctrine of Hobbes’, in *Hobbes Studies*, ed. K. C. Brown (Oxford, 1965), p. 36. Unfortunately, Taylor relied on the English version of *De cive*, which, as we have learned from Malcolm, was not written by Hobbes. See N. Malcolm, ‘Charles Cotton, Translator of Hobbes’s *De cive*’, in *Aspects of Hobbes* (Oxford, 2002), pp. 234–58.

be settled by the ‘wisdom of the State’, through a state pedagogy monopolising university teaching. This would counter the risk that the Presbyterians and the ‘Catholic schools’ might take over the minds of the king’s subjects, suppressing ‘all true Philosophy, especially Ciuill and Morall’.⁹⁴ If read in this light, Hobbes’s political thought generally appears much more committed to political normativity than one might expect from its frequent claims to scientific ‘neutrality’. I shall briefly comment on this in my conclusion, focusing once again on the shift occurring in *De cive*.

Conclusion

In the 1641 *Epistola dedicatoria* to *De cive* Hobbes clearly states that when laying the foundations of civil science he had ‘paid careful attention through the whole length of [his] discourse not to say anything of the civil laws of any nation’.⁹⁵ This assumption is rendered problematic by the obvious consideration that Hobbes’s political theory was in fact a political weapon, but also by the fact that even if one chooses to take it seriously as a scientific claim regarding the ‘geometrical’ neutrality of civil science being pursued in *De cive* it still is not beyond dispute. From a materialist perspective this problem concerns all *artificial* bodies because they are created by human beings for their own purposes, but political bodies are also made of *natural* human bodies endowed with their own purposes and wills, which are always influenced by various types of knowledge, including civil science.

⁹⁴ T. Hobbes, *Behemoth, or The Long Parliament* (Oxford, 2010), pp. 190; 158–61, 232. See G.M. Vaughan, *Behemoth Teaches Leviathan* (Oxford, 2002), and A. Bardin, ‘The Monstrosity of Matter in Motion: Galileo, Descartes, and Hobbes’s Political Epistemology’, *Philosophy Today* 60(1) (2015), pp. 7–26.

⁹⁵ *DC Ep.*, p. 139.

Only a few years later, in the 1647 *Praefatio ad lectores to De cive*, Hobbes points out that political theory, compared to all the other sciences that either brought men great benefits or did no harm, has always been endowed with political purposes.⁹⁶ His argument leaves little space for any pretention that his new *scientia civilis* was at all neutral. According to Hobbes, *once in place* civil science cannot avoid influencing human behaviour. The process is not reversible, and it is not possible to return to the golden age ‘before questions of that kind began to be debated’, when ‘Princes did not lay claim to sovereign power, [but] they simply exercised it’.⁹⁷ Although he regrets that ‘the simplicity of those times evidently could not understand such sophisticated stupidity’,⁹⁸ Hobbes is nevertheless forced to recognise that once sovereign power has first been questioned by civil science, the latter has become both the most dangerous science, when conceived under a ‘false and rhetorical semblance’, and the most useful, ‘when rightly taught [*recte traditae*]’.⁹⁹

This is the very reason why Hobbes’s *scientia civilis* could not be neutral. If it were ever to leave the political debate, it would have been replaced by false claims that would encourage the ascendancy of opinion and the devaluation of science. In a world of matter in motion there is no place for immobile neutrality, and, with its words and silences, civil science (and in fact any science) necessarily becomes an element of political struggle.

⁹⁶ *DC Praef.*, p. 141 ff. See Johnston, *The Rhetoric*, pp. 128–9. Skinner suggests that this ‘purposive orientation’ might also characterise Hobbes’s natural sciences, because of his ‘Baconian conception of *scientia propter potentiam*’. Skinner, *Visions of Politics*, p. 73, n.42; see also Skinner, *Reason and Rhetoric*, p. 5. I am suggesting here that this hypothesis can be extended to the whole of early modern mechanics, and notably to its Cartesian version.

⁹⁷ *DC Praef.*, p. 144.

⁹⁸ *Ibid.*

⁹⁹ *Ibid.*, pp. 143–4.