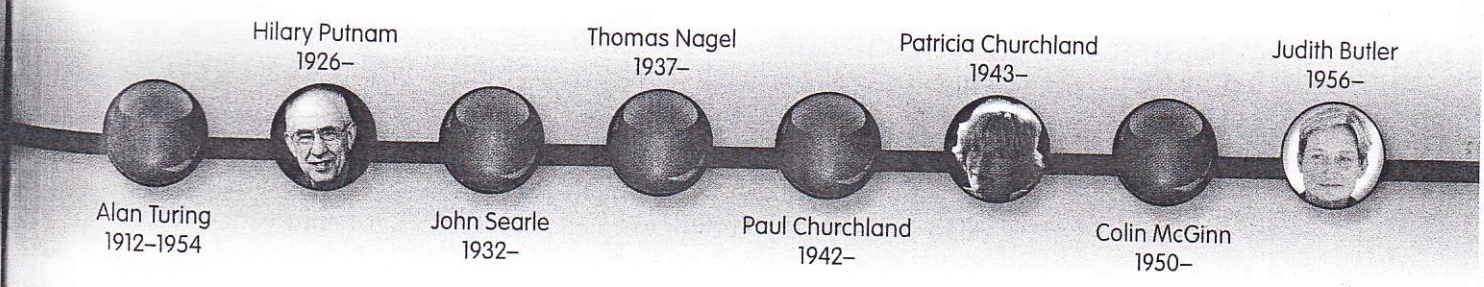
CHAPTER INTRODUCTION

The brain of 23-year-old Lev Zasetsky was damaged from a bullet to the head in World War II. The bullet tore a hole through his tempero-parietal-occipital lobe, the place in the human brain where higher-order cognitive and perceptual functions are localized. He survived, but his memory, sensory perceptions, language, and motor abilities were severely damaged.

Zasetsky was left with dense retrograde amnesia (the loss of pre-existing memories) and anterograde amnesia (the loss of the ability to remember new things). He was unable to read, write, understand spoken language, manipulate objects, gauge distances, and make simple inferences that a six-year-old can make. He heard sounds in the absence of external auditory stimuli (tinnitus). He did not feel that his body was his own, and he could not locate his own body parts. He did not know his own name, and the right side of everything in his visual field was missing (right homonymous hemianopsia). Yet, Zasetsky was conscious, perceiving, self-aware, thinking, the owner of his thoughts, and capable of experiencing things from a single point of view. Without some of these building blocks, would Zasetsky still have a mind? Just what *is* a mind, if it can be so shattered and yet still manage to maintain a slim hold on reality?

In this chapter, you will consider some famous theories of the mind proposed by philosophers from antiquity to the present. You will also consider questions about the mind-body problem and personal identity, as well as the question of whether machines can think.



Diagnosing Zasetsky

"Vain is the word of a philosopher which does not heal any suffering of mankind." So said the ancient Greek philosopher Epicurus (341–270 BCE), expressing the sentiment that philosophy holds no lasting value if it is not ultimately applicable to issues of illness, well-being, and health. Philosophy has a long and deep involvement with medicine. Many important philosophers (such as Empedocles, Galen, Ibn Sīnā, Ibn Rushd, Maimonides, and John Locke) have trained and worked as physicians. What might philosophers of mind have to say about a patient, such as Zasetsky? Can philosophy at least help to diagnose the state of Zasetsky's mind?

Abu Nasr al-Farabi's Diagnosis

A small part of Zasetsky's mind is broken, but the most important part is free from the cognitive and perceptual troubles that afflict him because the mind is immaterial. Such would be the diagnosis of the Islamic philosopher and neo-Platonist Abu Nasr al-Farabi (ca. 872–950 BCE). Al-Farabi held that part of the mind is a mirror of the **Agent Intellect**, or the mind of God, and has the power to imitate it and eventually identify with it. The Agent Intellect, a perfect being, is a model for the mind's perfection and the key to its ultimate happiness. According to al-Farabi, the mind is a mix of higher and lower forms. The higher forms connect to the world of unchanging and perfect heavenly intellects, and the lower forms connect to the world of changing, decaying, and imperfect things.

Is your mind a mirror of the Agent Intellect, or the mind of God?

Al-Farabi identified four parts, or dimensions, of the mind or intellect: potential, active, acquired, and agent. The potential intellect is the capacity to think, which is the baseline condition of all humans. The active intellect, which is the actual act of thinking, varies from one person to another. According to al-Farabi, thinking is the process of abstracting universals or forms from the messy flux of particulars that are delivered by the senses and the imagination. This process does not depend on the mind's haphazard encounters with the external world that yield a fragmented and contradictory picture of reality. Rather, the entire process is guided from above. The Agent Intellect lights up the world of intelligible forms for finite minds, in the same way that the Sun illuminates the world and makes things visible.

Divine illumination makes it possible for us to think and orients the search for knowledge in the right direction. Without this guidance, we would not even know where to begin, what questions to ask, or where to look for the important things. The acquisition of knowledge, however, is an ongoing process that is refined to varying degrees over the life of the individual.

Where does this lead? Curiously, it leads to a gradual transcendence of individual egocentric boundaries. You become less and less you—the finite, situated, embodied, imperfect, and psychologically unique self that you are—and more and more like the Agent Intellect. When the body dies, the personal and highly idiosyncratic memories, desires, and thoughts that make up "you" are transcended. All that remains is the active intellect, which forms a union with the other active intellects in the universal mind of God. There is no *personal* survival after death. For al-Farabi, that is a myth.

Figure 5-2
Sculpture of Islamic philosopher Ibn Sīnā whose "floating man" thought experiment is designed to show the complete independence of the mind from the body. Imagine, he writes, that you are suspended in air, detached from your physical body, and completely isolated from any sensory input and any physical contact with things. You would still be able to conclude that you exist. How? You are thinking, and you are aware of yourself thinking. Therefore, you cannot be nothing at all. To think, you have to *be* something—even if this something is not material. So, you can conclude that your mind exists.

Ibn Sīnā's Diagnosis

Zasetsky's mind is perfectly intact and perfectly functioning. He is conscious, thinking, self-aware, and self-unified. His brain and sensory organs are, of course, giving him trouble, but this is a temporary condition that will pass once the body dies. Such would be the philosophical diagnosis of the Persian-born Islamic philosopher and physician Ibn Sīnā (980–1037), also known by the Latinized name Avicenna. Ibn Sīnā adopted some of al-Farabi's philosophy of the mind, but he retained the concept of an individual immaterial soul; that is, a soul that exists after the body dies.

Ibn Sīnā held that the mind, or soul, is a substance that is immortal, self-conscious, and entirely independent of materiality. Unlike the physical body and brain, which are corruptible, the mind cannot decompose, be divided, or degenerate. The mind serves as the organizing principle of the body and shows the body the way to moral and intellectual perfection. The body serves, among other things, to individuate the mind, to give it boundaries, and to provide it with images and ideas that it can contemplate when it separates from the body at death. Your mind, or soul, is a thinking substance both before its engagement with the material world and afterward, when your body and sense organs die.

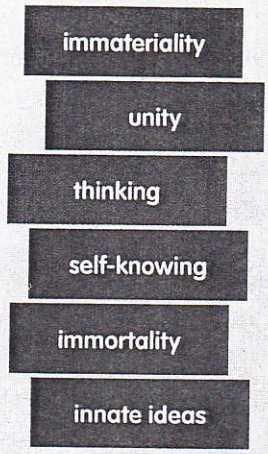
René Descartes' Diagnosis

Zasetsky's mind is healthy and whole, and as perfect as the day that it was created by God. Zasetsky continues to think, reason, and meditate on the deepest concepts, despite his broken perceptual apparatus and the confusing stream of sensory information to which he is subjected. The prognosis (at least for Zasetsky's *mind*) is excellent. Such would be the diagnosis of the French philosopher and mathematician René Descartes (1596–1650). Why such a favourable prognosis? According to Descartes, it is because the mind is the most special and unusual thing in the entire universe. Nothing comes close to its perfection.

First, the mind is an immaterial thing or a substance, and its entire purpose is to think. Second, the mind is an absolutely perfect unity; nothing can rend it apart or diminish it. Third, the mind never stops thinking, even when the body is asleep or unconscious or in a coma or suffering from a terrible trauma. Fourth, the mind enjoys a crystal clear transparency with respect to itself; the mind knows, with the utmost certainty, what it is and what it is up to—it is self-knowing. Fifth, the mind is immortal; when the brain and body die, the mind continues to be and continues to think forever. Sixth, the mind comes hard-wired with innate ideas about God, being, its own nature as a substance, and deep mathematical and logical principles, all of which are imprinted on it at the moment of its creation by God (long before it becomes embodied). These six characteristics serve as the cognitive equivalent of a homing signal, pointing the way to the truth. Thus, we will never be completely lost in our search for truth, and we can never go completely wrong.

The mind possesses all of these unusual characteristics because it is not the same as the brain. It is not a material thing, and it has none of the properties of a material thing. (For example, it does not have the most basic property: extendedness, or taking up space.) Despite its very special characteristics, the mind can still somehow interact causally with the brain, sending messages to it and receiving messages from it, all the while remaining immaterial. Descartes never explained precisely how this interaction between two such different things is possible. One of the important consequences of Descartes' philosophy of the mind is that the mind is scientifically invisible. Since it is not a physical thing, it cannot be measured, quantified, or subject to experimentation, as a physical thing can be. There is, therefore, no such thing as the science of the mind.

Figure 5-3
These building blocks represent Descartes' understanding of the mind.



> ... I knew that I was a substance the whole essence or nature of which was merely to think, and which, in order to exist, needed no place and depended on no material thing. Thus this I, that is, a soul through which I am what I am, is entirely distinct from the body, and is even easier to know than the body, and even if there were no body, the soul would not cease to be all that it is.
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> —René Descartes

John Locke's Diagnosis

Zasetsky's mind-to-world fit has been critically disrupted due to the horrific trauma that was sustained by his brain, the instrument of perception. His primary access to reality and to himself has been tragically diminished; his sense of self and his continuity as a person has been almost completely destroyed; and his capacity to reason, reflect, and know has been reduced to the lowest level imaginable. He still remains a person, however, because he can—at least to a certain extent—think, reason, reflect, and care about his future and his past. Zasetsky's prognosis is poor. The most he can hope for is divine revelation and the grace of God. Such would be the diagnosis of the English philosopher and empiricist John Locke, who also trained as a physician.

> Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas; how comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? To this I answer, in one word, from experience. In that all our knowledge is founded, and from that it ultimately derives itself.
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> —John Locke

Locke (1632–1704) rejected the innatist theories of the mind, proposed by Descartes and Gottfried Leibniz. He claimed that the human mind is a blank slate when it first makes its appearance in the world. Whatever is in the mind begins with sensory experiences. The loftiest ideas, the most trivial information, the most amazing thoughts, and the darkest secrets all have their source in perception. If the external environment was greatly impoverished, so would be perception and thinking. Similarly, if the instrument of perception (the brain) was greatly diminished by disease or injury, or simply by lack of stimulation, so would its thinking be diminished. Consider Locke's example from *An Essay Concerning Human Understanding* (1689):

> "If a child were kept in a place where he never saw any other but black and white till he were a man, he would have no more ideas of scarlet or green, than he that from his childhood never tasted an oyster, or a pine-apple, has of those particular relishes."

Immanuel Kant's Diagnosis

The light bulb hanging from the ceiling in Zasetsky's room does not morph surreally into a stream of water and then a pineapple and then a frog's eyeball and then an indescribably strange shape. It remains more or less medium-sized; it does not rapidly shrink to the size of a pinhead and then expand to the size of a huge helium balloon. It remains more or less in the middle distance; it does not shift rapidly and unpredictably from being extremely remote to extremely close up. Its colour remains stable, rather than shifting quickly from green to black to purple. The light bulb can be distinguished from the background; it does not blend into the background or have fuzzy edges that mask where it ends and where the background begins. The light bulb does not flicker into and out of existence; it seems to obey the law of gravity, and it does not dart bizarrely and unpredictably back and forth.

Zasetsky does not have two separate and insulated experiences of the light bulb running simultaneously through his head. He has a stable point of view, not a constantly shifting point of view or many concurrent points of view. Causes do not come after effects, and time does not speed up, slow down, run backwards, or stop altogether. There is, in other words, a lot of deep experiential structure and patterning in Zasetsky's perception of the world. This is because the human mind *constitutes* the world and gives meaning and structure to the world.

Trauma sustained by the mind's constitutive powers would result in distortions in the most basic and familiar properties, shapes, and relations of objects in the world, such as object unity, object permanence,

and object-property binding. Zasetsky has lost some of the world, because some of his reality-constituting cognitive and perceptual powers have been severely damaged, but he still has enough to function, although at a level vastly below what he was used to. Such would be the diagnosis of the Prussian philosopher Immanuel Kant (1724–1804).

Kant argued that the mind imposes very general forms of space and time, and very basic logical categories, onto the field of sensory data. This allows us to experience the world spatially and temporally, and as causally structured and populated with objects. Reality in itself may be very different from this: it may be non-spatial, non-temporal, non-causal, and non-object-like. However, we cannot know reality in itself since we cannot step out of, or suspend, our own constituting activity. For example, even before any particular spatio-temporal object has been experienced, the mind necessarily, automatically, and non-consciously imposes the concept of an *object in general* upon the field of sensory data. This is a complicated process, involving the imposition of categories of unity, plurality, totality, reality, negation, limitation, substance, accident, cause and effect, possibility existence, and necessity. Some but not all of Zasetsky's spatio-temporal functions must have been damaged, since his spatio-temporal world is fragmented and confusing. As a result, some but not all of his abilities to impose categories of object permanence and object unity must have been damaged, since he sometimes experiences objects as fragmented, discontinuous, and causally disconnected.

> Hitherto it has been assumed that all our knowledge must conform to objects. But all attempts to extend our knowledge of objects by establishing something in regard to them a priori, by means of concepts, have, on this assumption, ended in failure. We must therefore make trial whether we may not have more success in the tasks of metaphysics, if we suppose that objects must conform to our knowledge.
>
> —Immanuel Kant

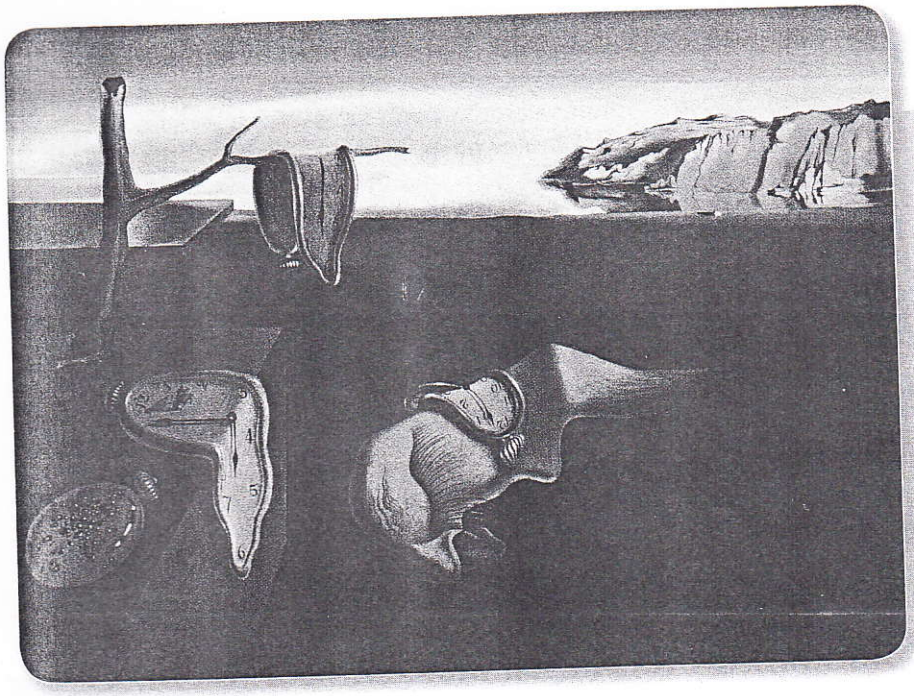

Figure 5-4
This painting by Salvador Dali, a surrealist painter, is titled *The Persistence of Memory*. Unlike images in this painting, in which objects bend unexpectedly, Zasetsky's perception is relatively stable. He perceives objects more or less in the middle distance, and they do not shift rapidly and unpredictably into different shapes and sizes.