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Thomas Hobbes, often called the father of modern analytic philosophy, was born in Malmesbury, Wiltshire, England. Hobbes later enjoyed jesting about the significance of his manner of entry into the world. (He was born prematurely when his mother heard of the approach of the Spanish Armada.) "Fear and I were born twins," he would say, adding color to his conviction that the fear of death and the need for security are the psychological foundations both of worldly prudence and of civilization itself. He died at the age of ninety-one in Hardwick, Derbyshire, after a life of travel, study, polemical controversy, and philosophical and literary activity that in his later years had virtually established him as an English institution.

Early Years

Hobbes's father, Thomas Hobbes, was vicar of Westport, an adjunct of Malmesbury, but his conduct reflected little credit on his cloth. After being involved in a brawl outside his own church, he had to flee to London, leaving Thomas to be brought up by a wealthy uncle, who took the matter of his education very seriously. When he was only fourteen, Hobbes was sent to Magdalen Hall, Oxford, where he remained for five years before taking his bachelor's degree. He seems to have been bored by his Aristotelian tutors, although he acquired considerable proficiency in logic. The strong Puritan tradition of his college impressed Hobbes, but the drunkenness, gaming, and other vices that were prevalent equally impressed him. On leaving Oxford in 1608, Hobbes had the good fortune to become tutor to the young son of William Cavendish, earl of Devonshire. This circumstance introduced him to influential people, to a first-class library, and to foreign travel.

In 1610, on the first of Hobbes's visits to the Continent, he discovered the disrepute into which the Aristotelian system of thought was beginning to fall. Johannes Kepler had recently published his *Astronomia Nova*, and Galileo Galilei had just discovered the satellites of Jupiter through his telescope. Hobbes returned to England determined to devote himself to the pursuit of learning, a resolve that was probably strengthened by his meetings with Francis Bacon. Hobbes, however, thought little of Bacon's so-called method of induction, with its stress on observation and experiment, which was later to become the inspiration of the Royal Society. Nevertheless, he agreed with Bacon in his contempt for Aristotelianism, in his conviction that knowledge means power to be used for the improvement of man's estate, and in his advocacy of clear and concrete speech instead of the vague abstractions of the schools.

At this period of his life Hobbes had turned to the classics to gain an understanding of life and of philosophy, which, he thought, could not be found in the schools. After a period of reading and reflection, he decided to translate Thucydides into English, a significant choice. Like Thucydides, Hobbes believed that history was written for instruction, and he wished to instruct his countrymen on the dangers of democracy. In 1628, when Hobbes published his translation, Charles I had been on the throne for three years and was already at loggerheads with Sir John Eliot and John Pym. Hobbes's translation was the first of his many attempts to bring his countrymen to their senses and to make them aware of the tragedy that they courted: that of civil war, from which proceed "slaughter, solitude, and the want of all things."

Philosophical Awakening

It was not until the time of his second journey to the Continent that Hobbes's career as a philosopher began. His patron had died, and as a temporary economy, Catherine, the countess of Devonshire, had dispensed with Hobbes's services. Hobbes took similar employment with Sir Gervase Clinton and, in 1629, accompanied Clinton's son on a journey to the Continent. There Hobbes developed a passionate interest in geometry, which impressed him as a method for reaching indubitable conclusions. Could not his convictions about the dangers of democracy be demonstrated? Could not his opinions about man, gleaned from his observation of the contemporary scene, from his insight into his own nature, and from his perusal of the pages of Thucydides and Niccolò Machiavelli, be postulated as axioms from which theorems about the conditions of a commonwealth might be generated?

Hobbes's discovery of geometry gave him a method of analysis and a conception of scientific method, but he still lacked a conceptual scheme to give content to his demonstrations about man and society. In Paris, during his third journey to the Continent (1634–1637), again in the service of the Devonshires as tutor to William, the succeeding earl, he became a member of the intellectual circle of the Abbé Marin Mersenne, who patronized René Descartes and Pierre Gassendi. (Gassendi later became one of Hobbes's firmest friends.) Hobbes also made a pilgrimage to Italy in 1636 to visit Galileo, the leading exponent of the new natural philosophy. By the time of his return to England in 1637, he had conceived, perhaps at Galileo's suggestion, the main outlines of his philosophical system, in which the method of geometry and the concepts of the new science of motion were to be applied to man in society.

It is a mistake to think of Hobbes's interests as purely political. Hobbes claimed originality for his optics as well as for his civil philosophy, and at some point between his discovery of geometry and his return from his third journey to the Continent, he wrote his first philosophical work, the *Little Treatise*, in geometrical form, in which he sketched an explanation of sensation in terms of the new science of motion. His interest in sensation, according to his prose autobiography, arose from an encounter with some learned men who were discussing the cause of sensation. One of them asked derisively what sensation was, and Hobbes was astonished to find that none of them could say. From then on, he was haunted by the problem of the nature and cause of sense. He began to think he was near an explanation after it struck him that if bodies were always at rest or always moved at a constant rate, the ability to make discriminations would vanish, and with it all sensation. He concluded that the cause of everything, including that of sensation itself, must be in variations of motion.

In his verse autobiography, Hobbes graphically related how, on his third journey, he was obsessed by the omnipresence of motion. He was acclimating himself to Galileo's audacious suggestion that motion is the natural state of bodies and that they continue in motion to infinity unless they are impeded. This went against the crude evidence of the senses as well as against the established Aristotelian worldview, in which rest was regarded as the natural state. But if Galileo's supposition could be entertained, Hobbes thought, even apparition itself could be explained as a meeting place of motions, and from Galileo's law of inertia the phenomena of sense and imagination could be deduced.

The state of turmoil in England on his return drove Hobbes to make his first systematic attempt to employ his geometrical approach and mechanistic psychology to present the realities beneath the appearances of the contemporary issues. His *Elements of Law*, circulated in 1640 in manuscript form during the session of Parliament, was the result. This work, which demonstrated the need for undivided sovereignty, was published in 1650 in two parts, *Human Nature* and *De Corpore Politico*. However, its arguments were taken from general principles of psychology and ethics, rather than from appeals to divine right. Many regard Hobbes's *Human Nature* as one of his best works. It consists largely of traditional psychology coordinated and underpinned by the conceptual scheme he had learned from Galileo.

Exile in France

Hobbes claimed later that his life would have been in danger because of the views expressed in *Elements of Law*, had not the king dissolved Parliament in May 1640. Six months later, when the Long Parliament impeached Thomas Wentworth, earl of Strafford, Hobbes fled to the Continent in fear for his life, later priding himself on being "the first of all that fled." A warm welcome awaited him in Mersenne's circle, and he settled down in Paris to his most productive philosophical period.

His first work was the composition of some sixteen objections to Descartes's *Meditations*, which Mersenne submitted to Descartes in advance of its publication. This led to a rather acrimonious exchange between Descartes and Hobbes. In 1642 Hobbes published his *De Cive*, an expanded version in Latin of Part 2 of his *Elements of Law* (later to appear as *De Corpore Politico*). The additional sections dealt largely with a more detailed treatment of the relationship between the church and the civil power. During the period from 1642 to 1646, Hobbes published his *Minute or First Draught of the Optiques*, which he considered one of his most important and original works. He also started work on his most ambitious scheme—the construction of a trilogy on body, man, and citizen, in which everything in the world of nature and man was to be included in a conceptual scheme provided by the new science of mechanics. Hobbes made a beginning with *De Corpore*, which was to be the first work in the trilogy.

In 1646, however, political events again interfered with Hobbes's more abstract speculations. He was on the verge of accepting an invitation to retire in peace to a friend's house in Languedoc, in the south of France, when he was requested to act as tutor in mathematics to the future Charles II, who had just fled to Paris. Hobbes's tutorship, however, was interrupted, if not terminated, by a severe illness in 1647. He recovered after having consented to receive the sacrament on what he took to be his deathbed, and he was drawn again into political controversy by the presence of so many Royalist *émigrés*. A second edition of *De Cive* was published in 1647, but this was in Latin and had only a limited circulation. Hobbes therefore decided to blazon abroad his views on man and citizen for all to read, in English, with the arresting title of *Leviathan*. With Mersenne's unfortunate death in 1648, Hobbes began to feel increasingly isolated, for he was suspected of atheism and was an outspoken enemy of the Catholic Church.

Political events in England provided a fitting prelude to the publication of *Leviathan*. Charles I was executed in 1649 and, until 1653, when Oliver Cromwell was made Protector, there was constant discussion and experimentation to find an appropriate form of government. *Leviathan*, published in 1651, was therefore very topical. It came out strongly in favor of absolute and undivided sovereignty, without the usual arguments from divine right. Indeed, Hobbes conceded popular representation but, by an ingenious twisting of the social contract theory, showed that it logically implied the acceptance of undivided sovereignty.

Return to England

Hobbes returned to England in 1651 after a severe illness and soon became embroiled in a heated debate with John Bramhall, bishop of Derry, Ulster, on the subject of free will. In 1645, in Paris, Hobbes had discussed the problem of free will with the bishop, and they both wrote their views on the matter soon afterward. A young disciple of Hobbes published his contribution in 1654, without Hobbes's consent, under the title *Of Liberty and Necessity*. Bramhall was understandably indignant and, in 1655,

he published the whole controversy under the title *A Defence of True Liberty from Antecedent and Extrinsical Necessity*. In 1656 Hobbes replied by printing Bramhall's book, together with his own observations on it, which he called *The Questions concerning Liberty, Necessity, and Chance*. Bramhall replied in 1658 with *Castigations of Hobbes his Last Animadversions*, which carried an appendix called "The Catching of Leviathan the Great Whale." Bramhall died in 1663, and Hobbes had the last word a few years later.

There was another controversy in which Hobbes was caught up for the major part of the twenty years that were left to him. This one involved John Wallis, professor of geometry at Oxford, who mercilessly exposed Hobbes's attempt in *De Corpore* (1665) to square the circle—not then such a ridiculous enterprise as it now seems—and Seth Ward, professor of astronomy, who launched a polemic against Hobbes's general philosophy. These two men were members of the "invisible college" that the king had recognized as the Royal Society in 1663. They were Puritans in religion and Baconians in their approach to science. Hobbes had annoyed them not simply by his attack on their religion and his contempt for the method of induction, but also by his diatribes on the universities as hotbeds of vice and sedition. Hobbes replied to their published criticisms with an emended English version of *De Corpore* with "Six Lessons" appended for Wallis. This was in turn attacked by Wallis, and the controversy dragged on for many years, often descending into personal vituperation on both sides.

Not all of Hobbes's remaining years, however, were spent on this abortive controversy. *De Homine*, the second part of his trilogy, was published in 1657. This dealt with optics and human nature, matters on which Hobbes's opinions were already well known; accordingly, it attracted little attention and was not translated.

After the Restoration, Hobbes was granted a pension and "free accesse to his Majesty, who was always much delighted in his witt and smart repartees" (John Aubrey, *Brief Lives*, pp. 152–153). Only once again did he fear for his life. After the Great Plague (1665) and the Great Fire of London (1666), some reason was sought for God's displeasure, and a spasm of witch-hunting shook Parliament. A bill was passed by Parliament for the suppression of atheism, and a committee was set up to investigate *Leviathan*. The matter was eventually dropped, probably through the king's intervention, but Hobbes was forbidden to publish his opinions thereafter.

In 1668 Hobbes finished his *Behemoth* —a history of the period from 1640 to 1660, interpreted in the light of his beliefs about man and society. He submitted it to King Charles, who advised against its publication (it was published posthumously in 1682).

Even at this advanced age Hobbes was still capable of exerting himself both physically (he played tennis until he was seventy-five) and philosophically. John Aubrey, later his biographer, sent him Bacon's *Elements of Common Law* for his comments; and Hobbes, after protesting his age, managed to produce his unfinished *Dialogue between a Philosopher and a Student of the Common Laws of England* (published posthumously in 1681). This minor work was interesting in that Hobbes anticipated in it the analytical school of jurisprudence of the nineteenth century and came out unequivocally in favor of what has been called the command theory of law. At the age of eighty-four Hobbes wrote his autobiography in Latin verse after completing one in prose. At eighty-six, for want of something better to do, he published a verse translation of the *Iliad* and the *Odyssey*.

Logic and Methodology

Hobbes lived during the emergence of men who challenged not only traditional tenets about political and religious authority but also the wisdom of the past, especially that of Aristotle. Men were exhorted to find out things for themselves, to consult their own consciences, and to communicate with God directly, instead of through the established religious hierarchy. It was widely believed that all men have the gift of reason but that they make poor use of it through lack of a proper method. Books such as Bacon's *Novum Organum*, Descartes's *Regulae* and *Discourse on Method*, and Benedict de Spinoza's *Ethics* were written to remedy this defect. Thus, Hobbes was not exceptional in believing that knowledge, which meant power, could be obtained only by adopting a certain kind of method.

According to Hobbes, the knowledge whereby most men live is the knowledge gleaned from experience, culminating in prudence and history—"the register of knowledge of fact." Hobbes described experience as "nothing but remembrance of what antecedents have been followed by what consequents." Bacon had tried to set out this sort of knowledge explicitly in his *Novum Organum*, and it was taken by the Royal Society to be the paradigm of science.

doctrine of names

Hobbes, however, was very contemptuous of such grubbing around and peering at nature, not only in natural philosophy but also in civil philosophy. Had Galileo or William Harvey, the pioneers of the new philosophy, made a laborious summary of their experience? And in civil philosophy, what store is to be placed on the dreary saws of practical politicians or the ossified ignorance and superstitions of the common lawyers? Mere prudence, which is the product of experience, should not be mistaken for wisdom. Wisdom is the product of reason, which alone gives knowledge of "general, eternal, and immutable truths," as in geometry.

In geometry, definitions are of paramount importance. Therefore, claimed Hobbes: "The only way to know is by definition." Thus, science is "knowledge of all the consequences of names appertaining to the subject in hand." It gives knowledge not of the nature of things but of the names of things. We start with certain terms or names about whose definition we agree. We connect these into such statements as "A man is a rational, animated body," just as we add items in an account. We then find that if we follow certain methods of combining the statements so created, conclusions can be drawn that are contained in the premises but of which we were ignorant before we started reckoning. "For REASON, in this sense, is nothing but reckoning, that is adding and subtracting, of the consequences of general names agreed upon for the marking and signifying of our thoughts."

Obvious objections to such an account of scientific knowledge immediately come to mind. How, for instance, can we be sure that such a train of reasoning applies to anything? How are the meanings of Hobbes's names fixed, and how are the rules for their combinations determined?

Hobbes supposed that "names are signs not of things, but of our cogitations." Words are not the only things that can be signs; for instance, a heavy cloud can be a sign of rain. This means that from the cloud we can infer rain. This is an example of a natural sign; other examples are animal warnings of danger and summonses to food. These natural signs are to be distinguished from language proper, which consists of sounds, marks, and other such significations determined—as are the ruler of civil society—by decision. Animal noises come about by necessity, not by decision, as human speech does. That is why, on Hobbes's view, animals, though capable of imagery, cannot reason; for reasoning presupposes words with meanings fixed by decision.

Hobbes thought that every man has his own private world of phantasms or conceptions, for which words are signs that function for him like a private system of mnemonics. These words act as signs to others of what a man thinks and feels. Although some words signify conceptions, they are not names of conceptions; for Hobbes seemed to use the word *name* for the relation of reference between names and things, and words such as *signify* for the relationship between particular occurrences of a name and the idea in a person's mind. Some names are names of things themselves, such as "a man," "a tree," or "a stone," whereas others, such as "future," do not stand for or name things that as yet have any being. Such words signify the knitting together of things past and things present. In a similar way there are names, such as "impossible" and "nothing," that are not names of anything. Such names are signs of our conceptions, but they name or stand for "things" that do not exist.

Hobbes's doctrine was not altogether clear. He seemed to mean that all names serve as mnemonics to us of our conceptions and as signs to others of what we have in mind, but that only some names actually denote things in a strict sense. This leads to the distinctions that Hobbes introduced in relation to the logical function of names. Names can be either concrete or abstract. Concrete names can denote bodies, their accidents, or their names. Abstract names come into being only with propositions and denote "the cause of concrete names."

universals

There are two classes of concrete names: proper names and universal names. A proper name, such as "Peter," is singular to one thing only; a universal name, such as "man," denotes each member of a class of things. A universal name, "though but one name, is nevertheless the name of diverse particular things; in respect of which together, it is called a universal; there being nothing in the world universal but names; for the things named are every one of them individual and singular."

Hobbes's doctrine of universal names was crucial to his attack on the scholastic belief in essences. The world, Hobbes maintained, contains no such essences for universal names to designate. "Universal" is the name of a class of names, not of a diaphanous type of entity designated by a name. The error of those who believe in essences derives from their tendency to treat a universal name as if it were a peculiar kind of proper name. It is the *use* of a name that makes it universal, not the status of the thing that the name designates.

Hobbes's doctrine of abstract names was more obscure but of cardinal importance in his account of scientific knowledge. Abstract names come into being when names are joined in propositions. A proposition is "a speech consisting of two names copulated, by which he that speaketh signifieth the latter name to be the name of the same thing whereof the former is the name." For instance, in saying "man is a living creature," the speaker conceives "living creature" and "man" to be names of the same thing, the name "man" being comprehended by the name "living creature." This relation of "comprehension" can be brought out in some languages by the order of words without employing the verb "to be." The copulation of the two names "makes us think of the cause for which these names were imposed on that thing," and this search for the causes of names gives rise to such abstract names as "corporeity," "motion," "figure," "quantity," and "likeness." But these denote only the causes of concrete names and not the things themselves. For instance, we see something that is extended and fills space, and we call it by the concrete name "body." The cause of the concrete name is that the thing is extended, "or the extension or corporeity of it." These causes are the same as the causes of our conceptions, "namely, some power of action, or affection of the thing conceived, which some call the manner by which anything works upon our senses, but by most men they are called accidents." Accidents are neither the things themselves nor parts of them, but "do nevertheless accompany the things in such manner, that (saving extension) they may all perish, and be destroyed, but can never be abstracted." Among such accidents some are of particular importance for science, those which Hobbes sometimes referred to as "universal things" or "such accidents as are common to all bodies." These are the abstract concepts by means of which a theory is developed about the underlying structure

of nature. The endeavor of the scientist is to understand, by means of the resoluto-compositive method of Galilean mechanics, the universal cause—motion—without knowledge of which such fundamental theories could not be developed.

misuses of words

Hobbes has often been called the precursor of modern analytical philosophy because he was particularly sensitive to the manner in which ridiculous (and dangerous) doctrines can be generated through confusion about how words have meaning. One class of absurdities is generated by failure to understand the different ways in which the copula "is" can function. Such terms as *essence, reality*, and *quiddity*, beloved by the schools, "could never have been heard among such nations as do not copulate their names by the verb 'is,' but by adjective verbs as runneth, readeth." The word *is* in a proposition such as "Man is a living body" has the function of "comprehension" or class inclusion. Something of the form "If *x* is a man, then *x* is a living body" is being stated. There is no commitment to the existence of men that is implied when *is* occurs in such statements as "Here is Thomas Hobbes."

Absurdities also arise if names of accidents are assimilated to names of bodies. For instance, those who say that faith is "infused" or "inspired" into a person treat faith as if it were the name of a body, for only bodies can be poured or breathed into anything. An accident is not in a body in the same sort of way that a body can be in a body—"as if, for example, redness were in blood, in the same manner, as blood is in a bloody cloth." Hobbes was also eloquent on the subject of names that name nothing.

scientific truth

Hobbes's theory of scientific truth was not altogether consistent. He started with the important insight that "true" and "false" are attributes of speech, not of things. Truth, then, "consisteth in the right ordering of names in our affirmations." It characterizes propositions in which names of limited generality are "comprehended" by those of wider generality: For example, "Charity is a virtue." Hobbes held, it therefore seems, that all true propositions are analytically true, which is a plausible enough view if only geometrical truths are at issue. But Hobbes often spoke as if all truth must conform to this model. He saw that this raises the question of how the initial definitions are to be fixed, and about these definitions he often seemed to take a conventionist view by suggesting that "truth therefore depends upon the compacts and consents of men." He often linked the contract theory of the origin of civil society with a theory about agreement on definitions. When he was speaking about natural science, however, his position was not so clearly conventionist. The difference was caused by his assumption that men construct states just as they construct circles or triangles. But since they do not construct natural bodies in the same way, the problem therefore arises as to how Hobbes thought that propositions of natural science, which did not come into being through decisions of men, say what is true about the natural world.

Hobbes thought that all the propositions of natural science are deductions from the basic theory of motion, in which there are primary propositions containing such simple unanalyzable concepts as motion, extension, and straightness. These are "well enough defined, when, by speech as short as may be, we raise in the mind of the hearer perfect and clear ideas of the thing named" (*De Corpore*). Such conceptions are featured in Hobbes's account of evidence, which is "the concomitance of a man's *conception* with the *words* that signify such conception in the act of ratiocination" (*Human Nature*). A parrot could speak truth but could not know it, for it would lack the conceptions that accompany the speaking of truth by a man who knows truth. "Evidence is to truth, as the sap to the tree … for this evidence, which is meaning with our words, is the life of truth. Knowledge thereof, which we call *science*, I define to be *evidence of truth*, from some beginning or principle of *sense*."

Conceptions, in Hobbes's view, are explained causally in terms of motions that arise in the head and persist after the stimulation of sense organs by external bodies. Names, which are joined together in true propositions, are signs of these conceptions in that they mark them for the individual and enable other people to make inferences about what he thinks. Thus, Hobbes must have thought that when a man knows (as distinct from when he merely speaks) what is true, his conceptions, as it were, keep pace with what he is saying. Some of these conceptions, those involved in understanding primary propositions, are clear and distinct ideas of things named. Thus, scientific systems are somehow anchored to the world of nature by means of names that refer to attributes of bodies of which we have a clear and distinct idea.

This theory resembles, in certain respects, the self-evidence theory of the Cartesians. However, it seems inconsistent with the conventionalism of Hobbes's other remarks about basic definitions and is a very confused account in itself, not very helpful in elucidating what makes scientific propositions true. In the empirical sciences the clarity of the ideas in the initial postulates is neither here nor there. What matters is whether statements deduced from them can be observationally confirmed.

scientific inquiry

The ambiguity in Hobbes's account of truth is paralleled by the ambiguity in his account of scientific method, which he equated with the search for causes. One of his most famous definitions of philosophy or scientific knowledge (he did not distinguish between the two) occurs at the start of *De Corpore* (Molesworth ed.): "philosophy is such knowledge of effects or appearances, as we acquire by true ratiocination from the knowledge we have first of their causes or generation: And again, of such causes or generations as may be from knowing first their effects." By "cause" Hobbes meant, of course, antecedent

motion, and he was unusual in thinking that even geometrical figures are to be explained in terms of motion because of the movements involved in constructing them.

Hobbes's distinction between these two forms of philosophical knowledge is important. In the case of acquiring knowledge of effects from knowledge of causes or generation, his conventionist account of truth holds good. For instance, in the case of deciding that a figure must be a circle from our knowledge of the motions from which it was produced, "the truth of the first principles of our ratiocination, namely definitions, is made and constituted by ourselves, whilst we consent and agree upon the appellation of things." He used this method in *De Corpore* to explain parallel lines, refraction and reflection, circular and other forms of motion, angles, and similar concepts. It also seems that he had this model in mind when he thought about the generation of the artificial machine of the commonwealth.

When dealing with knowledge of causes from effects, however, Hobbes's account is far less clear-cut and conventionist. At the beginning of Part 4 of *De Corpore*, for instance, he said: "The principles, therefore, upon which the following discourse depends, are not such as we ourselves make and pronounce in general terms, as definitions: but such, as being placed in the things themselves by the Author of Nature, are by us observed in them." The explanations that we give in the natural sciences may be true, but it is impossible to demonstrate that they are necessarily true, for the phenomena are not generated by human contrivance, as are the phenomena of geometry and politics.

The method on which Hobbes was relying in both these types of scientific inquiry was, of course, the resoluto-compositive method of Galilean mechanics. In this method a typical phenomenon, such as the rolling of a stone down a slope, was taken. Such properties as color and smell, which were regarded as scientifically irrelevant, were disregarded, and the situation was resolved into simple elements that could be quantified—the length and angle of the slope, the weight of the stone, the time the stone takes to fall. The mathematical relations disclosed were then manipulated until functional relations between the variables were established. The situation was then synthesized or "composed" in a rational structure of mathematical relations. This is what Hobbes called analysis—the search for causes, given the effects. "Synthesis" consisted in starting from the known causes and deducing effects from them. In Galileo's hands this method was highly successful because he tested such deductions by observation. In Hobbes's hands the method was not so fruitful because it always remained an imaginary experiment.

Similar ambiguities in Hobbes's methodology complicate our effort to understand his conception of his trilogy on body, man, and citizen. He thought of geometry as the science of simple motions that could demonstrate how figures are generated by varieties of motion. Second came the philosophy of motion, as usually understood in the Galilean system, in which the effects of the palpable motions of one body on another were considered. Third came physics, the investigation of the internal and invisible motions that explain why "things when they are the same, yet seem not to be the same, but changed." Sensible qualities, such as light, color, heat, and sound, were to be explained, together with the nature of sensation itself. After physics came moral philosophy, the study of the motions of the mind—appetites and aversions. Such motions of the mind had their causes in sense and imagination. Finally, there was civil philosophy, the study of how states are generated from the qualities of human nature.

It is probable that Hobbes did not view the hierarchy of sciences as a rigorous deductive system. To start with, he never worked out the deductions in any detail—for instance, in the transition from what he called physics to moral philosophy, or psychology. Furthermore, what he said about the possibility of a self-contained science of politics contradicts his suggestion that it must be deduced from the fundamental theory of motion and that it supports the conventionist account of truth in politics. Hobbes said that even those who are ignorant of the principles of physics and geometry might attain knowledge of the principles of politics by the analytical method. They could start, for instance, with the question of whether an action is just or unjust; "unjust" could be resolved into "fact against law," and "law" into "command of him or them that have coercive power"; "power" could in its turn be derived from the wills of men who established such power so that they might live in peace.

This line of argument, developed in *De Corpore* after admitting the possibility of using the synthetic method to start from the first principles of philosophy and deduce from them the causes and necessity of constituting commonwealths, is confirmed by Hobbes's injunction in the Introduction to *Leviathan* that a man who is to govern a whole nation must "read in himself, not this or that particular man; but mankind: which though it be hard to do, harder than to learn any language of science; yet when I shall have set down my own reading, orderly and perspicuously, the pains left another, will be only to consider, if he find not the same in himself. For this kind of doctrine admitteth no other demonstration." It appears that Hobbes envisaged a relatively self-contained doctrine of politics based on introspection. His trilogy was, therefore, probably not conceived as forming a strictly deductive system. Its various elements were to be more loosely bound together by the fact that all three were sciences of motion.

Philosophy of Nature

Hobbes's natural philosophy seems to have been stimulated largely by the problem of the nature and cause of sensation that had so long haunted him. His theory was that the cause of everything, including sensation itself, lies in the varieties of motion. His first sketches of such a theory were in his *Little Treatise* and his early optical treatises, and his *De Corpore* was an ambitious development of this fundamental idea. Geometry, physics, physiology, and animal psychology were all incorporated within the theory of motion. Sensation occupied a shadowy middle position between the gross motions of the external world and the minute motions of the bodily organs.

The strange thing about Hobbes's preoccupation with sensation is that he seems to have been little troubled by the problems that are almost the stock in trade of philosophers—the problems of epistemology. He assumed that things exist independently of our perceptions of them and was convinced that "conceptions and apparitions are nothing really but motions in some internal substance of the head." The "nothing but" is very hard to accept, for obviously when we speak of "thoughts" and "conceptions," we do not mean the same as when we talk of motions in the brain.

motion and qualities

On the status of the various sense qualities, Hobbes held, as did such natural philosophers as Kepler and Galileo, that secondary qualities—such as smells, colors, and sounds—are only appearances of bodies, whose real properties are those of extension, figure, and motion. Such secondary qualities are phantasms in the head, caused by the primary properties of external objects interacting with the sense organs, but the secondary qualities represent nothing outside. Hobbes argued that images and colors are "inherent in the sentient" because of illusions and because of images produced in other ways—for example, by blows on the optic nerve. But this proved too much, for representations of primary qualities are equally liable to deceive. Hobbes also proved too little, for he argued that secondary qualities represent no qualities of external objects because tastes, smells, and sounds seem different to different sentients. But there are standard tests for establishing the fact, for example, that a man is colorblind; and, as George Berkeley later showed, the perception of primary qualities is infected with a similar relativity owing to the point of view and peculiarities of the percipient. Hobbes, in fact, gave but a halting philosophical patter to justify a distinction deeply embedded in the thought and practice of the new natural philosophers, for the basic tenet of these thinkers was that bodies in motion exist independently of our perception of them and that mathematical thinking about them discloses their real properties.

Hobbes regarded sensation and apparition as a meeting place of motions. Sense organs, he thought, are agitated by external movements without which there would be no discrimination and, hence, no sensation. Therefore, to give the entire cause of sense, an analysis is required of all movements in external bodies, which are transmitted to the sense through a medium. But sensation is not simply the end product of external motions; it also functions as an efficient cause of actions of sentient beings. Actions, in Hobbes's view, are really reactions to stimuli that are passed on by means of the sense organs. Sensation acts as a bridge between movements in the external world and the behavior of animals and men.

Hobbes's mechanical theory was distinctive in that he extended the Galilean system in two directions: into geometry at one end, and into psychology and politics at the other. He thought that no one could understand the definitions of geometry without grasping how motion is involved in the construction of lines, superficies, and circles. Geometry is the science of simple motions. It paves the way for mechanics, which explains the effects of the motions of one body on another, and for physics, which deals with the generation of sensible qualities from the insensible parts of a body in contact with other moving bodies.

causation

All causation, in Hobbes's view, consists in motion. "There can be no cause of motion except in a body contiguous and moved." If bodies are not contiguous and yet influence one another, this influence has to be conveyed either by a medium or by emanations of minute bodies that impinge on others (the theory of effluxes). There can be no action at a distance. Hobbes combined this principle with his rendering of Galileo's law of inertia.

Hobbes extended this conception of causation to human actions: "A final cause has no place but in such things as have sense and will; and this also I shall prove hereafter to be an efficient cause." To bring about this transition from mechanics to physiology and psychology, Hobbes introduced the concept of "endeavour," which he defined as "motion made in less space and time than can be given … that is, motion made through the length of a point, and in an instant or point of time." In other words, he used the term to postulate infinitely small motions, and by means of this notion he tried to bridge the gap between mechanics and psychology. He thought that external objects, working on the sense organs, produce not only phantasms but also minute motions that proceed to the heart and make some alteration in the vital motions of the circulation of the blood. When these vital motions are thereby helped, we experience pleasure; when they are hindered, we experience pain. The body will be regulated in such a way that it will preserve the motions that help the vital motions and get rid of or shun those that hinder. This brings about animal motion. Even habits are nothing but motions made more easy by repeated endeavors; they are comparable to the bend of a crossbow.

Hobbes has often been called a materialist, but it is more appropriate to regard him as a great metaphysician of motion. He took concepts that have an obvious application to one realm of phenomena (mechanics) and developed a conceptual scheme that, he thought, could be applied to all phenomena. The plausibility of such a scheme derives from stressing tenuous similarities and ignoring palpable differences. There is a sense in which social life is a matter of bodies moving toward and away from other bodies, just as there is a sense in which work is moving lumps of matter about. But such descriptions are either unilluminating truisms, or, if they carry the "nothing but" implication, they are misleading. Habits, for example, may be formed in part by a variety of movements, but to suggest that by "habit" we mean nothing but a buildup of movements is ridiculous. This either confuses a question of meaning with a question of genetic explanation or it demonstrates the length to which Hobbes was prepared to go in rigging appearances to suit his metaphysical redescription.

substance and accident

In his *De Corpore* Hobbes defined "body" as "that which having no dependence upon our thought, is coincident and coextended with some part of space." Bodies need not be visible. Indeed, "endeavours," which featured so widely in his system, are movements of minute unobservable bodies. Hobbes held that there is nothing else in the world but bodies, and he therefore did not flinch from the conclusion that "substance incorporeal" is a contradiction in terms. He argued that God cannot be such a substance. To Bishop Bramhall's question of what he took God to be, Hobbes replied, "I answer, I leave him to be a most pure, simple, invisible, spirit corporeal."

By "accident" Hobbes meant a property or characteristic that is not a part of a thing but "the manner by which any body is conceived." Most accidents, with the exception of figure and extension, can be absent without destruction of the body. But Hobbes was not altogether clear about the grounds for such an exception. If the grounds are the inconceivability of a body without figure and extension, why should not color be in the same category as figure? Hobbes regarded color as a subjective appearance brought about by the interaction of sense organs with the primary qualities of external objects; but if the criterion is one of conceivability, as Berkeley pointed out, it is as difficult to conceive of a body without color as it is to conceive of one without figure. Hobbes in fact defined "body" in terms of accidents that are mathematically tractable in mechanics and geometry. He tried to provide some kind of rationale for this basic assumption of the new natural philosophy by introducing the criterion of conceivability, which will not really do the work required of it.

Hobbes defined space as "the phantasm of a thing existing without the mind simply." By this he meant that what is called space is the appearance of externality. If the world were to be destroyed, and a man were left alone with his imagination and memories, some of these would appear external to him, or located in space, for the system of coordinates used to describe the relative position of bodies is a subjective framework. "Place is nothing out of the mind nor magnitude anything within it." A body always keeps the same magnitude, whether in motion or at rest, but it does not keep the same place when it moves. Place cannot, therefore, be an accident of bodies; place is feigned extension—an order of position constructed from experience of real extended things to provide a framework for their externality. Similarly, time is "the phantasm of before and after in motion." Time systems are constructed from the experience of succession.

Hobbes never made clear the relationship between any particular temporal or spatial system that an individual may devise and the system of coordinates adopted by the natural philosophers. Here again, Hobbes typically took for granted the system used by the scientists and tacked on a very brief philosophical story about its relation to the "phantasms" of the individual.

Psychology

Hobbes's psychology was not behavioristic, as it has sometimes been said to be, except insofar as behaviorism has often been associated with a materialistic metaphysical theory or with mechanical modes of explanation. Hobbes stressed the indispensability of introspection in the analysis and explanation of human behavior.

When Hobbes looked into himself he found, of course, motions that were in conformity with Galilean principles. He boldly proclaimed in *De Corpore* that "we have discovered the nature of sense, namely, that it is some internal motion in the sentient." The external body, either directly or via a medium, presses on the organ of sense, "which pressure, by the mediation of the nerves, and other strings and membranes of the body, continues inwards to the brain and heart, causeth there a resistance, or counterpressure, or endeavour of the heart to deliver itself, which endeavour, because outward, seemeth to be some matter without." Sensations are thus nothing but motions. They have the character of externality because of the "outward endeavor" of the heart.

perception

Having provided a mechanical starting point for his psychology, Hobbes then tried to describe what was known about psychological phenomena in terms compatible with a mechanical theory. One of the most obvious features of perception is that it involves seeing something as something, some sort of discrimination or recognition. Hobbes's way of saying this was that sense always has "some memory adhering to it." This was to be explained by the sense organs' property of acting as retainers of the movements of external bodies impinging on them. Without this retention of motions, what we call sense would be impossible, for "by sense we commonly understand the judgment we make of objects by their phantasms; namely, by comparing and distinguishing those phantasms; which we could never do, if that motion in the organ, by which the phantasm is made, did not remain there for some time, and make the same phantasm return."

The selectivity of perception raised a further problem. Why is it that men do not see many things at once? Hobbes again suggested a mechanical explanation: "For seeing the nature of sense consists in motion; as long as the organs are employed about one object, they cannot be so moved by another at the same time, as to make by both their motions one sincere phantasm of each of them at once." But this does nothing to explain why one object rather than another is selected. Hobbes's ideomotor theory made it hard to give a plausible account of the influence of interests, attitudes, and sets on what is selected in perception.

Hobbes also attempted a mechanical explanation of the phenomena of attention and concentration. When a strong motion impinges on the sense organ, the motion from the root of the sense organ's nerves to the heart persists contumaciously and makes the sense organ "stupid" to the registering of other motions.

imagination and memory

Hobbes's account of imagination was explicitly a deduction from the law of inertia. "When a body is once in motion, it moveth, unless something else hinder it, eternally … so also it happeneth in that motion, which is made in the internal parts of a man when he sees, dreams, etc. For after the object is removed, or the eye shut, we still retain an image of the thing seen, though more obscure than when we see it." Imagination, therefore, is "nothing but decaying sense." This decay is not a decay in motion, for that would be contrary to the law of inertia. Rather, it comes about because the sense organs are moved by other objects, and subsequent movements obscure previous ones "in such manner as the light of the sun obscureth the light of the stars."

Memory, Hobbes claimed, differs from imagination only in that the fading image is accompanied by a feeling of familiarity. "For he that perceives that he hath perceived remembers," and memory "supposeth the time past." Hobbes thus seems to have more or less equated what is past with what is familiar, which is most implausible even if familiarity is often a hallmark of what is past. It is also difficult to see how, in his view, remembering something could be distinguished from seeing it for a second time, if the second impression of the thing is not very vivid.

Hobbes's fundamental mistake in all such descriptions and explanations was to attempt to distinguish performances, such as perceiving and remembering, by reference to subjective hallmarks vaguely consistent with his mechanical theory, rather than by reference to the epistemological criteria written into them. The fundamental difference between perception and imagination, for instance, is not one of vividness or any other such accidental property; it is an epistemological difference. To say that a person imagines a tree rather than perceives it is to say something about the status of what is claimed. To perceive is to see something that really is before one's eyes; to imagine is to think one sees something that is not there. Similarly, to remember is to be right in a claim one makes about something in the past that one was in a position to witness, whereas to imagine is to be mistaken in what one claims. There are, of course, further questions about the mechanisms by means of which people perceive, imagine, and remember; and it could be that some such mechanical story as told by Hobbes might be true about such mechanisms. But in the language of such a story the basic epistemological differences between these mental performances could never be made, and although the mechanical story might give an account of some of the necessary conditions of such performances, it is difficult to see how it could ever serve as a sufficient explanation of them.

thought

The same general critique concerning neglect of epistemological criteria must be made of Hobbes's treatment of thought, which he equated with movements of some substance in the head. There may be movements in the brain that are necessary conditions of thought, but no description of such conditions should be confused with what is meant by "thought." We do speak of "the movement of thought," but this is a description of transitions, as from premises to conclusions or from problems to solutions, not of movements explicable in terms of mechanical laws.

Even though Hobbes's general account of thought was rather hamstrung by his obsession with mechanics, he nevertheless had some quite illuminating things to say about trains of thought, an account that owed more to Aristotle than to Galileo. Hobbes distinguished "unguided" thought from that directed by a passionate thought or plan. Unguided thought followed principles that later came to be called principles of association—for example, spatiotemporal contiguity and similarity. Hobbes, however, made no attempt to formulate principles of this kind. He was much more interested in, and attached much more importance to, guided thought, in which desire for an end holds the train of thought together and determines the relevance of its content.

Hobbes distinguished two main types of regulated thinking. The first was the classic Aristotelian case of deliberation, where desire provides the end, and the means to this end are traced back until something is reached that is in a person's power to do. This faculty of invention is shared by the animals, but they do not share the other sort of guided thinking that Hobbes called prudence. In prudence the starting place is an action that is in a person's power to perform, and the store of past experience is used to speculate on its probable effects. In this case, deliberation leads forward to an end that is either desired or feared. Hobbes seemed to think that people's prudence is in proportion to the amount of past experience on which they can draw. This sounds improbable, for although children cannot be prudent, many old people miss the relevance of their past experience.

dreams

Dreams fascinated Hobbes. He attempted to determine what distinguishes them from waking thoughts and to develop a mechanical theory to explain them. He claimed that they lack coherence because they lack the thought of an end to guide them. Dreams consist of compounded phantasms of past sensations, for "in the silence of sense there is no new motion from the objects, and therefore no new phantasm." Dreams are clearer than the imaginations of waking men because of the predominance of internal motion in the absence of external stimulation. There is no sense of time in dreams, and nothing appears surprising or absurd.

There is an intimate connection between dreams and bodily states. Lying cold, for instance, produces dreams of fear and raises the image of a fearful object. The motions pass both from the brain to the inner parts and from the inner parts to the brain. So, just as anger causes overheating in some parts of the body, overheating of the same parts can cause anger and, with it, the picture of an enemy. Dreams are thus the reverse of waking imaginations. Motion begins at one end during waking life and at the other end during sleep. This tendency to project images produced by bodily states gives rise to belief in apparitions and visions. Hobbes's treatment of dreams typified his approach to such matters. He seemed uninterested in the epistemological questions to which they give rise, as, for instance, in the thought of his contemporary, Descartes.

passions

Hobbes's mechanical theory of human action hinged on his concept of "endeavour," by means of which he tried to show how the gross movements of the body in desire and aversion could be explained in terms of minute unobservable motions in the body. He postulated two sorts of motion in the body. The first is its vital motion, manifest in such functions as circulation of the blood, breathing, and nutrition, which proceeds without external stimulation or the help of the imagination. The second is animal motion, which is equivalent to such voluntary movements as walking and speaking. This is always "first fancied in our minds" and is produced by the impact of external stimuli on the sense organs, an impact that gives rise both to phantasms in the brain and to internal motions that impinge on the vital motions of the heart. If the motion of the blood is helped, this is felt as pleasure; if it is impeded, as pain. Pleasure, Hobbes said, is "nothing really but motion about the heart, as conception is nothing but motion in the head." In the case of pleasure, the spirits—which were thought of as vaporous substances flowing through the tubes of the nerves—are guided, by the help of the nerves, to preserve and augment the motion. When this endeavor tends toward things known by experience to be pleasant, it is called appetite; when it shuns what is painful, it is called aversion. Appetite and aversion are thus the first endeavors of animal motion. We talk about "will" when there is deliberation before acting, for will is "the last appetite in deliberating."

Hobbes's theory of the passions was an attempt to graft the traditional Aristotelian account of them onto his crude mechanical base. Love and hate are more or less the same as appetite and aversion, the only difference being that they require the actual presence of the object, whereas appetite and aversion presuppose its absence. These, together with joy and grief, which both involve foresight of an end rather than just an immediately perceived object, are the simple passions out of which others are compounded. Social life is a race for precedence that has no final termination save death. "So that in the first place, I put for a general inclination of all mankind, a perpetual and restless striving of power after power, that ceaseth only in death." To endure in the race requires foresight and scheming; to fail to compete is to die. A man who is convinced that his own power is greater than that of others is subject to what Hobbes called glory; its opposite is humility or dejection. Pity is grief for the calamity of another, arising from imagination that a like calamity may befall ourselves. Laughter is the expression of sudden glory caused by something new and unexpected in which we discover some superiority to others in ourselves.

Hobbes also introduced motion into his theory of individual differences. He thought that such differences are derivative from differences in passions and in the ends to which men are led by appetite, as well as to the sluggishness or agility of the animal spirits involved in the vital motions of their respective bodies.

The basic difficulty in understanding Hobbes's theory of motivation arises from his attempt to underpin a psychology derived from introspection, from the shrewd observation of others, and from the tradition going back to Aristotle with a mechanical theory whose outline was only very briefly sketched. Perhaps the essential criticism of any such theory is that actions cannot be analyzed into mere movements because, in any action proper—as distinct from a nervous tic or a reflex—the movements take place because of an end that the person has in mind. This end is what makes the action one of a certain sort, and, provided that the movements are directed toward this end, an almost indefinite range of movements can form part of the same action. Similarly, the movements involved in raising one's hand can form part of quite different actions, depending on the purpose for which the hand is raised—for example, to signal, to test the direction of the wind, to stretch the muscles, and so on.

Having something in mind—which is part of the concept of "action"—is not a movement, still less a movement of some internal substance of the head, if this is what Hobbes really believed. But Hobbes was not at all clear on the relationship between movements, whether observable or unobservable, and the cognitive components of appetites, aversions, and the various passions. Indeed, he seems to have held an extremely paradoxical and overintellectualistic view about the cognitive component of the passions. For he saw that passions are to be distinguished by their objects and by the judgment of the possibility of attaining such objects, yet he injected into his account a bizarre kind of egocentricity. For Hobbes, in all cases of passions the notion of "self" was part of the content of cognition. He seemed to think that all such "phantasms" of objects, by reference to which the passions are to be distinguished, involve the thought of ourselves doing something or of our power to do something. Pity is thus seen as grief arising from our imagining ourselves in the same predicament as that of the one pitied. Hobbes's analysis of laughter palpably suffered from the same injection of egocentricity. Furthermore, how the highly sophisticated and narcissistic type of appraisal involved in the passions is to be reconciled with any attempt to represent them all as movements of the body and of some internal substance in the head is very difficult to determine.

For all its ambiguities, oversights, and obvious defects, Hobbes's psychology was remarkable, for he attempted to establish it as an objective study untrammeled by theological assumptions. To suggest that man is a machine was a great step forward in thought. Even though the hypothesis is probably untenable, it marked the beginning of the effort to use scientific methods and objective concepts in the sphere of human behavior. In the seventeenth century this was a novel undertaking, as well as a dangerous one.

Ethics

Hobbes thought that, by employing the resolutive method, he could demonstrate the absolute necessity of leagues and covenants and the rudiments of moral and civil prudence from his two principles of human nature—"the one arising from the concupiscible part, which desires to appropriate to itself the use of those things in which all others have a joint interest; the other proceeding from the rational which teaches every man to fly a contranatural dissolution, as the greatest mischief that can arrive to nature." These two principles underlie Hobbes's account of the personal good, as well as his account of civil duty.

Hobbes was scornful of the notion that "good" and "evil" name any metaphysical essence. These words are "ever used with relation to the person that useth them: there being nothing simply and absolutely so; nor any common rule of good and evil, to be taken from the nature of the objects themselves." They name objects of our desires and aversions. We call a horse "good," for instance, because it is "gentle, strong, and carrieth a man easily." The desires of the individual determine what qualities are selected to furnish the ground for saying that an object is good.

Hobbes introduced a further refinement of this theory when he contrasted short-term goods with long-term goods. "Reason," he said, "declaring peace to be good, it follows by the same reason, that all the necessary means to peace be good also." This he contrasted with the sway of irrational appetite, whereby men "greedily prefer the present good." He thought that a man might not desire peace at a particular moment when influenced by some insistent desire; but when he sat down soberly in a cool hour, he would see that peace is a necessary condition of satisfying most of his desires in the long run. Thus, peace is something that he must desire both because of his fear of death and because of the other things he desires to do that a state of war would make impossible.

Hobbes was a nominalist, and he thought that all words have meaning, as if they were some kind of name. He did not see, as Berkeley seems to have seen a little later, that words such as *good* have a prescriptive function and cannot be treated merely as if they were names. To say that something is good is to say that it is what it ought to be; it is to commend it. But also it implies that there are grounds for such commendation. It is to guide a person by suggesting grounds for his choice; it is not to order him or goad him. Hobbes saw that "good" is always thus connected with reasons, but he gave a very circumscribed account of what such reasons must be like, that is, characteristics of things desired. This was modified somewhat by what he said a man desires insofar as he uses his reason, that is, insofar as his "rational" as well as his "concupiscible" nature is involved. Hobbes's account of what a man desires would not be implausible if his account of human nature were acceptable, for then what men must desire could be predicted. But, if his account of human nature is rejected as oversimple, there cannot be quite such a tight connection as Hobbes suggested between "good" and what is, or will be, desired.

The connection is probably looser; given that words such as *good* have the practical function of guiding people's choices, it would be impossible to explain their effectiveness in this function if it were not generally the case that what was held up as good was something that people in general wanted. But it does not follow from this that any particular individual desires, or must desire, what is held up to him as good. Indeed, half the business of moral education consists in drawing people's attention to characteristics of things that they ought to desire but do not in fact desire.

state of nature and laws of nature

Morality is not concerned simply with the pursuit of personal good; it is also concerned with the acceptance of rules that limit the pursuit of good when it affects that of others. A tradition going back to the Stoics held that there was a small corpus of such rules, called the law of nature; these rules, which were universal preconditions of social life, did not depend, as do custom and law, on local circumstances. The Dutch jurist Hugo Grotius regarded this law of nature as a self-evident set of principles binding on all men (on kings as well as on their subjects) that would provide a rational basis for a system of international law; it was, he claimed, fundamental in the sphere of social rules in the same sort of way that Galileo's postulates were fundamental in the realm of nature. Morals could be brought within the expanding empire of the mathematical sciences.

Hobbes, therefore, was not original in his claim that "the true doctrine of the laws of nature is the true moral philosophy," nor was he original in likening its precepts to axioms. What was original was his claim that its precepts were axioms of prudence, insofar as "prudence" implies considerations limited to those that affect only the agent. For Grotius, the maintenance of society was a major need of man as a social animal, irrespective of purely private benefits. Hobbes, however, maintained that more or less the same set of rules that Grotius regarded as binding (such as keeping faith and fair dealing) could be shown to be axioms that must be accepted by any man who is both rational and afraid of death. "All society, therefore, is either for gain or for glory; that is, not so much for love of our fellows as for love of ourselves."

Man, Hobbes argued, shuns death "by a certain impulsion of nature, no less than that whereby a stone moves downward." This is what saves man from anarchy and civilizes him, for if man were driven merely by his "concupiscible" part, there would be no society, and the life of man would be "solitary, poor, nasty, brutish, and short." Men are equal enough in body and mind to render negligible any palpable claims to superior benefits, and even the weakest is able to kill the strongest. But man's fear of death brings him up short in his pursuit of power and leads him to reflect upon the predicament of a state of nature. His reason tells him that peace is necessary for survival and also "suggesteth certain articles of peace, upon which men may be drawn to agreement. These articles are they, which otherwise are called the Laws of Nature." One of these laws is that "men perform

their covenants made." In this way Hobbes claimed to demonstrate "the absolute necessity of leagues and covenants, and thence the rudiments both of moral and of civil prudence."

Hobbes's demonstration gave only the semblance of validity because he isolated the concupiscible and rational aspects of man's nature from each other and, as in a Galilean imaginary experiment, explored the consequences of each independently. Given only man's self-assertion, then there must be a state of nature; given only his overwhelming aversion to death, then he must accept the conditions necessary for avoiding death. These axioms of prudence are hypothetical in relation to man's assumed fear of death. They are rules that a rational man must accept insofar as he wants to avoid death. But men are only partly rational and, although they have an overwhelming fear of death, they also want other things, such as power and glory. Presumably Hobbes, like Machiavelli, could also have laid down rules for obtaining power and glory that would have borne no resemblance to the laws of nature. Thus, Hobbes could not have been trying to show that virtue, as defined by adherence to the laws of nature, is natural to man or a deduction from his nature, as have many thinkers who have adopted a psychological starting point. Indeed, the general relationship between Hobbes's psychology and his ethics is too obscure for us to know quite what he was doing.

The key to Hobbes's "demonstration" really lies in what he did with it, for he went on to point out that the laws of nature are only theorems that any rational man would accept. Since these laws need the backing of the sword to ensure peace, men have need of a "common power to keep them in awe, and to direct their actions to the common benefit." The rationale of Hobbes's demonstration can now be seen, for at the time that Hobbes was writing, England was precariously poised between anarchy and civil disorder. Hobbes's analysis was a Galilean "resolution" of such a situation into the simple components of human nature that formed its basis. He pointed out that, insofar as men want peace and security (and all men do want this, although they want other things as well), then they must see that, human nature being what it is, there are certain means that they must accept if they are to have what they want. It is irrational to want something and yet to refuse to take the only means that will ensure that what is wanted is obtained. Since the acceptance of social rules is based only on the fear of death, it is only the fear of death that will ensure that these rules are obeyed. Men therefore cannot have the peace they all desire unless they accept the sword of the sovereign that will make death the consequence of breaking the rules that are a necessary condition of peace.

determinism and free will

The indeterminate position of Hobbes's psychology in relation to his ethics was encouraged by his belief in determinism—or "necessitation," as he usually called it—which he outlined in his controversy with Bishop Bramhall. Hobbes denied that there is any power in men to which the term *will* refers; what is commonly called will is but the last desire in deliberating. Furthermore, he argued, only a man is properly called free, not his desires, will, or inclinations. The liberty of a man "consisteth in this, that he finds no stop, in doing what he has the will, desire, or inclination to do." Liberty is "the absence of all the impediments to action that are not contained in the nature and intrinsical quality of the agent." To speak of liberty is not to make any suggestions about the determinants or absence of determinants of man's deliberations or decisions; it is to suggest that man is not externally constrained in his actions. There is, therefore, no contradiction in saying that a man acts freely and that his actions are also determined. Since all actions have causes and thus are necessitated, it is pointless to use "free" in the sense of "free from necessitation," as distinct from "free from compulsion." There are no such actions, although we may think that there are because we are ignorant of the causes of actions.

There is much to be said for Hobbes's recommendation on the use of the word *free;* many others, such as John Locke and David Hume, have followed him in confining it to the absence of constraint on a man's actions. But Hobbes's claim that all actions are necessitated is not so straightforward. Certainly he was right in suggesting that all actions are explicable—if that is what is meant by saying that they have causes—but so many different things can count as causes, ranging from deliberation and understanding to a stab of pain or a crack on the skull. Since Hobbes thought of man as a natural machine, he therefore viewed all causes as mechanical pushes. His doctrine carried the suggestion that the behavior of men is not only explicable but also somehow unavoidable because men's decisions and choices are simply manifestations of internal pushes.

Significantly enough, Bramhall did not object to Hobbes's doctrine insofar as it related to actions shared with animals or to spontaneous actions. What he could not allow was that voluntary actions, which follow on election and deliberation, should also be "necessitated." Bramhall pointed out the difficulties of likening actions and the grasp of objects and of means of obtaining them, which are inseparable from the concept of "action," to processes in nature explicable in terms of antecedent motions. In this contention Bramhall was substantially right, for although actions may involve movements, they are not reducible to movements.

Hobbes also disagreed with Bramhall on the implications of his doctrine of "necessitation" for moral judgments and for the operation of the law. Bramhall argued that if human actions are necessitated, then praise and blame, reward and punishment, are both unjust and vain. To the charge that they are vain, Hobbes replied that they are to be viewed as further determinants of choice. Praise and blame, reward and punishment "do by example make and conform the will to good and evil." To the charge of injustice, Hobbes argued that "the law regardeth the will and no other precedent causes of action"; also that punishments annexed to breaches of the law function as deterrents and necessitate justice. He went out of his way to distinguish punishment from acts of revenge or hostility and to stress its deterrent purpose, which is a sound position. Hobbes saw clearly that retribution is part of the meaning of punishment, but that it is the connection with authority that distinguishes it from other sorts of retributive acts. He also saw that, although retribution may be written into the meaning of punishment, its justification is not therefore necessarily retributive. Rather, it is to be justified for its preventive and deterrent function.

Political Philosophy

In his political philosophy Hobbes tried to conceptualize the relationship between the new nation-state, which had been emerging under the Tudors, and the individual citizen, who could no longer be regarded simply as having a set place in a divinely instituted order. In the old medieval society a man was bound by ties attaching to his status and by duties prescribed for him by the church. Tradition was the main form of social control, and traditions stretching back into the distant past assigned to a man his relatively fixed place in society. Aristotle's doctrine of natural kinds and natural places and his account of man as a social animal provided a fitting naturalistic foundation for the theological worldview that was accepted by rulers and ruled alike. But with the rise of individualism and the social mobility that accompanied the rise of commerce and capitalism, this old conception of man in society no longer applied. Men had shaken off the ties of their guilds and local communities, and the new natural philosophy was beginning to render the naturalistic foundations of the former worldview untenable.

Hobbes's picture of life as a race, in which we "must suppose to have no other good, nor other garland, but being foremost," was a gruesome caricature of an age of individualism, restless competition, and social mobility. But if the fetters of tradition were being cast away, what other form of social control could take its place to prevent the anarchy of a state of nature? The answer was to be found, of course, in the increasing executive power of the state and in the growth of statute law, together with the development of the individual conscience, whereby regulation from within replaced the external authority of the Catholic Church. Hobbes distrusted the anarchic tendencies of the individual conscience as much as he loathed the extramundane authority of the Church of Rome. Both were to be banished, along with traditional ties; civil society could be reconstructed as a simple mechanical system.

social contract

Hobbes had a model ready at hand by means of which he might present his Galilean analysis of the rationale of civil society—the social contract theory. The social contract theory, despite its obvious flaws, was an attempt to rationalize political obligation, to substitute an intelligible bargain for mystifying appeals to tradition and divine right.

The contract theory was resorted to mainly by those who wanted to challenge the absolutist claims of monarchs, to uphold the claims of the common law, or to lay down some sort of moral limits on control and interference by the central executive. Hobbes's feat was to employ this model to demonstrate that absolutism is the only possible logical outcome of consistent concern for individual interests. Indeed, he prided himself on grounding the authority of sovereigns, as well as the liberty and duty of subjects, upon axioms of human nature rather than on tradition and supernatural authority. In his attitude toward tradition and divine right, he was at one with the defenders of government by consent. But because of his overriding concern for security, and because of his rather depressing estimate of human nature, he came to the somewhat gleeful conclusion—highly displeasing to those who believed in government by consent—that absolutism could be the only rationally defensible form of government.

Hobbes did not seriously consider the social contract, as some did, as a quasi-historical hypothesis on how civil society might have come into existence. In his account the contract was featured as a framework for a Galilean resolution of civil society into its simple elements. Hobbes imagined the individual in a state of nature as having an unlimited right to "protect his life and members" and "to use all the means, and do all the actions, without which he cannot preserve himself." But he also has a right to all things "to do what he would, and against whom he thought fit, and to possess, use, and enjoy all that he would, or could get." Hobbes here was employing a very strange concept of right, for usually, when we talk about a right, we are indicating a rule that protects or should protect a person from interference in the doing of something that he might want to do. Hobbes, however, used the term in this way to talk about both what a person is entitled to do (when it is correlative with duties of noninterference on the part of others) and what a person cannot be obliged to renounce. When Hobbes declared that men have a "right of self-preservation," he meant not that an individual is entitled by some rule (of law, tradition, or morals) to life but that he cannot be obliged to renounce it because it is psychologically impossible for him to do so. "Natural rights" therefore have a quite different meaning in Hobbes's writing than in the works of Locke, Samuel von Pufendorf, and other such defenders of natural rights. In these classical theories, natural rights are interests protected by natural law against the interference of others. Hobbes's natural-law theory is not connected in this way with his rather bizarre concept of natural rights.

Hobbes's "rights" of nature are derivative from man's tendency to assert himself and to seek power. But, as already shown, Hobbes held that man would also be driven by his fear of death to accept certain laws of nature, the second of which prescribed that every man should lay down his right to all things and "be contented with so much liberty against other men, as he would allow other men against himself." This could be done either by not interfering with others' enjoyment of their rights or by transferring one's right to another, in which case the transferrer is obliged not to hinder the recipient. Injustice consists in hindering a person whom it is a duty not to hinder. The mutual transferring of such rights is called a contract, and the third law of nature is "that men perform their covenants made."

Hobbes deduced a mutual transfer of rights from his postulate of rational action under the impetus of fear. But men are not yet safe, for there may be danger in keeping covenants and it may be, on occasion, in people's interest to break them. "And covenants, without the sword, are but words, and of no strength to secure a man at all." Matters must be arranged so that it will never be in anyone's interest to break covenants, which cannot exist where there is no "common power" to enforce them. Thus, a social contract must be presumed in which it is as if every man should say to every other man, "I authorize and give up my right of governing myself, to this man, or to this assembly of men, on this condition, that thou give up thy right to him, and authorize all his actions in like manner." This contract unites the multitude into one people and marks the generation of "that great leviathan, or rather, to speak more reverently, of that mortal God, to which we owe under the immortal God, our peace and defence." The definition of commonwealth is, therefore, "one person, of whose acts a great multitude, by mutual covenants one with another, have made themselves every one the author, to the end he may use the strength and means of them all, as he shall think expedient, for their peace and common defence." The person that results is called sovereign, and everyone else is his subject. The sovereign is created by the contract but is not party to it. Thus, the people rule even in monarchies; a multitude becomes a people by having some device, such as that of representation, by means of which decisions binding on all are made on behalf of all. Some such "covenant" is implicit in speaking of a commonwealth as a people, as distinct from a multitude of men.

Up to this point there is much to be said for the sort of analysis that Hobbes gave, although some of its details are peculiar. He had considerable insight into the sort of thing we mean when we speak of a civil society, as distinct from a mere multitude of men. He saw clearly that societies are not natural wholes like toads, turnips, or colonies of termites. They exist because individuals act in accordance with rules that can be rejected, broken, or altered; they are artificial wholes. Therefore, if we are to speak of the "will" or "decision" of such an entity, there must be some higher-order rules of procedure, such as that of representation, by reference to which what is to count as a corporate decision is constituted. Individuals or groups of individuals are put in authority for such a purpose.

When Hobbes proceeded to the more concrete details of what must constitute the duties of rulers and subjects, however, he was not equally convincing, for this next step depended on his questionable account of human nature. The basic principle of human nature revealed by his Galilean resolution was "that the dispositions of men are naturally such that, except they be restrained through fear of some coercive power, every man will dread and distrust each other." No motive in human nature, except the fear of death, is strong enough to counteract the disruptive force of man's self-assertion. The fear of death must, therefore, be the explanation of the existence of civil society (insofar as there is a social order and not anarchy), and security must be the sole reason for the institution of the social order; there is simply no other reason for which men could be induced to give up their natural right to self-assertion. Since this is the sole reason for having a commonwealth, it follows logically that a commonwealth must be devised that will accomplish the end for which it exists. Sovereignty must be perpetual, undivided, and absolute, for to divide or limit sovereignty would be to risk anarchy; and such limitation would be illogical because it would be inconsistent with the raison d'être of sovereignty. *Salus populi suprema lex* (The safety of the people is the supreme law). Moreover, complete safety entails complete submission to an absolute sovereign. Thus, absolutism is the logical consequence of government by consent, once the real interest of individuals, which is the presupposition of the institution of commonwealth, has been clearly understood.

There are two obvious flaws in this stage of Hobbes's argument. The first is the assumption that the desire for security, deriving from the fear of death, is the sole reason for the institution of commonwealth, a reason that Hobbes more or less wrote into the meaning of "commonwealth." It is obviously a very important reason, but that it should be the only reason is plausible only if Hobbes's psychology were to be accepted. Even so, Hobbes should not have written the reason for instituting a commonwealth into what is meant by "commonwealth." The second flaw was well brought out by Locke, who argued that, even if security were the sole reason for the institution of commonwealth, absolute authority is a dangerous expedient from the point of view of individual interest. For the hypothesis is that the timid individual would exchange the possible threat to life presented by 100,000 men, all of whom individually might attack him, for the threat to his life made possible by the arbitrary authority of one man who has 100,000 men under his command. "Are men so foolish that they take care to avoid what mischiefs may be done them by polecats or foxes, but are content, nay think it safety, to be devoured by lions?"

Hobbes was led to his advocacy of undivided sovereignty by his interest in constitutional and legal matters. When Hobbes was writing, there was a clash between the higher-order principles of common law and of statute law. The common-law principle that custom, as interpreted by the judges, is to be consulted in declaring what the law is, existed alongside the principle of statute law, that rules laid down by a determinate body or person (for example, Parliament or the king) determine what the courts must recognize as valid law. Statute law was on the increase during this period, and it was intolerable to any clearheaded man that these two principles should operate side by side. Hobbes advocated the unambiguous supremacy of the principle of statute law and the abolition of common law. The need to introduce clarity and coherence into the confused constitutional situation that prevailed in Hobbes's time was obvious enough. But for Hobbes to suggest that it was a logical truth that there must be an absolute sovereign in any commonwealth was to introduce dubious logical deductions into a field where a solution was more likely to be found by practical adjustments and compromises that reflected the strength of competing interests and were consonant with deep-seated traditions.

One of the traditions that Hobbes's geometric solution ignored was that of the liberty of the subject. In Hobbes's view, civil liberty lay "only in those things, which in regulating their actions, the sovereign hath praetermitted." It is unlikely, Hobbes

suggested, that laws would be necessary to regulate buying and selling, and choice of abode, diet, a wife, a trade, and education. But whether such laws are necessary is entirely up to the sovereign. The liberty of the subject also consists in the lack of proscription of such acts that it would be vain to forbid because they are psychologically impossible for the subject to refrain from committing. These acts involve the right of the subject to preserve himself and to resist imprisonment. Hobbes also suggested that "in the act of submission consisteth both our obligation, and our liberty." Both the obligation and the liberty are to derive from the words "I authorize all his actions," which the subject is imagined to have expressed in instituting a commonwealth. The subject is released from his obligation only if the sovereign fails to do what he is there to do, namely, to guarantee security. This marks the extent of the subject's much-lauded "right to resist." Presumably Hobbes meant to stress that subjects submit voluntarily to authority. This is true enough, but what it has to do with the liberty of the subject, in any straightforward sense of "liberty," is difficult to grasp.

law

Hobbes's concept of the role of natural law, once the law of the state had been established, was not altogether clear. He maintained that the laws of nature were "but conclusions, or theorems concerning what conduceth to the conservation and defence of themselves; whereas law, properly, is the word of him that by right hath command over others. But yet, if we consider the same theorems, as delivered in the word of God, that by right commandeth all things; then they are properly called laws." These "laws" always obligate *in foro interno* —that is, in matters of private conscience—in prescribing a general readiness of mind; but *in foro externo*, that is, in actions, the laws may not be obligatory if certain conditions, such as peace and security, are absent. Such conditions, when present, will in fact render it to the interest of the subject that he follow the laws of nature. A law properly so called always obligates *in foro externo* because of its source in the command of the sovereign, as well as because civil society, by definition, provides the conditions of security and the sanction that will make it always against a man's interest to disobey it. But do the laws of nature oblige *in foro externo*, if not incorporated in the civil law, when the security of civil society prevails? This depends on how seriously Hobbes meant his reference to theorems as authoritative edicts from God, for such derivation would give them a determinate source, as in the case of laws properly so called. Some take Hobbes seriously and claim that he really thought that the laws of nature oblige *in foro externo* as well as *in foro interno* whenever conditions of security prevail. Others hold that Hobbes never really thought that laws of nature oblige in a full sense *in foro externo* because his reference to their authoritative source is but a tactful concession to piety. He really thought of them merely as axioms of reason that oblige in a full sense only when they are issued by a temporal sovereign as commands and when conditions of security, together with sanctions, prevail in civil society.

Hobbes took this somewhat ambiguous view about the status of natural laws (or moral precepts) because of his extreme hardheadedness about laws properly so called. Law, he held, is the command of the sovereign, "the word of him that by right hath command over others." It is authority, not conformity with custom or reason, that makes a law. In this forthright view he was attacking the fiction of the common law that the law was there to be discovered, immanent in the customs of the people.

Whatever the merits of Hobbes's view—later adopted by the analytic school of John Austin—that laws are commands, Hobbes made a valuable contribution in helping to distinguish questions about law that are often confused. The question "What is a law?" should be distinguished from such other questions as "Is the law equitable or reasonable?" and "What makes a law valid?" Hobbes argued that a law is simply a rule issued by someone in authority. Whether it is reasonable or equitable is a further question, as are the questions of its validity, of its conformity with custom, and of the grounds on which a man could be obliged to obey it.

To claim that laws are commands was an oversimple and misleading way to bring out the prescriptive force of laws. But it was useful insofar as it connected law with authority, for laws, like commands, are utterances issuing from people in authority. In stressing the necessary connection between law and authority, Hobbes made an important contribution to political philosophy, for there is no necessary connection between authority and moral precepts or "laws of nature."

On the question of the person or body of men by whose authority laws should be made, Hobbes was more open-minded than is often realized. He thought that this was not a matter that could be demonstrated; it was a matter of factual argument. He believed that the relative advantages of each form of government had to be considered in the light of the sole end of security. It was a factual matter which type of government was most likely to promote such an end. On the whole, he argued, monarchy is preferable because it is more likely to be undivided, strong, and wise.

Religion

At the time Hobbes wrote, ethics and politics were inseparable from religion. Even the Royal Society was founded by men who believed that science would reveal more of the details of God's creation and thus enhance his worship. Hobbes was one of the pioneers in the process of distinguishing religious questions from other sorts. He rigorously excluded theology from philosophy and tried to map the proper domains of faith and knowledge. He outlined a theory of the causes of religion and superstition and discussed the grounds of religious belief, and he conducted an elaborate inquiry into the use of various terms in the Scriptures. But all this analysis and theorizing was subordinate to his main interest in religion as a possible source of civil discord. It is seldom realized that more than half of *Leviathan* is concerned with religious matters, with Hobbes trying to defend the "true religion" from both Catholicism and the priesthood of all believers. He saw clearly that these doctrines were two of the main obstacles in the way of the absolutism that he advocated.

Hobbes made some interesting speculations about the natural causes of religion, which he said were "these four things, opinion of ghosts, ignorance of second causes, devotion toward what men fear, and taking of things casual for prognostics." These seeds of religion could be cultivated according to natural invention, which leads to superstition and nature worship, or according to God's commandments. "Fear of power invisible, feigned by the mind, or imagined from tales publicly allowed, religion; not allowed, superstition. And when the power imagined is truly such as we imagine, true religion."

notion of god

What, then, constituted true religion for Hobbes? To reasonable men, God's commands amounted to the laws of nature. God's nature, however, was a much more baffling matter, even for a rational man. Certainly God must have "existence," which Hobbes took to be an attribute of God, in spite of his remarks elsewhere about the ambiguities of the verb "to be." In *Leviathan* Hobbes held that God is the cause of the world, "that is, a first and an eternal cause of all things; which is that which men mean by the name of God." In his later *De Corpore*, however, he indicated the difficulties in the notion of an unmoved mover. This was a difficult question for philosophers to determine and had better be handed over for decision to the lawful authorities. Hobbes also stressed God's irresistible power and maintained that the only solution to the problem of evil was to be found in this power. Did not God reply to Job: "Where wast thou, when I laid the foundations of the earth?" Job had not sinned; his suffering was an unfortunate consequence of God's manifestation of power.

The main function of reason, however, is to show what God cannot be—at ease, finite, figured, having parts, occupying a place, moved or at rest, plural, and having passions, rational appetite, sight, knowledge, and understanding. If we rely on natural reason, we must either qualify God in a negative way by adjectives, such as "infinite" and "incomprehensible," or by a superlative, such as "most high," and an indefinite, such as "holy," which are not really descriptions of his nature but expressions of our admiration. Thus, rational disputations about the nature of God are pointless and a dishonor to him, "for in the attributes which we give to God, we are not to consider the signification of philosophical truth; but the signification of pious intention, to do him the greatest honour we are able." The sovereign, therefore, must decide on God's attributes; and public, uniform worship must be instituted.

reason and revelation

Reason, however, should not be "folded up in the napkin of an implicit faith, but employed in the purchase of justice, peace, and true religion." There is nothing in God's word contrary to reason. We must, however, be prepared in this world "to captivate our understanding to the words; and not to labour in sifting out a philosophical truth by logic, of such mysteries as are not comprehensible, nor fall under any rule of natural science." Reason should be kept very much to the fore when one is confronted with those who claim revelation, for if a man says that God spoke to him in a dream, this "is no more than to say he dreamed that God spoke to him." There are psychological explanations of such phenomena that cast doubt on their reliability as valid communications with God.

Dreams, visions, and inspiration, however, should not be dismissed altogether, for it is by such means that prophets have been informed of the will of God. What is needed are criteria for detecting true prophets. Hobbes suggested two necessary criteria: the working of miracles and the teaching of doctrines not at variance with those already established. Since miracles had by then ceased, there was no sign left to single out true prophets. And, in any case, the Scriptures, since the time of Jesus, had taken the place of prophecy.

Reliance on the Scriptures, Hobbes realized, is not altogether straightforward. Even supposing that it could be decided which books are authentic, and that the sovereign, by his authority, could make their teaching law, there is still the problem of what many of the terms used in the Scriptures mean. Hobbes went through most of the key terms in the Scriptures, giving meaning to them in a way consistent with his mechanical theory. He argued, for instance, that God must have a body and that the proper signification of "spirit" in common speech is either a subtle, fluid, and invisible body or a ghost or other idol or phantasm of the imagination; it may also have a figurative use in such a phrase as "spirit of wisdom." "Angels" signify images raised in the mind to indicate the presence of God. Hobbes made acute remarks about the nature of miracles that mingled radical probing with subtle irony (indeed, one often wonders whether his whole treatment of "the true religion" is not a colossal piece of irony).

On the relationship between church and state, Hobbes of course adopted an uncompromising Erastian position. A church he defined as "a company of men professing Christian religion, united in the person of one sovereign, at whose command they ought to assemble, and without whose authority they ought not to assemble." There is, therefore, no universal church to which all Christians owe allegiance, for there is no supreme sovereign over all nations.

Hobbes concluded *Leviathan* with his famous section on the Kingdom of Darkness, in which he castigated superstition and Catholicism as enemies of the true religion. The papacy, he remarked "is no other than the ghost of the deceased Roman empire, sitting crowned upon the grave thereof." The papacy ruthlessly exploits the fears of ignorant men to perpetuate the power of unscrupulous priests as a rival to the secular power.

Hobbes held that there is only one article of faith necessary for salvation: that Jesus is the Christ. On what authority did such a belief rest? Hobbes had some interesting things to say about the difference between knowledge and faith. The object of both is

propositions, but in the case of knowledge we consider the proposition and call to mind what its terms signify. Truth here is a matter largely of following the consequences of our definitions. But when reasons for assent derive "not from the proposition itself but from the person propounding, whom we esteem so learned that he is not deceived, and we see no reason why he should deceive us; our assent, because it grows not from any confidence of our own, but from another man's knowledge, is called faith." Faith, therefore, depends on our trust in a man rather than on our grasp of truth. The faith that Jesus is the Christ must therefore come from the Scriptures and our trust in those who wrote them. But who is to interpret them? "Christian men do not know, but only believe the Scripture to be the word of God." St. Paul said, "Faith cometh by hearing," and that, according to Hobbes, means listening to our lawful pastors, who are appointed by the sovereign to interpret the Scriptures for us. Charles II and Cromwell must have been flattered by the magnitude of the problems on which they were required to issue authoritative edicts: the creation of the world, God's attributes, the authenticity of miracles, and the proper interpretation of the Scriptures. Hobbes regarded religion more as a matter of law than of truth.

Hobbes's treatment of religion leaves obscure exactly what he himself thought about such matters. His technique was always to push radical probing to the limit, and when the basis for the traditional doctrines seemed about to be cut away, the sovereign was summoned as a sort of deus ex machina to put everything in its orthodox place. Hobbes was obviously extremely skeptical about what could be demonstrated in the sphere of religion, but it is difficult to say whether his suggestion that the sovereign should pronounce on such matters as the creation of the world and the attributes of God was a subtle piece of irony, a pious protestation to protect himself against the charge of atheism, or yet another manifestation of his overwhelming conviction that there must be nothing touching the peace of the realm that the sovereign should not decide.

See also Aristotelianism; Aristotle; Authority; Bacon, Francis; Definition; Descartes, René; Determinism, A Historical Survey; Determinism and Freedom; Dreams; Galileo Galilei; Gassendi, Pierre; Geometry; Grotius, Hugo; Harvey, William; Human Nature; Hume, David; Images; Kepler, Johannes; Laws of Nature; Locke, John; Logic, History of; Machiavelli, Niccolò; Mersenne, Marin; Motion, A Historical Survey; Peace, War, and Philosophy; Sensa; Social Contract; Spinoza, Benedict (Baruch) de; Thucydides; Universals, A Historical Survey.

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