

Hobbes, *Human nature* I-III

[Reason] is free from controversies and dispute, because it consisteth in comparing figures and motion only; ... But ... they who have written of justice and policy in general do all invade each other, and themselves, with contradiction. To reduce this doctrine to the rules and infallibility of reason, there is no way, but first, to put such principles down for a foundation, as passion not mistrusting may not seek to displace.

[Hobbes, *Human nature*, Introduction]

Hobbes was the individual in the seventeenth century who did more than anyone else to give the mechanical philosophy a bad name. This is something he did, not by attacking the claims of the mechanical philosophy, but by taking it to extremes, and applying it to themes most mechanical philosophers did not want to touch. While mechanical philosophers like Boyle described the mechanical philosophy as the view that all the phenomena of nature are produced by the motion and impact of bodies, they meant to restrict the thesis specifically to *outer* nature, that is, the nature of the world around us. Hobbes took the thesis a step further and applied the mechanical philosophy to *inner* nature as well, that is to the nature of human beings, their mental processes, and the causes of their actions. Rather than take cognitive and conative operations like sensation, memory, imagination, desire, aversion, deliberation and will to be exercised by a soul or spirit that thinks and reasons about what is best, Hobbes took these operations to be the products of a machine, working just in accord with the laws of motion and collision.

Hobbes' ultimate purpose in making this innovation was to develop a politics that would be free from controversy because indubitably obvious to all who considered it. He hoped that if he could establish a mechanistic account of human nature, the consequences of that account for those considering how to construct a well functioning commonwealth would follow as obviously as the effects of a machine from a consideration of its workings.

In the selection from *Human nature* I-III, Hobbes launched this project by first challenging the traditional, Aristotelian notion that there are two distinct cognitive faculties, the lower or sensory faculty, responsible for perception, memory, imagination, and anticipation, and the higher or intellectual faculty, responsible for grasping universal concepts, judgment, and reasoning. In opposition to this view, Hobbes reduced the cognitive operations of the mind to a single operation, conception or conceiving. He argued that all conception originates with sensory experience (HN II.2) and attempted to show that all the other operations of the mind are simply outgrowths from sensory experience. Sensory experience itself is a purely mechanical effect on the body. Sensible qualities not only have no external existence, but no internal existence either. What exists in us when we have sensations are not colours or feelings of warmth and cold, but merely motions of the parts of our sense organs and central nervous system. Sensible qualities are simply the way these motions appear to us.

QUESTIONS ON THE READING

Reading Note: In *Human nature* I.6, Hobbes identified the powers of the body as the nutritive, generative, and “motive” powers. In *Human nature* I.7, the term “motive” again appears, but this time it is identified as one of the two principal powers of the mind, the other being the cognitive power. Hobbes was not being inconsistent. As he pointed out later (*Human nature*



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VI.9) the “motive” bodily power is the power of locomotion whereas the “motive” mental power is the emotive power, that is, the power of feeling and acting on desire and aversion.

1. What is sense?
2. What is colour, and where is it to be found?
3. What convinced Hobbes that colours and images do not exist outside of us?
4. What leads us to mistakenly believe that light and sound are outside of us?
5. Why do our sensations remain with us after the bodies causing them have ceased to press on our organs, and why do they only slowly fade away?
6. If our sensations stay with us after the bodies causing them have ceased to press on our organs, why are we not aware of them?
7. What is the cause of dreams?
8. How did Hobbes define the notions of obscurity and clarity of conception?
9. How does remembrance differ from sensing?

NOTES ON THE READING

a. Arguments against the real existence of sensible qualities. Unlike Galileo, who only sought to show that there are advantages to the hypothesis that our experience of the sensible qualities of objects is caused by the impact of shaped particles on our sense organs rather than by the transmission of those very qualities into us out of the objects, Hobbes was more emphatic in his denial and sought to show that there are strong reasons for rejecting the view that sensible qualities have any sort of real existence, either in things or even in the bodies of sentient creatures like ourselves.

His arguments for this thesis, offered over HN II, are multiple and interrelated. One argument, an argument that can be called the hedonic state argument, is used to establish the unreality of our tactile sensations of heat and cold. According to this argument, our feelings of heat and cold are mixed up with feelings of pleasure and pain. But pleasure and pain only exist in sentient creatures. Therefore, the kind of qualities we know when we talk about heat and cold can only exist in sentient beings (HN II.9).

A second argument, the perceptual relativity argument, is used to establish the unreality of our sensations of taste and smell. According to this argument the same object can taste or smell differently to two different people. The taste or smell that at least one of these people experiences cannot therefore be in the object but must be something brought about only in that person. And as long as we have no reason to suppose that either person has defective sense organs, and every reason to suppose that the senses function in more or less the same way in both, we have every reason to suppose that if what the one is experiencing is not a real state of the object neither is what the other is experiencing. Both are most likely experiencing effects that the object is having on their own bodies, rather than the object itself (HN II.9). This is a classic argument, which draws inspiration from the ancient sceptical “modes” of proving that we cannot get knowledge of things as they are in themselves through our senses.

However, by far the most important of Hobbes’ arguments is an argument based on a careful empirical investigation of the causes of visual and auditory sensation. This argument not only establishes that sounds and coloured shapes do not exist outside of us, but also that what does exist outside of us is just a motion of silent, colourless particles that are quite differently shaped from the colour patches we actually see, and the sounds we actually hear. (Interestingly,



Hobbes' argument establishes that the shapes that we see are unreal, as well as the colours, though he does not trumpet this result.)

To make his case, Hobbes first observed that shaped colours and sounds often appear outside of the objects that they are supposed to inhere in. This is the case with sounds bouncing off walls, reflections in mirrors, and the real images cast by panes of glass (think of looking out a window into a darkened street at night and seeing the reflection of the illuminated room behind you as if it existed out in the street). This evidence is not adequate to lead us to infer that colour patches and sounds do not also inhere in objects, but it does show that the two are not necessarily coincident (HN II.5).

To strengthen his case Hobbes appealed to a further piece of evidence: As a student of optics, he knew that if I focus my eyes on objects at a certain distance, say on a finger held up before my eyes, the objects before and behind the focal plane will appear doubled. (Hold up a finger, focus on it, and if you keep it in focus you will notice that objects towards the back of the room behind it appear doubled.) Where do these doubled images exist? We know that the objects in the room are not doubled, and we can make the doubled images come and go by an act of will, by choosing to focus our eyes in a certain way. If we accept that one of these images does not inhere in objects, then there is as much reason to suppose that the other does not either, since they are identical (II.5). A similar point can be made about echoes. Though Hobbes did not make his reasoning explicit, he seems to have taken this evidence to establish a more radical conclusion: that the colour and the sound could also not be in the object (II.5). After all, it is implausible to suppose that when I focus on the picture on the back wall and see my finger doubled, but then focus on my finger and see the picture on the back wall doubled that my sense of vision is suddenly switching from detecting the real features of the external world in the one place and mere appearances in the other to detecting mere appearances in the other and real features in the one. The sense appears to be working in the same way throughout, so if we want to say that the doubled images are not really in the object, the same consequence would appear to hold of the single ones.

Pursuing his case yet further, Hobbes went on to claim that not only do colours and sounds not inhere in the objects that cause them, they do not even inhere in the places where they appear to us to be. The images reflected in a mirror appear to be behind the mirror, but experience readily confirms that this is not in fact the case. The colour reflected from the surface of the water appears to be in the water, but if you spoon some of the water up you will see that this is not the case and that the water is not really coloured like that at all. The colours projected out into the street by the darkened window are not really out there, either, and so on (II.6)

However, Hobbes had a yet more decisive point to make. Experiments show that our experiences of colour are not produced by colour, but by impact. A blow to the eyes causes us to see stars. Someone sitting in a darkened room, where there is nothing coloured that could possibly affect the eyes, and who receives a blow to their eyes, will see colours. Hobbes took this to be a crucial experiment demonstrating that impact produces our sensations of colour (II.7). This is even more apparent in the case of sound since we know a blow of some sort is required to produce a sound (HN II.9).

This evidence has a striking consequence. If the cause of vision and of hearing is a blow, then it is most plausible to suppose that the effect this cause has on us is a motion in the parts of our sense organs, sensory nerves, and brain. Hobbes did not neglect to remark on this. "From [this] experience we may conclude," he wrote, "that apparition of light without, is really nothing



but motion within” (HN II.7). And further: “The air imparteth motion by the ear and nerves to the brain; and the brain hath motion but not sound” (HN II.9).

So not only do colour and sound not exist in objects or in the space between us and objects, they do not even exist in us. What exists in us is actually just a motion.

Building on this evidence, Hobbes proceeded to construct a theory of light and colour. Unlike Galileo, who suggested that light might be caused by an explosion of ignicoli flying out through the air, Hobbes took light to be the product of a pulse, producing a chain reaction or a wave. After all, he observed, fire appears to pulsate or flicker and when this pulsating motion is prevented by enclosing the fire in a tight space it dies. (Today we think this happens because the fire cannot get any oxygen, but to Hobbes’ mechanical mind the fire dies due to the prevention of motion.) Nothing is actually emitted from the flame. Instead, the pulse from the flame hits the parts of the surrounding air, which in turn hit the parts that surround them, which in turn hit the parts that surround them, and so on, producing a wave in the air that propagates outwards. Sometimes these waves will travel directly from the fire or the sun or some other luminescent object to the eye. At other times, they will bounce off some smooth surface before hitting the eye, and at yet other times they will bounce off some irregular surface that significantly changes the character of their motion before hitting the eye. This accounts for the difference between seeing pure or white light (no bounce), reflections (bounce from a smooth surface) or colours of various sorts (bounce off of various sorts of irregular surface). When the wave hits the eye, it has the same effect on the parts of the eye and the optic nerve that the fire had on the air. Parts that have been hit rebound back, hitting the parts behind them and making them recoil, and so on. A pulse or wave is sent through the eye and travels up the optic nerve towards the brain.

The same thing happens with sound, except that in this case the pulse, caused by percussion of one object on another, travels through the air to the ear and then on to the brain.

These claims raise a number of questions. If colours and sounds do not exist in objects, or in the space between us and objects, or even in us, and if all that actually exists in us when we see or hear is some motion in the brain, then where do colours and sounds exist, why do we think we experience them, and why do we suppose that they exist outside of us?

Hobbes’ answers to these questions are rather perfunctory. Just as the rainbow, which is really a collection of microscopic water droplets reflecting sunlight, appears to us from a distance as a band of colours, so Hobbes seems to have thought that the minute motions in our brains “appear” to us as colours and sounds. We take these colours and sounds to be outside us because, as a pulse or wave of motion travels inwards towards the brain, it encounters increasing resistance from the densely packed parts of the nerves and brain, which do not recoil easily and which are quickly pressed back by the parts behind them. As a result, a recoil occurs. The inner parts of the brain, having been pushed back by the inward sensory pulse, rebound in the opposite direction, pushing now on the parts in front of them. These in turn push on the parts in front of them, and so on, thus creating an outward pulse of motion traveling back out along the sensory nerves. It is only when the motion starts travelling back in the outward direction that it starts to look to us like a sensation (prior to that it is an unsensed cause of sensation). Because we sense that the pulse or wave of motion is traveling in an outward direction, we take the line of its motion, which points outwards from us, to be pointing to a place somewhere outside of us and mistake the sensation for something outside of us.

This is not a very satisfying account. It raises more questions than it answers. Who is the “us” to whom brain motions appear as colours and sounds? If all that exists in the brain is a



motion, then is there some other part of us behind the brain that is looking at the brain and confusedly seeing the motions in the brain as colours and sounds? If so, what and where is this thing and how it is related to the brain? And how can a motion, however small or confused, possibly appear as a colour or sound?

Hobbes seems to have found these questions uninteresting. It was enough for him to be able to establish, on what he took to be good grounds, that what is outside us is just a shaped object in motion and that the most direct effect of this object is a motion in our sense organs, central nervous system, and brain. Supposing that Hobbes could go on to tell a story just about these internal, physiological motions and how they produce the other cognitive and conative phenomena of human nature, he would have developed the theory as far as he needed to go and could afford to ignore the further questions.

b. Memory, imagination and dreams. Hobbes proceeded to do just this and to extend his mechanical account to other cognitive phenomena. He claimed that once sensations have been produced they bang around in the brain for an indeterminate length of time, slowly diminishing in strength (due to the ongoing resistance of the parts of the brain) as they do so. The motions will typically occur in a chain, having been preceded by other motions and being followed by yet others. Like images, these chains of motions have parts. As the motions in a chain diminish in strength, the little motions that are parts of the chain fade, run into one another, and become. Confused motions are like images of objects seen at a distance, where their smaller parts cannot be distinguished from one another.

Hobbes appealed to these notions in order to account for memory. As far as he was concerned, in both sensation and memory a particular motion is now (presently) occurring in the brain. He had little choice over this. After all, if the motion is past, it no longer exists, and if it no longer exists it cannot be what accounts for the fact that I am now remembering. But if the motion is present, what distinguishes it from a sensation? Hobbes explained that it will often be the case that when we first see something, we obtain a very distinct conception of it with all of its parts. Then, later, when this image has faded and become indistinct, we look at it and note that it does not contain as much information as it formerly did. This experience, of looking at an image to find some information we were previously able to obtain from it, and discovering to our frustration that it no longer contains that information, is what leads us to identify the representation as a memory and prevents us from confusing memories with present experiences. In all cases of remembering, we always are aware of the indistinctness of our representation as compared to what we experienced in the past. We think we are missing something.

Unfortunately, this account of memory is question begging. Unless I am able to remember what the past image was like, I can't compare it with my current representation and judge that the current representation is indistinct and lacks something that was present in my past representation. So I need to be able to remember in some other way than the way Hobbes describes in order to remember in the way he describes — which is tantamount to saying that Hobbes has simply failed to account for memory.

Hobbes was more successful at accounting for imagination and dreaming. He supposed that, just as the links in a chain of motions can fade and melt into one another as the motions fade, so, when a number of motions are simultaneously banging around in the mind, they can bang into one another, mix, and produce a sort of compound motion that is a product of the mixing of many others, like waves from many different directions coming together and producing a compound wave. If the motions are again thought of as chains that make up images (that is,



things with partial motions set outside one another), then the “images” that are produced will be a sort of fantastic aggregate or compound of past motions. As long as we are awake, the fresh, forceful motions coming in from the senses will tend to engross all of our attention, and we will not notice these fantastic creations. But whenever our experiences turn dull, or we are bored, we will notice other motions, that is, we will fantasize and daydream. It is not that we deliberately cause our fantasies by actively creating images; it is rather that those confused motions that happen, for purely mechanical reasons, to be banging about in the mind at the time are the ones that we end up attending to and imagining.

Hobbes supposed that over the course of the day our senses, being constantly buffeted by stimuli, get wounded and shrink back from the outer surfaces of our bodies. When this happens, we start to lose contact with the incoming sensations. This just is to become drowsy, and eventually we fall asleep. Then fantastic images, compounded from past experiences, float into our attention, like stars becoming visible at night after the much brighter sun sets. Since these images may be quite distinct, they are not taken to be memories but are confused with actual sensory experiences. That is, we start to dream.

Hobbes appealed to this account to explain away people’s experiences of ghosts and spirits of the dead. On his account, as people fall asleep, their senses gradually pull back. The more forceful objects in our surroundings still affect them, but fainter images from our imaginations begin to capture our attention. These two experiences coexist leading us to have the sensation of the imagined objects existing in the space we are currently sensing. We end up thinking we are seeing a ghost when in fact we are half dreaming. Hobbes drew an amusing moral from his theory: that one ought always to carefully prepare oneself for bed, and never fall asleep in a chair. The preparation and the placement of our bodies in a special place is a signal to us not to believe what we are going to see next will be real. But if we get drowsy and fall asleep during the day, we may have difficulties separating dreaming from reality, since the dream images blend with our waking surroundings. This is what leads people to believe (falsely) in the existence of ghosts and other spirits. They think they have actually seen ghosts of long dead people or other spiritual apparitions when in fact they were just dreaming.

ESSAY QUESTIONS AND RESEARCH PROJECTS

1. Assess the adequacy of the arguments that Hobbes used over HN II to prove that the sensible qualities are unreal. How might someone who is committed to the external existence of these qualities respond to Hobbes’ arguments, and how effective would those responses be?
2. At HN I.2, Hobbes said he would base his work on what people know by experience. At HN II.10 he said that, “whatsoever accidents or qualities our senses make us think there be in the world, they are not there, but are seemings and apparitions only.” He further claimed that “The things that really are in the world without us, are those motions by which these seemings are caused.” But if all our knowledge is supposed to be based on experience, and whatever our senses make us think there is in the world is not there, how could Hobbes have claimed to know anything about what really exists in the world without us, particularly that what is real are “motions?”
3. Assess the adequacy of Hobbes’ claim that sensible qualities are merely the way that motions of the parts of our brains appear to us. Aside from problems of justification (raised in the previous question) the claim poses the problem of how a motion could even



“appear” as a colour, sound, smell, taste or feeling, and the problem of where colour, sound, smell, taste and feeling exist if they do not exist in our bodies. What alternatives did Hobbes have to making this claim, supposing that he wanted to insist that sensible qualities do not exist outside of us and that the only effect that a moving object can have on another object is to move it? Is the existence of sensible qualities an irresolvable problem for Hobbes, or is there some way to reconcile the apparent existence of sensible qualities with a mechanistic account of sensation and sensations and a purely materialist account of the mind?

4. Hobbes’ problems defining memory are not unique. Undertake a critical survey of attempts to explain the phenomenon of memory in the early modern period.

