

Chapter One

we all need wisdom

Why Live?

Why don't you kill yourself? Albert Camus began his book *The Myth of Sisyphus* with the startling assertion "There is but one truly serious philosophical problem and that is suicide." A French novelist and philosopher who won the Nobel Prize for literature in 1957, Camus said that judging whether life is or is not worth living amounts to answering the fundamental question of philosophy. If life is meaningless, there is no point to pursuing traditional philosophical questions about the nature of reality, knowledge, and morality.

Why life is worth living is indeed an urgent question, but it is rarely the question of suicide. The question of why you don't kill yourself arises only if you think that there are reasons why you *would* kill yourself, and people's lives are rarely so miserable that such reasons become prominent. If depression, disease, and despair were the overwhelming character of everyday life, then people would have a daily struggle about whether to go on at all. Unfortunately, such a struggle is not rare among young adults: an American survey of university students found that 10 percent said they had seriously considered suicide during the preceding year.

Most of us face the much less drastic question of *how* to go on, of how to live our lives. Then the question of the meaning of life is not the skeptical one of whether there is any meaning at all, but rather the constructive one that can have informative answers concerning what aspects of life make it worth living.

For most people today, religion provides a major source of answers to such questions about the meaning of life. When I was a child in Catholic school in the 1950s, I learned from the Baltimore Catechism that "God made me to know Him, to love Him, and to serve Him in this world, and to be happy with Him forever in the next." From a religious perspective, meaning arises not from any meager aspect of our daily lives, but from our profound connections with God, who brought us into existence and who provides the

possibility of eternal happiness. However, for Camus and others like myself who have abandoned the beliefs produced by our religious upbringings, the theological answer to the meaning of life is implausible. Does this imply that life is absurd, ridiculous, and pointless, so utterly devoid of meaning that suicide should be a daily preoccupation of everyone?

Not at all. The eminent clinical psychologist Martin Seligman remarked that the three great realms of life are love, work, and play. For most people, these realms provide ample reasons to live. If your life is rich with love of family and friends, with work that is productive and pleasant, and with varieties of pastimes and entertainments that bring you joy, then the general issue of the meaning of life need rarely trouble you, eliminating Camus' extreme question of suicide. In chapters 7 and 8, I will use evidence from psychology and neuroscience to show how love, work, and play make life meaningful for most people, whether or not they are religious.

In the absence of the threat of absurdity, narrower issues about the meaning of life arise when the three realms conflict. For example, couples with young children often experience severe conflicts between love and work, when the intense needs of children compete for time and energy with the demands of career development. Young adults need to figure out how to render compatible the delights of playful pastimes such as sports and music with the imperative to get a job and support themselves. One of the few advantages of growing older is that the reduction of family responsibilities and the satisfaction or diminishing of career goals can make conflicts between the realms of love, work, and play much more manageable. I will describe how the meaning of life is no single thing such as a devotion to God, but rather depends on multiple dimensions that shift in importance over the course of a person's life. Hence life need never sink into the kind of absurdity embraced by Camus when he was writing in his twenties.

My aim in this book is to use experimental and theoretical research in psychology and neuroscience to provide a much richer and deeper understanding of how love, work, and play provide good reasons for living. Thus an answer to Camus' philosophical question about the meaning of life becomes tied to scientific findings, which many philosophers and religious thinkers would consider cheating. They think that philosophy should be concerned with truths that are eternal and absolute, not with the messy and sometimes transient findings of empirical science. Unfortunately, philosophy

has been no more successful at finding such eternal truths than religion has been. In contrast, I will try to show that neuropsychology is richly relevant not only to the question of the meaning of life, but also to questions that I think are just as fundamental, concerning the nature of reality, knowledge, and morality.

Without any ranking, here are what seem to me to be the most fundamental philosophical questions:

- What is reality?
- How do we know reality?
- Why is life worth living?
- What makes actions right or wrong?

In contrast to Camus, I think that it is useful to address the question of the meaning of life *after* considering the nature of our knowledge of reality, although we will see that all these questions are intimately interconnected. For example, the question of why life is worth living raises issues about the moral legitimacy of ends such as love, work, and play. Moreover, issues about the nature of knowledge and reality are crucial for the pursuit of questions about morality and the meaning of life. We need to know what persons are and how they can gain knowledge in order to be able to figure out how to assess the objective value of human lives and the rightness or wrongness of actions.

Sources of Wisdom

The word “philosophy” arose from Greek words for love of wisdom, but what is the wisdom that philosophy is supposed to be seeking, and how can it be found? Wisdom is not just knowledge, as there are many pieces of knowledge of little general importance. I know that Toronto is a city in Ontario, but would hardly claim that this knowledge makes me wiser. Rather, we should think of wisdom as knowledge about what matters, why it matters, and how to achieve it. Knowing what matters should guide us to acquire other kinds of important knowledge rather than acquiring a wealth of beliefs that may be true but rather trivial. At the deepest level, wisdom involves knowing not only what kinds of things are important to human

beings, but also *why* they are important. For example, to be wise you need to have some understanding that love matters to people, that there are psychological and biological reasons why love matters, and that there are better and worse ways of finding love.

All people need wisdom of this sort in order to conduct their lives effectively, but wisdom may take on different forms as people go through the stages of life. Small children have scant need for wisdom, fortunately, as their needs and plans are normally taken care of by parents and other caregivers. But adolescents and young adults face important transitions, from play as their major focus to concerns with careers and families that elevate the importance of work and love. Finding coherence among work, love, and play is key to finding satisfaction and happiness in middle age. As people grow older, they need to figure out how to shift this balance in keeping with changes in family responsibilities and diminished capabilities due to reduced health.

The ancient Greek philosopher Epicurus eloquently expressed the need for wisdom across the life span:

Let no one be slow to seek wisdom when he is young nor weary in the search of it when he has grown old. For no age is too early or too late for the health of the soul. And to say that the season for studying philosophy has not yet come, or that it is past and gone, is like saying that the season for happiness is not yet or that it is now no more. Therefore, both old and young alike ought to seek wisdom, the former in order that, as age comes over him, he may be young in good things because of the grace of what has been, and the latter in order that, while he is young, he may at the same time be old, because he has no fear of the things which are to come. So we must exercise ourselves in the things which bring happiness, since, if that be present, we have everything, and, if that be absent, all our actions are directed towards attaining it.

In chapter 7, I will challenge the assumption of Epicurus that happiness is the meaning of life, and I prefer to write of the health of the mind or brain rather than the soul. But I agree wholeheartedly that old and young alike ought to seek wisdom.

Wisdom operates at different levels. Most generally, it concerns recognizing major goals such as love, work, and play. In addition, much wisdom

consists in knowledge about how to accomplish these goals. For example, learning from experience how to have a good romantic relationship contributes to satisfaction of the goal of having love in one's life. Moreover, wisdom includes many kinds of knowledge that complement more specific information about primary goals and how to accomplish them. In particular, knowing how to keep yourself healthy by eating well is valuable for ensuring that illness won't prevent the pursuit of major goals. Wisdom of a particularly deep sort concerns knowing why some goals such as love, work, and play are so important to people. Chapter 8 will argue that love, work, and play are the meaning of life because they help to satisfy vital human needs.

Where can we look for all these kinds of wisdom? Philosophers have sought wisdom for thousands of years, but there is little consensus about what they have learned. The philosopher Jerry Fodor joked that anybody who thinks that philosophers have access to large resources of practical wisdom hasn't been going to faculty meetings. My own approach to wisdom is unusual in that I use experimental psychology and recent research in neuroscience to develop a systematic account of what matters to people and why it matters.

Philosophical Approaches

The approach to philosophy that I favor, attempting to answer fundamental questions by relating them to scientific findings, is called *naturalism*. Many philosophers since Plato have scorned naturalism, arguing that science cannot provide answers to the deepest philosophical questions, especially ones that concern not just how the world is but how it ought to be. They think that philosophy should reach conclusions that are true *a priori*, which means that they are prior to sensory experiences and can be gained by reason alone. Unfortunately, despite thousands of years of trying, no one has managed to find any undisputed *a priori* truths. The absence of generally accepted *a priori* principles shows that the distinguished Platonic philosophical tradition of looking for them has failed. Wisdom must be sought more modestly.

Sometimes, however, philosophy gets too modest. The highly influential Austrian/British philosopher Wittgenstein asserted that philosophy is

unlike science in that all it should aim for is conceptual clarification. In his early writings, he looked to formal logic to provide the appropriate tools, and in his later work he emphasized attention to ordinary language. He claimed that philosophy “leaves everything as it is.” Much of twentieth-century philosophy in English devoted itself to the modest goal of merely clarifying existing concepts. But no one has learned much from analyzing the logic or the ordinary use of the words “wise” and “wisdom.” We need a theory of wisdom that can tell us what is important and why it is important. Such theorizing requires introducing new concepts and rejecting or modifying old ones.

My approach in this book is to seek wisdom that is natural, not in the health food sense of being free of chemical additives, but in the scientific sense of being guided by experiments and theories. Philosophical naturalism is more intellectually ambitious than conceptual clarification, but rejects Platonic and religious ambitions to seek truth in supernatural realms. In chapter 2, I will give a sustained argument why we should base our beliefs on scientific evidence rather than on faith. Psychology and neuroscience are particularly rich sources of evidence relevant to the four central philosophical questions about reality, knowledge, meaning, and morality, so I call my approach neural naturalism.

The Relevance of Minds and Brains

Experimental psychology and neuroscience are still young fields of investigation, dating back only to the late nineteenth century. My goal in this book is to show how they can contribute to answers to central philosophical questions about the nature of reality, knowledge, morality, and especially the meaning of life. My arguments will be largely empirical, tying philosophical issues to experiments and theories in neuropsychology.

Like other sciences such as physics, psychology and neuroscience are both experimental and theoretical. Attempts to understand the mind are ancient, going back more than two thousand years to Greek thinkers such as Plato. Attempts to understand the physical world are similarly ancient. But experimental science began to flourish only in the seventeenth century, when thinkers such as Galileo showed the advantages of basing conclusions

about the physical world on evidence derived from systematic instrument-based observations and carefully designed experiments. Galileo used the newly invented telescope to make novel observations of the planets, achieving unexpected discoveries such as the moons of Jupiter. He also conducted experiments to determine how falling bodies behave on inclined planes. The superiority of experimental approaches to the world over traditional ones based on authorities such as Aristotle and Thomas Aquinas became increasingly apparent. Common sense, tradition, and the Catholic Church said that the earth is the stationary center of the universe; but the evidence collected by Galileo, Kepler, and others combined with the theories developed by Copernicus and Newton to make inescapable the conclusion that the earth moves.

Psychology, however, became experimental only centuries later, when Wilhelm Wundt and others established laboratories for systematically investigating mental operations. Early psychological theories were crude, because ordinary language provided a very limited vocabulary for explaining how the mind works. A major theoretical breakthrough took place in the 1950s, when emerging ideas about computing began to provide analogies about how minds can operate using representations and mechanical processes. These ideas developed hand in hand with new experimental techniques such as the precise measurement of how fast people react to different stimuli. Today the interdisciplinary field of cognitive science develops computational theories intended to explain the results of many different kinds of psychological experiments.

Neuroscience also blossomed at the end of the nineteenth century, when new techniques for staining cells made it possible to identify how neurons constitute the brain. The Spanish biologist Santiago Ramón y Cajal developed what came to be called the neuron doctrine, the idea that the brain's functions are largely carried out by its nerve cells. Through the first part of the twentieth century, psychology and neuroscience developed largely independently of each other, but began to converge in the 1980s through a combination of experimental and theoretical advances. A major experimental advance was the invention of brain-scanning machines that make it possible to observe the operation of different brain areas while people are performing mental tasks. A major theoretical advance was the development of computational ideas about how neurons can interact to generate complex

representations and processes. Together, these advances made possible the field of cognitive neuroscience, which is the theoretical and experimental study of the neural processes that underlie human thinking. Combining psychological and neurological experiments with computational theories that explain their results takes the scientific study of mind far beyond what casual introspection can tell us about mental phenomena. The main thrust of chapters 3–10 is to show the relevance of results in cognitive neuroscience for philosophical problems about reality, knowledge, meaning, and morality.

Looking Ahead

In summarizing the rest of the book, I run the risk of seeming to assert dogmatically a host of views that have not yet been defended. But I want to give the reader a good idea of where the book is going and how it all fits together. Such fitting together is a holistic, parallel process that is not easily grasped through the unavoidably serial process of reading successive chapters, but I will try to portray the whole picture in a preliminary form here and more thoroughly in the concluding chapter that will tie together preceding arguments. This look ahead will be rough and incomplete, but should serve to introduce some key ideas for providing naturalistic answers to philosophical questions.

What is reality? My answer will be that we should judge reality to consist of those things and processes identified by well-established fields of science using theories backed by evidence drawn from systematic observations and experiments. This view is highly contentious, as it rules out both religious faith and a priori arguments as sources of knowledge about reality. Chapter 2 will provide an argument why philosophy, like medicine and science, should be evidence based rather than faith based. Tying reality to the results of scientific investigations does not in itself rule out spiritual entities such as gods, souls, and angels, for there could be observations and experimental results that are best explained by theories postulating the existence of such entities. Historically, however, the development of naturalistic explanations in terms of physics, biology, and other sciences has rendered supernatural explanations dispensable. I will describe how theories in physics

and biology have demolished theological arguments for hypotheses about divine creation to explain the origin and nature of the universe. Chapter 3 will similarly argue that neuropsychological theories are now sufficiently powerful to make it plausible that minds are brains, so that hypotheses about the existence of the soul are as superfluous as ones about gods and angels. Reality is what science can discover.

In arguing for a scientific approach to reality, chapter 2 also provides the beginnings of an answer to my second major philosophical question, concerning how we know reality. I will go into detail about how scientific thinking works, including how observations and experiments constitute evidence that can be explained by competing scientific theories. Evidence-based medicine provides an accessible example of the advantages of using science rather than faith or a priori reasoning to reach conclusions. Philosophy and science are not restricted merely to what can be observed, but instead can go beyond observation to develop theories about things and processes that surpass the reach of human senses and available instruments. We can use a reasoning process called inference to the best explanation to justify the adoption of theories that go well beyond what we directly observe.

Chapter 2 will not depend on any neuropsychological findings, but the argument in chapter 3 that we should identify minds with brains will set the stage in the following chapter for a discussion of how brains know reality. Here I will draw heavily on recent experimental and theoretical results in neuroscience to explain how brains represent the world, using both sensory processes such as vision and reasoning processes such as inference to the best explanation, enabling scientists to develop knowledge that goes beyond our rather limited senses. Chapters 2, 3, and 4 propose integrated answers to some of the most central questions in metaphysics (the theory of reality) and in epistemology (the theory of knowledge). Scientific reasoning is the best way to gain knowledge, and minds are brains equipped with all the observational and inferential capacities we need to comprehend how the world works. Thinking is multimodal, requiring both verbal and sensory representations, and multidimensional, employing representations that acquire meaning by relations to each other and to the world.

To address ethical questions about the nature of morality and the meaning of life, we need to go beyond the cognitive processes described in chapters 2–4 to consider how the brain accomplishes emotional feelings and

makes decisions. Chapter 5 defends a theory of emotional consciousness that serves two purposes. First, it fulfills a promise in chapter 3 to show how it is possible to give a naturalistic explanation of consciousness. Second, it provides the basis for the attempts in chapters 6–8 to describe the neural basis for meaningful decisions and moral judgments. I will argue that our emotional feelings are the result of parallel brain processes that involve simultaneous cognitive appraisal of the situations we face and internal perceptions of the states of our bodies. Our everyday decisions about what to do are tied in with the same kinds of processes, which generate the gut reactions that tell us what actions to pursue. According to chapter 6, decision making is inference to the best plan, selecting actions that accomplish our goals, which are emotionally marked neural representations of desirable states of affairs. Such inferences require a dynamic interaction of cognition and emotion. Good decision making requires the ability to adopt, abandon, and revalue goals on the basis of experience.

With theories about reality, knowledge, and decision making in place, we can return to the question that began this book: why is life worth living? For chapter 7, I draw on recent findings about the neural processes involved in love, work, and play to offer an account of how these realms can provide all the meaning to life that people need. Just as chapter 4 discussed the meaning of mental representations such as concepts in terms of multiple dimensions, chapter 7 defends a multidimensional, neural-based view of the meaning of life. Chapter 7 also completes the account in chapter 6 of how brains make decisions by describing how love, work, and play constitute major goals that affect what actions people choose.

Philosophy addresses normative concerns about how things ought to be, not just descriptive matters of how things are. Chapters 6 and 7 touch on normative issues about how people should think and act, but these are addressed more thoroughly in chapters 8 and 9. Chapter 8 shows how love, work, and play deserve to be meaningful because they contribute to vital human needs for relatedness, competence, and autonomy. Love, work, and play satisfy requirements that people need to live as human beings, and so provide the meaning of life normatively as well as descriptively. Finding a balance among competing goals and needs is not easy, but the prospect of satisfying even some of them is enough to generate hope, which is the opposite of the despair that leads to thoughts of suicide. From the perspective of

neural naturalism, hope is a brain process that combines cognitive appraisal and physiological perception to produce a positive feeling about future goal satisfaction.

In chapter 9, I argue that moral judgments are produced by neural processes of emotional consciousness. Understanding the neural basis for moral judgments does not in itself answer the philosophical question concerning what makes actions right or wrong. But it does rule out two sorts of answers that have been historically influential. My naturalistic approach is incompatible with what is still the dominant cultural view, that morality derives from religious teaching. The theory of ethical intuition that I derive from my neural account of emotional consciousness is also incompatible with philosophical views that seek the basis for morality in indubitable ethical intuitions or a priori reasoning.

I will argue for an ethical position that allows us to judge the morality of acts by considering their consequences for all involved, subject to constraints that emanate from our neural constitutions, biological nature, and social needs. Inferences about how things ought to be cannot be simply derived from empirical matters, but we can nevertheless draw objective normative conclusions by coherently producing inferences to the best moral plan. Normative conclusions about the meaning of life and about human rights can be based on biological and psychological evidence concerning vital needs. Although my approach is deeply biological, it rejects many claims made by evolutionary psychologists concerning an innate basis for specific kinds of behaviors.

Finally, in chapter 10, I review the big picture of how a naturalistic approach to mind based on psychology and neuroscience provides answers to fundamental philosophical questions. As chapter 3 and 4 argue for knowledge, and chapter 9 argues for morality, inference is a matter of fitting all relevant conclusions into a coherent whole, and I will try to display what I think is the overall coherence of neural naturalism. Whole systems of philosophy are out of fashion, but I try to show the general fit, with each other and with scientific findings, of my conclusions about realism, coherence, moral consequences, and the multiple dimensions of the meaning of life. I will sketch the beginnings of naturalistic answers to some additional important questions. What kind of government is desirable? How can brains be creative? What is mathematical knowledge? Why is there something rather

than nothing? My treatment of these questions will be highly preliminary, but it will point to avenues for future collaborations between philosophy and science.

Conclusion

Plato said that philosophy begins in wonder, but he was only partly right. For many thinkers such as Camus, philosophy begins in anxiety, the intense and hard-to-overcome feeling that life may be meaningless, absurd, irrational, futile, and lacking in morality. Modern science helps enormously to satisfy the feeling of wonder, by providing answers to questions about what is strange and surprising in the natural world. But science may seem to be helpless to deal with anxiety about lack of meaning in people's lives, and indeed may even increase such anxiety. Suppose physics is right that our universe began around fourteen billion years ago in a big bang that produced billions of stars; and suppose biology is right that human beings are just a kind of highly evolved ape. Then our lives cannot have the special, central place in the universe promised by religion based on faith, and by philosophy based on a priori reasoning. Hence it is unsurprising that the Brain Revolution encounters opposition from those who fear its practical as well as its intellectual consequences.

This book aims to show that neural naturalism can serve to satisfy wonder about the nature of mind and reality, and also to alleviate anxiety about the difficulty of life in a vast and apparently purposeless universe. Philosophy and neuropsychology can do little to remove the many hardships that people face as their lives develop, with inevitable bouts of failure, rejection, disease, and eventually death. But together philosophy and science can paint a plausible picture of how minds, even ones that are merely brains, can apprehend reality, decide effectively, act morally, and lead meaningful lives enriched by worthwhile goals in the realms of love, work, and play. To begin this picture, we need to understand how scientific evidence provides a better source of knowledge than does religious faith or pure reason.