Understanding Human Conduct

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The Innate and Acquired Meaning of Life

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When Adam by God was touched,
Consciousness upon him was bestowed,
And his life with meaning was endowed.
The Garden of Eden by Man is deserted,
And in vanities his life is wasted.

—S.S.R. in a cynical mood

Preface

Consciousness and Significance: The Innate and Acquired Meaning of Life

PURPOSE OF THE BOOK

The purpose of the book is to introduce a life-meaning model, called the CM model ("life-meaning" is used here as an abbreviation for meaning of life). It is intended to (a) explain why the majority of normal human beings lead a meaningful life and do not find life futile or absurd, despite the severe crises they undergo; and (b) examine the crises that can undermine life-meaning, the life paths individuals choose, and how they cope with these crises and, in most cases, manage to overcome them.

The purpose of this theoretical model is to explain individuals' behavior and the questions they face pertaining to their very existence, and their place in the world and society; that is, questions related to the meanings they attribute to their lives. The purpose of the book is not to advocate a particular way of life or to persuade people that this is the correct and most desirable lifestyle. Nor is it intended to offer an answer to the existential cosmological question: Why does the world exist? (Holt 2012).

There are two reasons for this. First, the purpose of the book is to try to explain human behavior and how it is interwoven with life-meanings. It is not meant to deal with cosmological questions, although physio-cosmological knowledge is relevant to questions related to life-meaning. Second, I do not think it is possible to explain why the world exists or how the universe was created, because the explainer and the explanations are also parts of the universe. Any explanation for creation requires a cause that is independent and separate from the universe itself. What can be explained is how parts of this vast universe came into being (such as types of radiation, stars, black holes, galaxies), but answers to these questions are not within my professional knowledge (I am a professional experimental psychologist with a broad

background in philosophy and basic physics). These answers lie in the realm of professional physicists and cosmologists.

My proposed solution to these questions is based on two main types of life-meaning: Innate and Acquired. Innate Meaning is a natural phenomenon that may be assumed to have evolved. It is essentially a sense of being alive, of life, and how wonderful it is.

There is no teleological explanation for why a person has cognitive / neurophysiological processes whose purpose is to generate Innate Meaning. Since Innate Meaning is the product of evolutionary processes, it is possible to assume that the supreme animals also have this sense to some extent. Animals' will to live is expressed in their unceasing survival behaviors (see discussion of this issue below).

Acquired Meaning (Ordinary and Extreme) is a systematic collection of rules of behaviors, norms, values, social knowledge, and scientific information that society transmits to individuals beginning at birth, with the help of its educators. Individuals assimilate these according to their personal tendencies and skills. The purpose is to help individuals integrate into society, and convince them to take on the burden of being part of a social organization. In other words, society provides individuals with a set of rules of conduct, with reasons and explanations for how and why they should behave according to the goals of the society to which they belong. One major difference between Ordinary and Extreme Acquired Meanings is as follows: in comparison to the former, the latter type of meaning demands extreme efforts by the individual in order to sustain it. Hence, the descriptor 'extreme' is not employed here in an evaluative sense (whether positive or negative), but rather in a descriptive sense.

These ideas came to fruition in the development of the CM model. The model is based on three types of life-meanings, the first being innate and the other two being acquired. All meanings are the fruits of consciousness, which gives meaning to a mental state (MS) in individuals' minds and represents their outer and inner world. Consciousness is an essential condition for meaning and it is also a necessary condition for understanding.

The first and most basic type is Innate Meaning. Consciousness gives meaning to the perceptions of sensory stimuli (vision, hearing, pain, pleasure, etc.) absorbed by the brain during every waking moment. This type of meaning is derived from sensory feelings and the awareness and experience of being alive. This strong, innate and primal meaning is shared by the supreme animals such as monkeys, dogs, cats, and dolphins.

Additionally, there are two types of Acquired Meanings: Ordinary and Extreme. These are transmitted to individuals, beginning at birth, by the society to which they belong, with the help of various learning agents such as parents, teachers, educators, leaders, as well as university lecturers. Ordinary

Meaning includes all the information individuals acquire throughout their life, so that they can adapt to the society in which they live. In contrast, Extreme Meaning requires the individual to have a full and personal commitment to a particular belief or ideology. This type of meaning is imparted to individuals via various indoctrination techniques that prepare them for situations in which they are willing to make sacrifices, even sacrificing themselves, for the religious or political ideals of the society in which they live. Drawing on these three types of meaning, the CM model explains various types of behaviors. Its effectiveness in explaining the coping mechanisms of people facing times of extreme difficulty and crisis is demonstrated.

TOPICS OF DISCUSSION AND COMMENTS
ON THE WRITING OF THIS BOOK

Chapter 1 discusses the interplay between worldview and the designing of boundaries surrounding and the content of life-meaning. For example, secular or atheist people cannot anchor their life-meaning in a belief in God and observance of religious rituals.

Chapter 2 discusses the implications of the view that the universe is infinite and indifferent to humans and their actions. This perception can bring one to the point of despair. The chapter raises arguments against this perception, based on the fact that human life is interwoven with various types of life-meanings that enable people to deal with major, painful life crises.

Chapter 3 develops the conceptual infrastructure of the Consciousness-Meaning (CM) model, and presents the three types of life-meaning: Innate Meaning, Ordinary Meaning, and Extreme Meaning.

Chapter 4 addresses the argument that there has not yet been developed a mechanistic explanation for consciousness (in the form of explanations that are prevalent in the natural sciences) that adequately describes this phenomenon and the connection between consciousness and the neurophysiology of the brain.

Chapter 5 describes how the CM model explains the basic concepts in the existentialist approach such as life-meaning, absurdity, and suicide, as concepts that describe certain types of human behavior.

Chapter 6 deals with the three concepts of life-meaning, absurdity, and suicide from a philosophical and methodological point of view. It addresses the questions of how these concepts can be justified, and the relationships between life-meaning, free will, and moral relativism.

Chapter 7 examines the central concept of this book, life-meaning, from two points of view: how to explain this concept, and how to use this concept to explain individuals' behavior.

Chapter 8 extensively discusses and compares the proposed CM model with the various other approaches presented in the professional literature, such as whether a satisfactory explanation can be offered for a concept of life-meaning from the point of view of evolution and based on scientific knowledge obtained in the natural sciences.

To conclude this preface, I feel compelled to say something that seems important regarding the bibliography. As the ideas written here occurred to me and I organized them into this meditative work, I began to systematically read relevant literature, especially two major cogitative approaches relevant to the present essay: existentialism and life-meaning. The literature on each of these two subjects is massive! This literature touches on the deep connections among multiple philosophers and their discussions on relevant issues. I read a vast amount of literature on the relevant topics, but would not dare to suggest that I read it all. Nevertheless, I have read enough that I can say that I achieved an adequate level of understanding regarding these philosophical approaches. I know which aspects I agree with and those from which my opinion differs and diverges. On the basis of my reading, I decided to focus primarily on Camus (1946, 1948, 1956, 1975) because I was inspired by his enchanting work (Sagi 2000, describes Camus as a "personal thinker"), as well as, to a large extent, on Sartre (2007). I include reference to extensive literature related to these two thinkers (for example, Crowell 2017; Golomb 1990; Lurie 2002; Sagi 2000; Sigad 1975).

From this, a problem emerged in the writing of this academic work. I am an experimental and theoretical psychologist specializing in the area of face recognition, and have a profound knowledge in the philosophy of science and mind. I have written several books and dozens of academic articles, and I am well acquainted with the process of writing academic texts. I know that I must extensively cite relevant literature (especially current literature), to show that I am well-versed in the field and familiar with what has been published previously, and then to present, against this background, my proposed innovation. However, since this book on the CM model is built on thoughts I have been pondering for many years, and some of these are personal, this book is not based solely on arguments with the existing philosophical and theoretical traditions. The book did not emerge out of a struggle with previous ideas that I deemed incorrect. My goal is not to support any given idea, or to refute another. My aim is to formulate a theoretical approach, as summarized in the CM model. Occasionally, I compare the CM model with other approaches to the subject of life-meaning. Such comparisons cannot entirely be avoided.

For all these reasons, I decided to deviate somewhat from the standard format of academic writing, and instead chose a somewhat freer and personal style. I do not refer to everything I read on the subject or fill each page with references, quotes, and footnotes, as usual. I do so only when I come to the

conclusion that this is the best way to emphasize and highlight my approach. This may be because the habit of writing in an academic style overcomes me and I cannot resist the temptation to quote, or because the pleasure of arguing with other opinions is too strong. In short, I am not going to completely suppress the academic practices that have been rooted in me for many years.[1]

NOTE

1. Note on the cover (detail from Michelangelo's *The Creation of Adam*): The hands show what many people believe—that God endowed Adam with the Divine Spark (Scintilla Divina). I interpret this beautiful painting as showing that God confers upon Adam consciousness, which is a necessary condition for understanding and meaning in life.

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Chapter 1

On the Relationship between Worldview and Life-Meaning

The general questions underlying this book pertain to life-meaning. Does the existence of living beings have a cause and a purpose? In particular, what is the meaning of the life of humans? What is the best path in life to choose? Negative answers assert that human life has no meaning, there is no reason or purpose to what exists and what occurs in the world in general and among humans in specific, that everything is accidental, chaotic, and absurd. Such answers correspond to a pessimistic, nihilistic worldview. To me, these are unacceptable. My worldview is fundamentally optimistic, although it does include a certain pessimistic tone, as will be seen.

What follows from this is that an optimistic approach has a different impact on life-meaning than a pessimistic approach does. The impact of a positive versus a negative worldview on the meaning one attributes to life and how one lives seems intuitively clear. Of course, it is also possible to perceive the impact as working in the opposite direction, from life-meaning to worldview. There is even the possibility that both worldview and life-meaning are grounded in a third factor, which is another, deeper, internal process. (I will not discuss either of these opposite approaches, or the possibility of a third factor responsible for both.)

However, to reinforce the notion that worldview influences life-meaning, I will consider whether a religious or secular worldview influences life-meaning. For example, Carroll (2016), a physicist and an atheist, states that there is no inherent meaning to the world, and that individuals determine the meaning of their life according to their own perspective. He offers a scientific explanation for all the events in the world, such as the creation of the world, the evolution of living creatures, and the consciousness of humans. Similarly, Feynman (1998) a physicist and Nobel Laureate recipient in 1965, suggests that science has nothing to say about questions of morality and life-meaning.

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In contrast, the physicist Hartnett (2017a, b) is a devout Christian who states that the world has a meaning imparted by God and Jesus; he completely rejects the view expressed by Carroll.

A person's worldview develops not only on the basis of a rationality common to all people or an education based on the rules of logic and the scientific method. A worldview is also an emotional and personal matter. That is, worldview is not only related to one's rational cognitive abilities, but is determined, to a large extent, by one's personal and emotional history. Therefore, I will begin by describing a number of my own personal traits that are relevant to the writing of this book about life-meaning. I draw upon a few essential points in my emotional background, and then a number of points based on a rational and scientific view. I will begin with the emotional elements that I found to be a deciding factor in my worldview.

THE EMOTIONAL INFRASTRUCTURE

Although neither I nor my parents are survivors of Nazi concentration camps or refugees of World War II, the Holocaust has had a tremendous influence on my worldview. I was born in Israel. My parents immigrated to Israel before the war began. They met in Tel Aviv (a small city at the time) where they married and gave birth to me. Nevertheless, I have a direct and strong emotional connection to what happened during the Holocaust. My father's entire family was killed in the Warsaw Ghetto. Much of my mother's family was murdered by the Nazis. The feelings of anger and hatred I feel toward the Nazis were intensified by reading books**,** seeing theater productions and documentary movies that dealt with the systematic extermination of my people in Europe.

The undeniable imprint that Holocaust had on me is expressed in two inescapable thoughts, engraved on the cornerstone of the structure that is me. The first is my lack of faith in the goodness of humanity. I think people are evil and enjoy inflicting anguish, especially on their own kind. This pessimistic belief runs counter to Camus' development (according to Sagi 2000) from the absurdity of life to one of human solidarity. I only found such solidarity among Israelis during times when Israel was engaged in wars against its Arab neighbors. Immediately after Israel's victories, solidarity evaporated.

From the Holocaust, I learned that murderers have no problem justifying their despicable acts. The Nazis saw Jews as an inferior race poisoning the pure Aryan race. Even religion is used to justify horrific actions such as abusive exploitation of others, torture in the name of God, and even mass murder. Why? Because religion, in its very essence, includes violent elements. Religions are belief systems developed by people (though inscribed in holy

texts, no one witnesses God's revelation, and today people who claim God speaks to them would be considered psychotic). Religion requires its believers to do two main things: The first is to recruit as many other believers as possible, since as their number increases, so does the self-conviction of followers of the religion. The second is to fight those who believe in any other religion, who are perceived as threats and infidels. This is the black shadow of the optimistic approach I mentioned previously. (How the CM model addresses this shadow is discussed below.)

The second thought is my disbelief in an entity called God. It is not possible that an omnipotent God who sees humans as the crowning glory of His creation would watch with equanimity the beings created in His image (as the believer claims) carry out the horrors of World War II and the planned extermination of European Jewry, and do nothing to prevent it. There is no acceptable explanation for this in my rational mind or emotional view. Is the Holocaust a punishment for the sins of my people? I simply cannot accept this argument in any way! What did the fetuses in their mothers' wombs do? What did babies and children do? For me, there is no God, not then and not now. There are only vicious and hate-filled people, and I belong to this horrible species. In this respect, I sympathize with the viewpoint of Dr. Rieux in Camus' (1948) novel *The Plague*, who is in no way prepared to accept the death of innocents. There is no justification for it! Sagi (2000) suggests that Camus' humane approach emerged from the horrors of World War II. The Holocaust affected people in many different ways. Not everyone stopped believing in God—I know that. For example, Viktor Frankl (1969), who was there, continued believing in God and discovered that finding a meaning in life helps one cope with horrifying catastrophes. He developed this idea into a systematic therapy, called "logotherapy." (I shall not dwell on this issue because it is beyond the purpose of the present book.)

All I know about my paternal grandfather is that he was a highly educated man who left the rabbinate to work in the fur trade, and that he wrote, in beautiful Hebrew lettering, a moving dedication in a book of Haim Nachman Bialik's poetry, published in Warsaw, which he sent me for my first birthday. At the time, my parents' financial situation was dire. My father could not find work and had returned home after six weeks of wandering around the country. He worked anywhere they needed an electrician in what was then British Palestine. This situation went on for many years. One day when I was a child, he returned from the Dead Sea, and I asked him: "Daddy, where did you sleep?" He said:

> I'll tell you where I slept, Sammy. After everyone had finished eating in the dining room, the British went to get drunk in their canteen, and the Bedouin went out to smoke a hookah and drink coffee in their tents. I cleaned the dining

room, spread a sheet on one of the tables, put a backpack under my head, spread
a towel on it, and covered myself with another sheet. There I slept.

Shortly after my first birthday, my parents decided to return to Poland for
at least one year because the situation in British Palestine was so difficult.
(My maternal grandfather, who was an artisan, had established a foundry
in Jaffa. My father, an electrical engineer originally from Poland, did not
find employment there due, in part, to the resistance of my maternal uncle,
who refused to hire him.) In addition, my mother wanted to get to know my
father's family, who, according to his stories, were a stable and well-educated
family. My father graduated from the Polish Polytechnic with honors in elec-
trical engineering (an expert in high voltage electricity). He moved to Israel
due to his Zionist beliefs (and for this brave act I admired him). My father
greatly admired his sister, who was a professor of nuclear physics (and, by
all accounts, a genius). His brother was one of the most famous lawyers in
Warsaw. His other sister was married and had a good life.

My parents bought tickets for a ship to Poland. A few days before sailing
to Europe, they heard on the radio that Germany invaded Poland, and World
War II began. A short while later, they received a telegram from my grandfa-
ther, Solomon: "Do not come to Poland. Germany invaded." Afterwards, my
parents received a postcard from Poland through the Red Cross, with the brief
message: "We are all here in the Warsaw Ghetto, still alive, I don't know
until when. Signed, Solomon."

They were all exterminated in the Warsaw Ghetto.

My father assumed that his sister, a professor of nuclear physics, would
have survived because the Red Army could not allow the killing of a scientist
of her magnitude. My mother, who knew the bitter truth, never told my father
that the Warsaw Ghetto was liquidated before the Russian Red Army arrived
in Warsaw (he deluded himself).

Every time I recall this possibility of my parents' return to Poland and the
realization that my life could have turned into a terrible torment in the hell of
Nazi-occupied Poland, horror permeates me. Despite my personal salvation,
I cannot believe that there is such an intangible entity as God, who would
allow such horror to take place. I myself might have experienced this cruel
torture, and even witnessed the torture and murder of my parents. Little stood
between me and the end of my life as the skeleton of a little boy thrown on
a pile of skeletons. No divine entity would allow the brutal destruction of
six million humans, which could have included my parents and myself. This
entity does not exist. The horror did occur, and to my dismay it may occur
many more times.

My worldview is not based on any logical argument that disproves the exis-
tence of God. Rather, it is an emotional belief that serves as the foundation

of my soul and is an inalienable part of my personal infrastructure. This is probably the reason I find it difficult to read the words and writings of Martin Heidegger (1996), a Nazi who made an academic speech praising Hitler's supreme importance when he was appointed by the Nazis as the Rector of Freiburg University. I feel reluctant to read his works; they make me nauseous. (This is not nausea in the sense referred to by Sartre, but a nausea similar to the one from the stench of spoiled food. Despite all this, I recently skimmed through some writings of Heidegger, but I could not relate to his works in the current book.)

It is clear this book is written from an atheist worldview and a belief that man is fundamentally evil. Therefore, the book must answer two fundamental questions. First, since atheists do not have a life-meaning anchored to faith in God that offers a reason and purpose for the existence of humans, what alternate type of life-meaning is suitable for them? Second, if atheists (like me) also believe that humans are essentially evil, what system of life-meaning might be designed for them? Since this entire book is an attempt to answer the first question (regarding a general and secular life-meaning), I will first briefly discuss the second question as it relates to the history of my life.

Once I realized that I did not believe in God and did believe that man is intrinsically evil, the following question arose in my mind: why did these harsh crises of faith not cause me to despair and feel a sense of meaninglessness? How did I not enter into a state of confusion and feeling lost? Although several philosophers discuss this possibility (see the review and discussion in Landau 2017), I continued to live without a life-shaking crisis. I never considered suicide, which Camus (1975) considers to be the most important question in philosophy.

Long years of deep pondering led me to a conclusion based on two factors. The first is that, despite my disbelief in religion and the intrinsic goodness of mankind, I have had important life trajectories that have instilled in me profound life-meanings that immunized me from these two oppressive thoughts. These meanings will be the focus of the present book. Second, in my opinion, saying "mankind is evil" does not necessarily generate a feeling of despair, meaninglessness, or feeling of losing one's path in life. There are three essential arguments for this.

The first argument is related to the CM model, which shows that life-meanings surround every human being and immunize them against feelings of being lost and confused. Since I will discuss this in the next few chapters, I now offer two additional reasons why I think a sense of meaninglessness does not necessarily emerge from the worldview that people are malicious and vicious.

The second argument is that if humans are evil, and David is a human, it logically follows that David is evil. Therefore, as an evil man, David must

choose a malicious and vicious way of life (e.g., he may become a brutal boss in the criminal world). It is hard to believe that as an evil man David would choose to kill himself, because evil is directed at others, not at oneself. As an evil man, David will choose a malicious and wicked life path that is nevertheless meaningful to him. Therefore, it is not a matter of the meaninglessness of life, but rather of replacing one way of life with another. In fact, until David realized that all people were evil, he used to help others who were weak and needy. Only after having this realization did he become the brutal boss of the crime world. In any case, before or after the realization that humans are evil, David has perceived his life as meaningful.

The third argument is that in order for David to draw some reasonable conclusion from the statement "mankind is evil" he needs additional information by which he can judge it. David is necessarily a member of a culture, and his conclusions will be affected by the culture of which he is a part, since culture determines what the words "man" and "evil" mean. Hence, the process of drawing conclusions is as follows: If man is evil and cultured, and David is human, then he is both evil and cultured.

Thus, David can choose between two options. As an evil person, he could choose a cruel and vicious way of life. This would not result loss of life-meaning or suicide (see the above second argument). However, as a member of a culture, David may choose a different path, opposing evil, accepting morals such as not murdering, stealing, or committing adultery, even if he is an atheist and does not attribute these morals to commandments of God's will, but rather as social norms. Whichever choice David makes will indicate the way of life he considers significant and important. Therefore, it would not be accurate to conclude that because David is convinced that he is an "evil human" he must despair of any meaning to his life, and accept that the world is one great absurdity. (Similar arguments can also be raised against the argument that losing faith in God leads to a meaningless life.)

THE RATIONAL/SCIENTIFIC INFRASTRUCTURE

Now I will briefly describe the second basis of my worldview, the rational-scientific infrastructure. This perspective is based on my studies at the Hebrew University of Jerusalem where I studied psychology, sociology, and statistics. I completed my PhD thesis on avoidance learning in white lab rats, under the guidance of Prof. Charles Greenbaum and Prof. David Samuel (who became Lord David Samuel some time afterwards). In addition, I studied life science courses (introduction to physics and chemistry, including labs), and I attended numerous courses in the philosophy of science (in Jerusalem and Haifa). I read with great and profound interest dozens if not hundreds of

books and articles on the natural sciences and the philosophy of science—a growing interest of mine over the years. (The general public may enjoy much of this scientific literature, e.g., Carroll 2016; Einstein 1960; Einstein and Infeld 1938; Feynman 1998; Kirsh 2006; Messerly 2012.)

Based on these two emotional and rational/scientific infrastructures, I developed a worldview that shapes the boundaries of the meaning of life in the following way:

(a) This worldview is atheistic. Life-meaning cannot be grounded in belief in God and observance of religion. Meaning must be anchored to the person him- or herself and society, or scientific knowledge.

(b) Except for Innate Meaning (described in the preface, and on which I will elaborate later), people are not born with an understanding of life-meaning or a clear and defined path in life. They acquire this, the Acquired Meanings (Ordinary, Extreme) with the help of educators in the society to which they belong. Part of this is scientific knowledge, acquired from school teachers and professors at universities or research institutes. A large part of these meanings, such as language acquisition and social norms, are learned before any type of scientific knowledge, which tends to be acquired later. Learning acquired at an early age is especially powerful. It stays embedded in a person and is difficult to change or destroy. (I suppose that this is a satisfactory explanation for why there are religious scientists.)

(c) Scientific knowledge may be the basis for life-meaning and choosing which life path a person may follow. It is a fact that modern life, from foundation to rafters, is shaped by technologies based on scientific discoveries. Hence, modern human societies base their life-meanings on scientific innovations. The pace of discovery and development is extremely rapid. (e.g., the use of cell phones began to spread only in the mid-1970s, yet it is difficult to find today a single person living in a modern society whose smartphone is not an integral part of what gives meaning to his or her life.)

(d) Science does not provide definitive knowledge. Scientific knowledge is provisional, and may change as a result of subsequent research. Therefore, it is impossible to offer a sound understanding of the universe and a permanent and stable life-meaning on the basis of scientific knowledge. While one may regard the pursuit of scientific research as a meaningful way of life, scientific knowledge in itself is uncertain, and therefore it is impossible to build a stable life-meaning on it. By contrast, life-meaning grounded in faith in God is fixed and unchanging.

(e) A life-meaning that is unstable and changeable does not necessarily create a crippling state of anxiety or acute depression that leads to

contemplation of suicide. Rather, it may inspire great curiosity to dis-
cover, understand, and integrate the changes into one's life.

(f) The way in which one tries to understand the world and to construct a
life-meaning is by developing abstract models which, through their anal-
ogy to reality, largely explain how the world works. When such a model
is compared to reality and undergoes empirical examination, it becomes
a useful high-quality scientific research tool. However, if such a model is
not compared to reality, it remains merely a belief and becomes a magical
device in religious activity and faith.

This worldview led me to differentiate between two types of questions
related to the concept of life-meaning. The first type, which I call "cosmo-
logical questions" include: How was the world created? What is its purpose?
How were humans created and for what purpose? The second type, which
I call, "life questions" include: How, why and for what purposes are life-
meanings created? What lifeway may a person follow?

This book is not intended to answer cosmological questions. Among other
reasons, this is because I am neither a physicist nor a cosmologist. Moreover,
experts also find it difficult to offer answers to these questions. For example,
Carroll (2016), who offered a broad worldview and answers to the question
of life-meaning that are based on knowledge in the natural sciences, such as
physics and evolution, admits an inability to address cosmological and life
questions. He writes: "We don't know how the universe began, or if it's the
only universe. We don't know the ultimate, complete laws of physics. We
don't know how life began, or how consciousness arose" (Carroll 2016, 13).

The CM model developed here does not attempt to answer cosmological
questions, but rather life questions, especially how Innate and Acquired life-
meanings are generated and how these life-meanings largely explain much of
human behavior.

IMPLICATIONS ASSOCIATED
WITH THIS WORLDVIEW

Given that this worldview is built on personal, emotional, and rational/scien-
tific elements, the question arises: How can this book be classified? I propose
classifying works of this type according to the following two criteria:

(a) The source of the problem and subject of discussion. These may be
personal (e.g., the Holocaust's influence on me); philosophical; or theo-
retical, which is related to scientific studies (social sciences and exact
sciences).

(b) The method of dealing with the problem. This includes personal methods of coping (e.g., I am not prepared to receive explanations based on God's will); use of philosophical tools; theoretical methods, based on use of scientific methodology.

How can this book be classified according to these criteria? The source of the problems discussed are personal, philosophical, and scientific. I described above the personal source, especially the impact of the Holocaust. The second source is related to learning scientific methodology and reading of philosophical literature. To clarify, I was introduced to existential philosophy through Bakewell's (2016) book *At the Existentialist Café*. I decided to read it out of curiosity and because I am a fan of popular historical and philosophical science literature. I felt it would be interesting to become acquainted with existentialist philosophers. This book introduced me to the world of these philosophical thinkers. There I found, to my great surprise, that some of the ideas developed by Camus and Sartre were ones I had thought of myself, and I share a great deal of their concerns, although I disagree with some of their ideas. Some other thoughts I have had about life-meaning were not fully developed, and they were like seeds planted in the field of my mind. (Some of these ideas formed the basis for novels I wrote, such as, *Solip Wild Horses*, *Who Are You, Rosalind?* and *Ghost Dance*.)

My interests had been focused on the philosophy of science and mind, especially on issues of consciousness problem and explanation structure in science and psychology in particular. I admit that the little I knew about existentialist philosophy came from my readings, as an academic, of works by and about Sartre, de Beauvoir, and Kierkegaard. However, because I did not see them as major figures in the literature of the philosophy of science, I did not pay much attention to them or devote time to reading their writings in depth. Clearly, a person does not have enough time to read all the important works in one's own field of interest. Things changed completely after I finished *At the Existentialist Café*. Suddenly, I found myself immersed in reading existentialist literature, focusing primarily on works by Camus (1946, 1948, 1956, 1975) and Sartre (2007), and writings about them.

As noted, the sources for the topics of this book are personal and philosophical, while the means I use to address deal with them are also mixed: personal, philosophical, and mainly theoretical. I develop a theory to explain how Innate and Acquired life-meanings are created, how human behavior can be explained through these life-meanings; and what happens to a person who experiences a loss of Acquired Meaning.

In comparison, I consider how Camus' works would be classified, in accordance with the above two criteria. I suggest that the source of the problems that Camus discusses are personal and philosophical. The methods he uses to

address the problems he raised are also personal and philosophical. He did not use scientific methodology. Neither did he develop a theory to explain absurd behavior. The concept of absurdity was addressed in a personal way in his book *The Stranger*, and in a philosophic way in *The Myth of Sisyphus* (for a similar interpretation of these books see Sagi 2000).

After clarifying that the source of the current discussion and the way it is handled are influenced by my personal point of view, the following question arises: Why would anyone besides me be interested in reading what I write? One could argue that this writing expresses only my personal, individual perception. I could write my theoretical view as a way to organize, for my own use, all my ideas into one systematic method, so that I could finally understand something about the world, myself, and the relationship between them.

But others might not be driven by such a motivation. In most cases, when friends and I talk over a cup of coffee and cake, or while sharing a delicious meal, or smoking a fragrant cigar and drinking good wine or beer, our talk is not about understanding the world and our place in the infinite universe. We speak about minor daily problems. We gossip, discuss politics and make jokes (because politics reveals the absurdity of man). We speak about things we want to buy, trips we've taken, movies, TV shows, and books. We never discuss theoretical views of the world, except for the few cases in which I decided to discuss the topics of this book. We make no systematic attempt to understand the world, human society, or our relationship with our physical and social environments. So why would anyone want to read my personal theoretical worldview and its impact on constructing a theory of life-meaning?

I can think of several possible answers. It seems that the most relevant is an analogy between the interest in the arts and interest in a personal, theoretical worldview. Just as people are interested in books and films about imaginary superheroes, they may also be interested in an individual theoretical worldview. What do the arts (painting, literature, theater) have in common? They all describe and discuss individual characters. In novels, you meet characters such as Anna Karenina, Madame Bovary, Le Pere Goriot, Don Quixote, Oliver Twist, Tom Sawyer, and many others. In paintings, you see beautiful and mysterious women like Mona Lisa, and statues such as Venus de Milo, Les Bourgeois de *Calais*, Moses, and David. In theater, you may see plays about heroes and heroines such as Hamlet, Othello, King Lear, Peer Gynt, Miss Julie, and Mother Courage. Clearly, artists have devoted their lives to describing and explaining the behavior of these characters, whose degree of overlap with the viewer or reader is not great. Yet, no culture can be discussed without noting its artistic works.

This leads to the next question: Why are people interested in works that deal with individual characters who have a low degree of similarity with them as a viewer or reader? Part of the magic of these works of art lies in the

worldview of the depicted characters. Some represent the spirit of the times and others represent the worldview of the creator. (I am not going to elaborate on the worldview represented by, e.g., Madame Bovary or by Rodin's wonderful sculpture Les Bourgeois de *Calais*.)

Now I will discuss two reasons for interest in the artistic works, which, in analogy, may explain interest in the current book. First, artistic works evoke great curiosity. Humans are curious creatures who want to learn about the world and about themselves in every way possible. This includes the pleasures of the arts which present, among other things, worldviews that express something interesting and important about life. This suggests that our need to hear important truths about life is fulfilled by viewing or reading works of art. Incredible paintings have been found in prehistoric caves, and archaeological excavations reveal paintings, sculptures, figurines, scrolls, and pottery communicating interesting and beautiful stories. This indicates that humans have always felt a need to explore and express sentiments about life in various ways. Similarly, a theoretical worldview is an attempt to say something meaningful about life.

Second, art provides us with the means to enjoy the use of imagination. We are quick to identify with heroes, even unrealistic ones such as Superman or Spiderman, and play with the possibilities of being like them. People may also take a theoretical worldview, agree with it, criticize it, change it, and play an imaginary game about the nature of the world and mankind this worldview depicts. (I will not address here another potential reason for interest in art, namely that it gives rise to a sense of beauty, because this concept does not naturally fit in a discussion of complicated philosophical and scientific ideas, which are more accurately described by concepts such as interesting, eye-opening, or useful.)

As can be seen from the discussion so far, this book can be classified as similar to a scientific essay offering an empirical theory, while it is also influenced by philosophical and personal aspects. This is not a classic science textbook, based solely on rational thinking and scientific methodology. However, it should not be classified as a book expressing religious, ideological, moral, or ethical beliefs based on deeply held emotional elements, which teach individuals what to do, how to behave, or what to think. This book is an expression of holistic thinking and cognitive processes based on rationality and emotions, because people build their existence, worldview, and life-meanings on both.

In this respect, my worldview, as expressed in the present book, is not a variation on Jean-Paul Sartre's existentialist thesis (2007). It seems to me that Sartre's philosophy in his book *Existentialism Is a Humanism*, is not well-defined. It may be a moral theory that determines what is done and should be done, as Sartre writes, "Consequently we are dealing with a morality of action

and commitment," (Sartre 2007, 40). Alternately, it may be a philosophical behavioral description of man: "What art and morality have in common is creation and invention. We cannot decide *a priori* what ought to be done," (ibid, 46). Clearly, if existentialism is a theory of action and commitment, then it is possible to predict, with a great deal of confidence, what individuals will do in moral situations, since their behavior is dictated by moral rules. Therefore, it is incorrect to say, "We cannot decide *a priori* what ought to be done."

Contrary to Sartre's view, the theoretical approach described here is not a mandatory moral theory. It does not claim to be the absolute truth, for the following reasons. First, science never states absolute theories. Second, I clearly recognize that I may be wrong in this, as I have been wrong regarding many other things in my life. The present book is a theoretical worldview built on the scientific method interwoven with philosophical analysis and personal life experiences. Using this approach, I strive to understand human behavior with the help of the concepts of life-meaning. I hope others find it (at least somewhat) interesting.

Thus, anyone who rejects my proposed theoretical approach, in whole or in part, for any rational or emotional reason—they are free to reject it. If any readers dispute this view or any part of it—they are free to dispute it. If some readers agree with any part of it—let them agree. In any case, this is not a moralistic preaching, it is a rational-empirical-theoretical approach, based in part on the life experiences of an individual who loves to examine life and who aspires to understand it. If anyone learns something from reading it, I will pat myself on the shoulder and consider it a job well done.

Chapter 2

An Infinite Universe That Is Indifferent to and Independent of Humans and Their Actions

The chapter's title can be categorized as philosophical realism, an approach that assumes that the world exists independently of human consciousness. I see this as the most natural approach to everyday life. For example, I go to my office each day and find the same furniture, the same computer, and the most recent article I wrote still stored in its files. I exchange a few words with friends. It is clear that all the objects in my office as well as my colleagues continue to exist when I am not present. If one of my colleagues were to ask me if I have continued to live since we parted, I could answer without hesitation: yes, I am alive and kicking.

In addition to everyday phenomena that are independent of humans' thoughts and actions, today we know about events that occurred millions of years in the past and at huge distances from us. For example, science teaches us about the phenomenon of supernova, the explosion of a giant star (at least ten times the size of our sun) that occurs when the gravitational force is greater than the opposing force of the nuclear reactions. Any supernova we see actually occurred thousands of years ago and many light years away. Somewhere in the universe, a mighty star existed for a vast stretch of time. Far away and much later, we witness its death as a result of a dramatic increase in the amount of radiation thrown as it exploded.

People are not born with such a conception of reality, but rather acquire it during their life. How did this approach evolve for me? It is based on two important learning experiences. First, as described above, the monstrous historical event of the Holocaust erased from my heart any belief in a divine entity that manages the world and human actions. On the Moon, no sorrow or nightmares emerged as a result of the Holocaust. I will not belabor this point, but for me God simply does not and cannot exist.

Second, if I don't believe that God exists, how do I explain the existence of the universe, Earth's living creatures, and their behavior? My answer is: through the descriptions and understandings provided by science. While science has not yet been able to describe or explain all the mysteries it encounters, it has been able to offer largely credible, if partial, descriptions and explanations of the world and the behavior of living things. I see no contradiction between these two major conclusions that God does not exist and that science offers a satisfactory and rational way of describing and understanding the world.

Here, I would like to elaborate on some of the scientific information I have acquired in my life that supports the concept of the universe's indifference to human actions and values (values differ across cultures, and often contradict themselves). (For literature that supports an infinite, independent, and indifferent world, see, e.g., Belshaw 2008; Carroll 2016; Einstein 1960; Feynman 1998; Kirsh 2006.) Major impressions I have drawn from my reading and learning include:

THE INFINITY OF THE UNIVERSE

An infinite number of galaxies exist in an infinitely vast space. As scientific knowledge evolved, our perception of the universe has changed and expanded from a small and local world, to an Earth orbited by the Sun, to an understanding of the solar system, to the discovery of the Milky Way, to the discovery of many other galaxies moving away from one another at tremendous speed. This process of major revelations has led to the conclusion that the universe is infinite. I do not know if this infinite universe includes a huge but finite number of galaxies. However, since clearly the probability of the creation of the Milky Way is greater than zero, the probability of the creation of galaxies throughout the infinite universe is also greater than zero. In addition to our knowledge of the macro-world, there is also accumulating knowledge regarding the micro-world, the infinite subatomic world. According to current scientific knowledge, this constitutes the world perceived by human senses, which are aided by scientific technology.

MECHANISTIC DESCRIPTIONS AND EXPLANATIONS

These scientific descriptions and explanations are independent of human consciousness. They have been proposed for a large collection of phenomena and widely accepted as satisfactory.

BEGINNING, BLOOMING, DEATH (BBD)

One of the descriptive explanations that science provides is that every natural phenomenon has a beginning, a limited span of existence, and an end. For example, the Earth was created some 4.5 billion years ago from a particular cosmic occurrence, namely a massive molecular cloud, out of which the entire solar system formed. It is predicted that Earth's lifespan will end in approximately 7 billion years, when the Sun will become a red giant that will engulf the Earth. However, other cosmic events may destroy the Earth and humanity much sooner. For example, there could be a collision between the Andromeda and Milky Way galaxies, or the Earth's ozone layer may be destroyed. Further, the law of entropy indicates that chaos will intensify until eventually the world will simply shut down, there will be an extremely low and uniform temperature, and life will disappear. In this context, Carroll (2016) identifies a link between the progress of time, entropy (disorder), the phenomena of birth and death, and the birth of the universe via the Big Bang.

EVOLUTION

The evolution of humans and the possibilities for our extinction have made a deep impression on me. Primates arose several million years ago. *Homo sapiens* appeared on the historical stage only about 200,000 years ago. Humans' ability to write emerged some 5000 years ago. The extinction of any species (including man) is possible. Life on Earth has already undergone six mass extinctions. For example, all dinosaurs were destroyed in the fifth extinction which, it is hypothesized, occurred due to the impact of a huge asteroid that hit the Yucatan Peninsula. Now a large population of humans (about 7.5 billion people) is causing the massive extinction of other species, and possibly eventually ourselves, as a result of habitat destruction, air pollution, and climate change (not to mention the potential for atomic or biological warfare). On a personal level, every human clearly witnesses, during their short lifetime, that all people, animals, and plants, are born, live for a certain period of time, then die. The process of BBD is empirically stable.

These three types of knowledge that emerge from the scientific method led me to several conclusions: First, it seems inconceivable to me that there is such an entity called God, who plans and oversees the details of the infinite universe and everything contained therein, inanimate systems as well as living creatures including human beings (I am convinced that in this infinite universe there are beings even more advanced and intelligent than the human race). In contrast to the impossible premise that God oversees the infinite universe and everything in it, the description of God in the holy texts of the

three monotheistic religions (the Hebrew Bible, the New Testament, and the Koran) has no basis in current scientific knowledge. The world known to the writers of these texts was geographically small and included essentially only the Mediterranean, Middle East, Europe, and North Africa. In terms of astronomy, people were only aware of the Sun, Moon, and stars. This seems quite limited in comparison to the contemporary concept of an infinite universe filled with galaxies, giant stars, black holes, and so on. In the ancient world, humans imagined some formidable entity responsible for the creation of the universe who (with the help of messengers and angels) manages the universe and, in particular, oversees the behavior of the crowning glory of creation—humans. People attributed to this divine entity the extensive, magnificent, and empowering traits and powers of the father of the family. God was viewed as providing sustenance and education, simultaneously a disciplinary, punishing figure and a benevolent, compassionate parent.

Second, science has been able to offer reasonably satisfactory mechanistic descriptions and explanations, without resorting to the existence of God or explanations based on people's conscious will and beliefs. Science offers mechanistic explanations for how a wide variety of natural phenomena come into existence and operates, in spite of or even contrary to humans' will and beliefs. For example, people want to live eternally without illness or suffering, but learn quite quickly that this is a fantasy. A volcano erupts, but not because it obeys the will of God who heard a man's prayers to annihilate his enemies. The Moon does not send magical rays of light to a man and his beloved, imparting a yearning to be united.

Third, the highly plausible descriptions and explanations offered by science indicate several things. The world operates with indifference to human desires and will. Every phenomenon has a beginning and an end (death), following the BBD structure. This can lead people to the reckless conclusion that existence is meaningless, and that nothing they do can influence the universe. For example, the Moon's movement away from Earth at a rate of about four centimeters per year will not be affected by prayers and supplications to God or a Moon goddess that the Moon will not leave its orbit and abandon the Earth in solitude. Eventually, the Moon will not be visible from Earth. Moreover, if all the great scientific theories and achievements in the arts are to be forgotten and no intelligent creature in the universe will know of their existence (and it seems this will eventually happen), then people may enter a state of despair and depression. They may feel there is no point in making any effort. If everyone will die in the end, and anything humans do will be eventually lost and destroyed, then life has no meaning. However, as we will see below, this is not the conclusion of the present book.

Even someone who makes such a despairing claim can be told cynically not to be discouraged, because human actions do affect the world! How? Humans

have polluted the world with nondegradable waste, pushed many species to extinction, caused global warming and massive climate change, and raised the likelihood of an atomic or chemical-biological war. These destructive actions could destroy all living things—including humans! Therefore, no one can argue that people's actions have no influence. Humans act with great determination to destroy the world, cutting down the very branches on which they are metaphorically perched.

But even such arguments can be dismissed as giving little comfort, because in relation to the infinite universe, the changes humans make are of no consequence. Even if, in our immense wisdom, humans manage to destroy the entire solar system, it would still be nothing in comparison to the infinite universe. A number of philosophers have offered similar ideas of despair, nihilistic approaches according to which life is absurd and meaningless (Metz 2013; Nagel 1971, 1986; Seachris 2019; Vohanka and Vohankova 2011).

In this context, I distinguish between two different levels of despair due to the meaninglessness of life. The first is the personal level. An individual awakens one day, suddenly struck by awareness of his own mortality, and his life seems futile. The second, general level relates to all of humanity and the universe as a whole. Compared to the infinite universe, knowing that our world and solar system will eventually be annihilated, people may wonder not only about the meaning of their individual lives, but also the meaning of humanity as a whole, and ask: "What is the point of all this?"

In the following section, I concentrate on individuals who react to the harsh realization of their own impending death, the end of the Earth, and the infinity of the universe, by perceiving life as meaningless, unimportant, and without value.

HUMANS FACE AN INFINITE AND INDIFFERENT UNIVERSE

What are the implications of an outlook according to which the universe is indifferent? Here are some thoughts that may arise in one's mind. I was born without my approval, and I will eventually die without my consent (barring an extreme case such as suicide to escape a terrible illness). There is no supreme God that plans life or oversees that humans' conduct is righteous. (I will not discuss here the difficult question of what constitutes righteous conduct among humans.) I truly believe that the infinite universe is indifferent to my existence and that my actions have no impact on it. Given all this, what expectations can I have for my life? What meaning does it have? Is it not time to end this absurd and incomprehensible life by committing suicide?

Albert Camus, the author and philosopher who won the Nobel Prize for Literature in 1957, asked similar questions in *The Myth of Sisyphus*, his essay on the absurd (1975). Camus discusses whether there is any point in preferring life over suicide without belief in God, in an absurd world in which death is inevitable. He suggests that choosing to live is an absurd act of rebellion. Life is absurd because people continue to live in spite of the certain realization that life has no meaning: death is inevitable and the world is incomprehensible. As Camus points out, Dostoyevsky also dealt in his novels and personal diaries with the problem of life-meaning and suicide as a solution to the despair in the face of certain death and disbelief in God, immortality, or an afterlife.

The incomprehensibility of the world also pertains to daily events, such as a man noticing that a flower in his garden suddenly wilted, a cat is giving birth in his yard, a crow left droppings on his car, and in the distance a police car siren is wailing. How can he understand all these events as being organized into a holistic and unified world? Everything appears to be a chaotic collection of meaningless parts, and thus absurd.

The approach of the current book is different from that of Camus. I believe that human life is filled with various life-meanings in terms of the values and goals that guide each person's path in life. One cannot understand humanity without recognizing that a person's life grows on a rich substrate of meaning. Let us re-examine the argument that a sense of absurdity emerges from a quest for understanding in a fundamentally incomprehensible world. I assert that the incomprehensibility of the world can result in behavior opposite to that which Camus suggests. To me, the desire to unravel the mysteries of the world provides an inexhaustible source of life-meaning. This desire drives scientific development, yielding inspiring, if only partial, progress in the understanding of the universe and the behavior of living creatures, including humans. This is in contrast to Camus' approach: "science that was to teach me everything ends up in a hypothesis, that lucidity founders in metaphor, that uncertainty is resolved in a work of art . . . . This world in itself is not reasonable" (Camus 1975, 25–26). To that, I respond that Camus expected too much of science. Perhaps he was seeking a substitute for the certainty provided by religious belief. However, science provides no more than theories that have not yet been refuted.

Why then do I think human life is saturated with meaning, and why does Camus believe life is meaningless and absurd? Camus' approach asserts that that human life has no meaning—everything is an incomprehensible and chaotic collection of events that cannot be organized into one single intelligible entity. If my life and my very essence have no meaning or importance, am I then justified in saying that I am no different from a pile of feces drying in the sun, because both are just two more things among an infinite number of things

in the universe? The present book responds to this question in the negative, as, I believe, would most people, asserting: "I am not a pile of feces, or a stone, or a cat, or a dog. I am a human. I am something special!" As soon as people make such statements, they begin to endow their life with meaning: "I am different from everything else. I am special. I am distinct from among all the other things in the world. I am not a mere event!"

Meaninglessness and a sense of absurdity arise precisely when life-meaning is harmed by the inevitability of death, scientific predictions of the eventual end of the solar system, and the accumulation of scientific knowledge indicating that the world is indifferent to humans. If our lives have no meaning, and our behavior is no different from the behavior of the celestial bodies (no one believes that the Moon derives a sense of "lunar meaning" from its orbit around the Earth), then there is nothing to be damaged by the realization of the finiteness of life and the indifference of the universe. In the absence of some prior life-meaning, scientific knowledge regarding the mortality of all living things and the indifference of the universe has no impact. No one would be disturbed by the awareness that an individual human is but a tiny and meaningless dot in the universe, which is indifferent to and unaffected by all actions and values of human beings (who consider themselves to be superior to other living things). Whether or not people's intentions are fulfilled or their desires are met is irrelevant.

In other words, if human life had no meaning, people would accept these statements simply as scientific facts and pieces of information! They would be perceived as no more than a long series of zeros and ones, as are used in computer software. In fact, the scientific process would not have developed, because no questions would have spurred research. No curiosity would emerge from a meaningless life. No problems are hidden among meaningless elements. No effort would be made to figure out these problems, because the answers would have no meaning. A computer does not care if it is frozen due to an internal contradiction between its software components. Its curiosity is not aroused. It does not ask, what is wrong with me? It does not think that it is an absurdity to exist when it can freeze up for no apparent reason. The only people who care about computer problems are the programmer and the people running the software development company.

In short, scientific curiosity would be snuffed out before it was ignited, because the conditions for its kindling would not exist. Why would anyone ask what distance a body travels in free fall lasting one second? (I will skip here the development of common relevant concepts such as time, distance, and ways of accurately measuring them.) If Galileo Galilei did not have an underlying idea that phenomena have meaning, the theoretical gap in scientific knowledge that bothered him regarding the question of falling bodies would not have arisen in his mind. He would not have bothered to ask whether, in

free fall, a heavy object would land before a light object. Aristotle thought the answer was that the heavy object would land first, but Galileo thought otherwise. The experiments that Galileo conducted (including elegantly designed thought experiments) had far-reaching theoretical and practical significance. He changed the worldview that was prevalent in his times.

What conclusion can be drawn from this? I suggest that the question of the meaninglessness and absurdity of life tends to arise in a crisis, when a certain meaning at the basis of a person's ordinary, everyday life is suddenly undermined. Thus, the feeling that life is meaningless can only arise against the background of a previously held belief in the existence of some meaning. Eagleton (2007, 57) writes, "To someone who claims that life is meaningless, we can always retort: 'What is it that is meaninglessness?,' and his response to that has to be couched in terms of meanings."

This conclusion requires broad development, which I propose to do with the following questions: What is the normal, ordinary life-meaning that a person held, before it was undermined? When and how is it acquired? What factors can undermine ordinary life-meaning? How do these factors operate?

ORDINARY ACQUIRED LIFE-MEANING (ORDINARY MEANING)

People respond in one of three ways to the indifference of the universe. One, they may attribute meaning to the world and live their life in accordance with that meaning. Two, they may try to understand why and how the world operates as it does, and live in accordance with the understandings they acquire. These two responses are not necessarily contradictory. Science would not have developed without a prior assumption of meaning, based on which questions were developed via scientific methodology. Hence it is possible to develop a life-meaning and way of life on the basis of scientific knowledge (even the partial knowledge of popular science). At the same time, humans are able to simultaneously hold on to two incompatible information systems, and to live with them peacefully and undisturbed. For example, a person can base his life-meaning on strongly held religious beliefs, and also participate with great success in scientific research. This person might not allow any contradictions between the conclusions of religion and those of science (e.g., regarding the age of the Earth and its creation) interfere with his or her daily life. These two realms can coexist, as the person alternates between his or her roles as a religious devotee and as a scientist.

A third way suggested by Camus is to commit suicide. Camus struggles with this in *The Myth of Sisyphus* and I reject it outright. To my understanding, people commit suicide when they feel they have reached the end of their life

and their physical or mental suffering becomes unbearable, or because they attribute greater meaning to the afterlife than to any life-meaning. I do not accept suicide as a solution to the meaninglessness of life, because I believe life is meaningful. There is no such thing as meaningless life. A meaningless life can only be "lived" by an unconscious being, like a robot. Even superior animals, such as monkeys, dolphins, dogs, and cats, have a certain level of conscious experience and thus a certain level of life-meaning (probably less than that of humans), which is expressed in their behavior. When I observe animal behavior in nature or in documentaries, I marvel at their love and concern for their families, packs, and herd. They search for food and water, and prepare for the seasons. I am amazed by the migrations of birds, predators chasing their prey, and the wisdom of both during the hunt. I have the impression that these animals' lives are meaningful to them, although they are unlikely to be able to reflect on this question: What is the meaning of my life? Their behavior convinces me that their lives are meaningful to them, and they experience that meaning in every moment.

Humans must undergo long-term preparation to live according to the meanings they have acquired or their understandings of the world achieved through science. In the case of scientific learning (in any field) one must undergo a long period of in-depth study and specialization. At the same time, there is a need to train people in the behavior that is perhaps more important than any other: that of attributing meaning to their life and the world. This ultimately constitutes a basis for their path in life.

People must determine what criteria to employ in order to attribute meaning to their lives, as well as what standards to use to determine the appropriate scientific methodology to achieve understanding. It is more difficult to decide the criteria according which a person will accept one type of life-meaning or another. While one must also choose the most appropriate field or method of scientific study, this can be answered with relative ease. Essentially, this determination is made according to two basic criteria. The first is rational considerations, such as the chosen methodology not containing internal contradictions. The second is the degree to which the scientific explanations correspond to reality. This is a criterion that requires that the predictions that emerge from a given theory are aligned with empirical observations in specific situations (see the rich literature in the philosophy of science; e.g., Hempel 1965, 1966; Popper 1995; Rakover 1990, 2018).

Choosing criteria according to which life-meaning may be constructed is much more difficult. One might suggest that the response to an indifferent world is not curiosity, but fear of the unknown. If lack of understanding of the world and the place of humans in this world is overwhelming, a person is likely to choose a way of life that will overcome or reduce this existential fear. However, this aggressive response to the threatening situation presented

by the world is not tenable, because whatever people do, climb a high moun-
tain, or draw a sword, what are they overcoming—the mountain or the sky
above?

The simplest approach is the construction of a life-meaning that submits
to how the world seems to operate. This may be surrender to a representative
of the world, for example, worship of a person considered to be the son of
God, the savior of humanity, and the Almighty. In other words, a nonaggres-
sive approach to developing meaning in the face of threatening stimuli is that
people submit, they worship and deify the Earth, Sun, Moon, mountains, sea,
and rivers, or else worship an abstract omnipotent God.

Whatever rationale life-meaning and a worldview are built upon, it neces-
sitates long-term preparation and learning beginning at birth. Families that
belong to a tribe or nation do not leave the question of life-meaning until their
children become thoughtful adults capable of philosophical reflection on their
place in the world. Rather, newborn babies receive the life-meanings that are
acceptable to their family, tribe, people, and nation.

Here, I would like to note two things. First, the life-meanings transmitted to
male children are often different from those transmitted to female children. I
will describe the transmission of meaning to children without discussing this
gender difference, mainly for reasons of convenience. Second, the transmis-
sion of life-meanings varies between religions, nations, and peoples. I do not
discuss these important differences either, but rather describe the outline of
the process of the acquisition of life-meaning.

Children quickly learn that their parents provide them with their basic
needs, including emotional needs for touch and care. They learn to receive
love from their family. They are given rewards and penalties for their behav-
ior. Socialization is a complicated and long-term learning process, through
which the individual acquires the values of family, tribe, people, and nation.
These values are nurtured throughout the years of growth and maturation,
as individuals progress from infancy to childhood, adolescence, and finally
independent adulthood. These values are transformed into the individuals'
life-meaning as they move toward independence, seek their place in the
society to which they belong, and walk along a life path deemed meaningful
by the seeds of ideas planted in them from birth. This is the way in which
society guides its children and integrates them into the social fabric. Any
child born to a normal family goes through this process of transmission of
life-meaning. The impact of this socialization process is enormous and can
be seen in several ways.

First, individuals face great difficulties in being integrated into society
when something interferes with or undermines this long-term educational
process (e.g., the death of a parent when the individual is still a child).
Second, it takes migrants many years to shed the values of their home society

and adopt those of the society into which they are being integrated. Third, one major and important function of any society is its assessment of its members' actions. Children first seek their parents' praise, then desire the esteem and admiration of their peers. Once they establish a career, they want positive feedback from their colleagues. Athletes long for medals, journalists for awards, authors hope for positive reviews, scientists want others to cite and quote their articles, and every blogger boasts about the number of people following everything they post on social networks. I have no doubt, then, that human life is founded on a network of values that carry tremendous significance, guide individuals' lives, endow them with meaning, and constitute the purpose underlying their actions.

A person with such values does not face the questions: What is the meaning of my life? Where does all this lead? These questions are automatically answered by the values they have acquired from society. Usually, for people who have successfully undergone this education process, the question of life-meaning rarely arises.

THE UNDERMINING OF ORDINARY MEANING: LOSS OF DIRECTION

Daily human life is imbued with a web of meanings imparted by society and internalized by its members either fully, partially, or with personal variations that are usually made in areas where such adaptation is socially acceptable. Few people stop suddenly and for no reason in the middle of their life and ask: "What does all this mean? Is this really what I want to do with my life? Am I wasting my life trying to please others? Life is short and it is impossible to believe nothing will remain of me after I die."

Such questions and reflections tend to arise in a person's heart and mind during a great crisis or loss of direction, something the person has difficulty coping with. Such a significant rupture can cast a shadow on an individual's Ordinary Meaning, and damage or even negate it. The significant values that ordinarily support individuals may fail to offer tools that could enable them to deal with a crisis. Ordinary Meaning cannot lead them out of the dark pit of depression, because that meaning led them into the pit in the first place. Ordinary Meaning planted the seeds of doubt.

This idea of a life crisis appears in the works of other scholars. Eagleton (2007, 18) writes, "Meaning of life queries, when launched on a grand scale, tend to arise at times when taken for granted roles, beliefs, and conventions are plunged into crisis." He notes that the German existentialist philosopher Heidegger (1996) wrote his philosophical works during World War I and the French philosopher Sartre wrote his during World War II. I will discuss

three major types of crises that may cause people to question their ordinary acquired life-meaning: burnout, loss of loved ones, and war.

Burnout

A member of a community, let's call him Joseph Shimshoni, leads his life in pursuit of societal goals that he has internalized: earning a living and starting a family. Joseph is married to his beloved wife, Sarah. Joseph earns good living as an accountant at a local bank, and Sarah works as a teacher. They bought a spacious apartment and two cars. They are raising their three adorable and happy children. On the weekends, Sarah and Joseph meet their friends, and enjoy going to movies, theater, and concerts. Once a year, they travel overseas. The family is like an advertisement for the bourgeois good life. Joseph and Sarah lived this pleasant routine, day after day for 25 years. Then one day, at the end of a day of work as a bank accountant, when Joseph was supposed to return home, he sat immobile behind his desk, staring out his office window at the darkening sky. A terrible lethargy settled over him. He imagined seeing his wife preparing dinner as usual, going through the same motions, saying the same things to him, wearing her faded pink housedress. After the meal, they would clear the table together, as they always did, then stare tiredly at the television. Why did the idea of having dinner with his family not bring him the usual joy? How, without noticing, has he not told his wife he loves her for two years, or even longer? He wonders if this is all that awaits him in the years to come—this endless repetition of work, dinner, staring at the television. If so, what meaning can it possibly have? What is the meaning of all this effort if he only achieves something so mundane and dreary that it makes him feel a sinking in his soul?

Joseph is searching for an answer to questions of life-meaning. He does not yet have an answer, because the system of life-meaning he had acquired and accepted until this moment is what ultimately led him to this state of disappointment and even disgust with his life, and to disregard all his trite "achievements," even the woman he once loved, whom he now sees as a faded figure walking around their apartment yelling at the children. Even his children seem like no more than his biological sequels. He cannot recall the nights he could not sleep out of passion and love for Sarah! She no longer arouses any emotion in him, except perhaps a rebuff that gets caught in his throat. In short, Joseph Shimshoni has reached a crisis in his life. He experiences a sense of exhaustion and burnout that overshadows his former way of life, which now seems an insignificant and false direction. He reaches the terrible conclusion that his life has no purpose or meaning. (The next chapter will address the question of what happens to our hero Joseph, and whether he will consider suicide as the solution, as Camus suggests.)

Loss

A person who loses a loved one, such as a spouse or a child, often goes through a severe life crisis. Everything changes and is overshadowed by suffering, since the person who died was a significant part of the individual's life-meaning, which is now destroyed. Society can offer consolation at the death of a spouse, because this is a natural phase of life, and most people eventually recover from and learn to cope with the natural death of a spouse. It is far more difficult and even unbearable to lose a young son or daughter, or to lose a loved one in an accident, or to war or sudden illness. In such cases, the sense of loss and the feeling of the meaninglessness of life is great.

Rather than dwelling on such unfortunately all-too-common events, I will describe how Asa Kasher, a philosophy professor whose beloved son Yehoraz died in an accident, addressed this tragedy in two of his books (Kasher 1999, 2002; both books were published by Hakibbutz Hameuchad and the Yehoraz Foundation which was established in memory of Kasher's son). These two books illustrate the tremendous efforts Kasher made to regain life-meaning and to cope with the fact that he continues to live and even enjoy life, despite his son's death. In his book, *A Small Book on the Meaning of Life* (2002, 10), Kasher writes, "The path advocated in *A Small Book on the Meaning of Life* is not just for those who find themselves in desperate situations. On the contrary, any person may walk it; as long as he possesses reason, emotion, and will, he also has the power to follow this path, to shape for himself the meaning of his life." He continues: "The whole work of this book was marked by my daring, good, painful, tormented love of Yehoraz, which is, in my world, one of the few focal points of the meaning of life" (ibid, 12). Kasher discusses the concept of life-meaning and suggests it is at the heart of the practical question of how to live a life that is good in one's own eyes. He discusses factors that affect life-meaning. Perhaps the primary factor, addressed by every existentialist, is the inevitability of death. How can a person live a meaningful life with the sword of death hanging over one's head? Ultimately, Kasher suggests that consolation is found in the memory of the loved one, whose life was taken before its time, yet who continues to exist in the hearts of the living. He writes, "A man who speaks of his loved one, recalling the clear picture of the person's life that exists in his heart, speaks in the present tense, not the past tense, as much as possible. I love Yehoraz in the present. I am proud of Yehoraz in the present. I learn from Yehoraz in the present. I miss Yehoraz in the present. Yehoraz lives in my heart after his death as much as he lived in my world during in his life, to the extent this is possible" (ibid., 130).

War

War is another type of crisis, during which people lose their way of life, even if they do not suffer a military conquest (see Eagleton 2007). Loved ones are killed, wounded, disabled, and suffer from shellshock. There is a dramatic change in routine, a decline in standard of living, and so on. I was born in the shadow of World War II, and I lived through all of Israel's wars and the terrorist attacks against it. A sense of endless warfare follows me and all Israelis. The feeling constantly gnaws at the stomach, the anxiety that the State of Israel will be nothing but a passing historical episode, a country that developed an excellent army and strong security forces, but as they say, these are not invincible forever. Israel is surrounded by large, hostile Muslim nations, and Palestinians and Israelis are locked in unresolved conflict because two nations desire the same land. One of the consequences of this constant extreme tension is a dramatic rise in religiosity, because Israelis are comforted by the belief that the Land of Israel was given to them by God.

PSYCHOLOGICAL/OBSERVATIONAL, PHILOSOPHICAL, AND THEORETICAL APPROACHES

Reading the literature on existentialism and life-meaning has given me the impression that it is not always possible to distinguish between the following three approaches to the topics of the present book.

Psychological/Observational Approach

The psychological/observational approach is expressed in Camus' famous novel *The Stranger* (1946), which describes the loss of life-meaning for the novel's hero, Meursault. Meursault makes observations and perceives the sequence of life events, but does not understand their meaning. The book is a literary-psychological-observational account that reinforces the strange and flawed character of Meursault.

Philosophical Approach

The philosophical approach is expressed in Camus' *The Myth of Sisyphus* (1975) and Sartre's critique of Camus' books (see Lurie 2002; Sagi 2000). This approach analyzes the phenomenon of loss of direction and the mean-inglessness of life using philosophical terms. It attempts to determine whether the meaninglessness of life is a universal phenomenon arising from the struc-ture of the world and human society. Camus suggests in *The Myth of Sisyphus* that without a belief in God, human life is absurd, futile, and meaningless,

given the inevitability of death and mankind's inability to perceive the world as an organized and understandable collection of events and phenomena. Sartre does not accept the meaninglessness emphasized by Camus, because he believes that life is filled with the meanings that individuals attach to the world.

Although I agree with Sartre that life is filled with meaning, I do not believe this meaning can be attributed solely to the world by the individual. Attributing meaning to the world is an act beyond the power of a single individual. Therefore, every society develops a characteristic conception of a meaningful way of life. Individuals internalize these meanings fully, partially, or with certain variations. (In the next chapter, I propose that nature equips individuals with an Innate Meaning that protects them from bleak despair and loss of direction.)

Theoretical Approach

The theoretical approach entails trying to explain people's perception of the world as meaningless, futile, and without an aim, and their reaction to these. This approach, based on scientific methodology, attempts to offer a satisfactory explanation for this uniquely human phenomenon of loss of direction and loss of life-meaning. According to this approach, the absurdity that aroused by the clash between the continuation of life in the face of certain death, and the desire to understand an incomprehensible world, is nothing more than human behavior that requires explanation. This approach is essentially the one on which the current book was built, although its development was also influenced by the philosophical approach.

In some cases, the distinction between these three approaches is blurred. This is especially true for the distinction between the theoretical approach (whose role is to explain empirical phenomena) and the philosophical approach (whose role, in the current case, is to clarify and enlighten, in a rational way, the existential condition of humanity). How can we understand the meaninglessness of life?

At the philosophical level, the world is a set of stimuli to which one may react with a sense of loss, anxiety, confusion, or absurd behavior, that is, the act of continuing to live despite the futility of life. Camus regards such behavior as a rebellion against the meaninglessness that characterizes the world. At the theoretical level, a person has cognitive-behavioral responses to crises and loss of direction in life that may have arisen due to various factors, such as emotional burnout, loss of loved ones, or war.

A philosophical question emerges from the possibility that people live in and react to a meaningless world. Does the assumption of the nonexistence of God and a universe that operates with indifference toward and independent

of the actions and thoughts of humans necessarily lead to a meaningless life for people? Camus seems to answer this question in the affirmative, because he sees human life as absurd in the face of inevitable death and an incomprehensible world. However, one need not interpret the murder committed by Meursault, hero of *The Stranger*, as an expression of the meaninglessness of life and the idea that nothing has any importance, meaning or purpose and therefore there is no reason to live. Rather, it may be interpreted as a highly meaningful act that defies the most important commandment "You shall not murder!" In this way, Meursault is similar to Raskolnikov in Dostoyevsky's novel *Crime and Punishment* (1950), in which murder is portrayed as the act of a "superior man" breaking taboos and crossing boundaries.

This point leads us to a theoretical realm, in which murder may be considered an act of rebellion. If we now consider the possibility that a sense of meaninglessness is a person's emotional-cognitive response to crisis and loss, the theoretical question arises regarding what could explain such a behavioral phenomenon.

Indeed, the approach outlined above is linked to the attempt to explain such a response to crisis. Such a reaction arises against the background of a previously held life-meaning, which necessarily includes the absurdity of being born without one's will, suffering throughout life against one's will, and eventually dying against one's will. Before addressing this problem, I first will offer three comments that shed light on the distinctions between psychology/observation, philosophy, and theory.

Death

Personally, I believe that scholars discussing the meaning of life have overstated the importance of death as a factor overshadowing life and making it seem ultimately meaningless. In terms of psychology (the behavior itself), I believe that a large number of people (myself included) do not fear death (no one has returned from Hades and told us how terrible it is). If people were so frightened of death that all meaning waned and disappeared from their lives, they would never leave home. Doing so would be pointless, and the lurking danger of death would constantly await them. They would be afraid of falling and breaking their skulls (the probability of which is not zero, of course). They would avoid driving, because morning and evening they hear news of horrifying traffic accidents. If humans were as terrified of death as they are purported to be, their fear would become a self-fulfilling prophecy; that is, fear would manifest and multiply until humanity drove itself to extinction.

But this is not the problem. In my view, the greatest fear is of terrible suffering before death, fear of old age and the accompanying loss of ability and control, dependence on others, severe illness, physical and mental pains that

make life unbearable. Personally, I am ready to sign a contract with anyone at any price if he or she could promise the kiss of death—that I could simply go to sleep and never wake. I have no doubt that extending life through medical means, with a host of pumping and beeping machines surrounding the patient's body, connected to tubes and wires, in a pathetic and absurd effort to keep a person alive as his spirit wanes and he is unable to move or even breathe independently, is only a medical "bear hug," good intentions that pave the way to hell, while the patient, with what is left of his reason, longs only for the angel of death to cut him down with his fatal scythe.

In her book, Lieblich (2019) addresses group discussions held in her home on the topics of death, the plethora of problems facing humans, and the emotions related to the approach of the final moment. If this discussion reflects the actual psychological situation related to death, then Camus' philosophical attempt in his book *The Myth of Sisyphus* to justify the absurdity of life in the face of death is surely relevant to a small number of people at best. The absurdity of existence in the face of death may be an empty one.

The preoccupation with the inevitability of the death is not a new discovery of the existentialists. Philosophical and literary treatments of death began thousands of years ago. I am not going to review and discuss this vast literature, except for mentioning the interesting book by Cicero (2018) *On Death*, who lived between 106 and 43 BC in Rome—a book that made a great impression on me. This book is written in the format of the dialogues of Plato, and is the first volume of the dialogues in Tusculum (a town near ancient Rome). In this book, Cicero raised the following main argument. One should not fear of death, because death is not a bad thing. If death applies also to the soul, then death is not bad for the dead people, because they don't feel anything. However, if souls continue to exist after death, then they are happy, because death terminated the suffering and human beings were not created for the sake of being miserable forever. (Although belief in soul is as so popular these days as in the remote past, I enjoyed Cicero's logic.)

The Individual Is Not the Determinant

The argument that people attribute meaning to their own life is too general, overly broad, and in my opinion largely wrong. This is an accepted view in existentialism. For example, Lurie (2002, 199), who discusses Sartre's philosophical approach, writes, "The meaning of each person's life is personal, and he is the most competent (and the only one) to determine it . . . hence the idea that every person should determine the meaning of his or her own life, without having what or who to rely on in this matter."

I do not claim that there is an objective life-meaning embedded in the world in a way similar to the physical or chemical properties of other types of

substances. I agree that humans attribute meaning to the world and their lives. However, it is not individuals alone who determine the life-meanings; this is an act above and beyond the power of the individual. In general, the life-meanings, values, and rules of behavior according to which individuals operate are determined by the society to which they belong, transmitted by agent-educators, such as family, teachers, friends, and so on. One cannot assume that children can determine life-meanings for themselves, for the simple reason that they are still adjusting to the world, still learning to manage within the family, among friends, at educational institutions. This learning and education continue in the military, at work, and so on. If they discover they have some special abilities, these usually pertain to one of the life paths that society offers them, for example, excellence in academics (mathematics, painting, theater, music, sports).

Alternately, they could rebel against their family, educational setting, or military discipline. Even when individuals stand up for their own opinions and develop maturity in judgment, they are unable to shape the basic foundation of their own life-meaning and path in life. This situation is analogous to a person transplanted into a completely foreign society. For example, a baby who grew up with a pack of wolves and then moved to a modern city. Even if we assume this young man does not feel threatened by the urban phenomena such as crowded buildings, lights, cars, noise, and the tremendous number of people in the streets, and if we further assume that he quickly adapts to all of this, he will nevertheless be shocked by the sheer number of choices he must make regarding the meaning of his new life. How can he know what is the best and most appropriate life path for him? For example, will his life be limited to appearing in a circus and mimicking the howls of wolves?

Individuals are socialized to assimilate the life-meanings of the society into which they were born. Gradually, these meanings become a part of individuals' essence. Each person eventually chooses, among the various paths toward a meaningful life that society offers them at each stage of development, the one that seems the best and most meaningful and in accordance with their natural inclinations. Furthermore, some societies educate individuals to think they will make their own decisions regarding which life path to choose. Why? That is how to ensure the most stable, thorough, and loyal integration into the social system. If this is an accurate description of reality, the question arising from the existentialist approach to meaning-making will be expropriated from the realm of philosophy and taken up by psychology and theoretical explanations.

Choosing Hard and Evil Life-Meanings

The effort needed to create life-meaning is enormous. Most people are satisfied when society equips them with recommended meanings to internalize,

releasing them from the effort of choosing a life path. Like Camus (1975), who suggests that Sisyphus can be seen as being satisfied with his endless act of pushing a stone to the top of the mountain, futile because it endlessly rolls back to the bottom, I suggest viewing ordinary people who undertake their life path (which is like pushing a stone to the top of a hill), as a meaningful way of life. One might ask why anyone would choose such an absurd act of pushing a stone to the summit of a mountain if it will only roll back to the bottom?

The answer is that a Sisyphean effort can be perceived as an action with an important purpose, like a game in which people compete with each other. Society establishes various kinds of games that are as futile as pushing a stone uphill, and imbues them with the highest positive meaning, which individuals internalize and devote their whole lives to. For this reason, people compete with each other to determine, for example, who can throw a javelin or iron ball the furthest, climb a vertical wall the fastest, make the highest number of flips while diving into deep water, knock out an opponent in a boxing match, or even jump from a ledge attached to a bungee rope. There is no shortage of sports to which people are addicted and which they see as giving meaning to their lives, whether they are competitors themselves or devoted fans. We can think of Sisyphus as the winner of a competition for pushing stones uphill, or a survivalist contest in which the winner is the one who does not go insane when the stone endlessly returns to the bottom of the mountain; that is, whoever can survive this crazy situation for the longest amount of time. Or we could see Sisyphus as a contestant in a competition to see who will first break his stone by rolling it down the mountain. It is possible that Sisyphus enjoyed watching the stone roll down the mountain and wondering when it would finally crash to pieces. There are people who enjoy watching buildings or bridges be destroyed to make way for new construction (this is profitable for contractors). There are people who enjoy watching the destruction of cities by typhoons, or the spectacular eruption of a volcano, or even air raid bombings. This analysis shows it is possible to find a psychological explanation of the Sisyphean state.

If individuals are the only ones to determine the meaning of their own lives, on what basis can they differentiate between positive and negative (evil) meanings? If they do not internalize, through socialization, basic human values, they are likely to choose a way of life that is meaningful only for themselves, satisfying their own primal impulses and instincts. Such a life path can lead to horrific crimes (theft, rape, murder). There is nothing to prevent people from choosing a way of life that is meaningful in their own eyes, but which is widely perceived as taboo and criminal in human society and culture. History is full of monstrous examples of rulers with unlimited power who cast off their humanity, for example, Caligula, Nero, Hitler, and

Stalin. Doesn't every human reject in disgust the life-meanings espoused by these rulers? Not necessarily. Not everyone rejects these nefarious ways of life. Many of the people under the authority of those hideous rulers supported them (not to mention the phenomenon of the underworld of organized crime, which I will not discuss here). Why? For two main reasons: fear and benefits.

The first reason is fear of the ruler. Their subjects quickly learn that all who oppose the ruler meet the bitter ends of prison, exile, torture, or murder. The second reason has to do with the rewards and benefits that subjects can receive from the ruler. Most rulers create a hierarchical network of recipients of favors, who will help maintain the corrupt government. Rewards are given in the form of property, money, jobs, control over others, and the like. One only has to look at films documenting how the German and Austrian people were delighted to accept the Führer Hitler after his first successes, including the start of World War II, to understand the immense power inherent in the distribution of wealth and other rewards. Furthermore, it is impossible to separate such distribution of rewards and benefits from the fear of losing those benefits. Any individual not loyal to the ruler will lose their benefits, which will be given to others. In particular, there is a fear of a regime change, because in this case, the favors will be immediately transferred to the new rulers.

Chapter 3

The Consciousness-Meaning (CM) Model

Conceptual Infrastructure

Sensory stimuli elicit conscious feelings and emotions. When a normal person is conscious of these, they acquire a sense of meaning, often a high-intensity meaning regarding one's life, sense and understanding of being alive. Abstract stimuli often acquire an everyday, Ordinary Meaning that has a relatively low-intensity, by virtue of being in consciousness. However, if these thoughts and ideas have been empowered and internalized by the individual, they acquire special Extreme Meaning in the person's life, for example religious beliefs or ideological values which guide the individual's life.

By "consciousness" I refer to a person's inner subjective world. This includes, among other things, sensory experiences, such as seeing shapes and colors, and hearing sounds; feelings such as pain, fear, anger, pleasure, and joy; thoughts; and the individual's awareness of the emotions, sights, sounds, and thoughts that come to his or her mind. This definition of consciousness refers to an experience so obvious and mundane that most people don't pay attention to it, because it fills every second of our lives, aside from when we sleep or otherwise lose consciousness, such as resulting from a head injury. (Dreams are an especially interesting kind of consciousness that appear during certain stages of sleep.) Consciousness is the experience of being alive, our existence within the sensory experiences throughout our lives, and which ends only at death.

Some philosophers use the term "qualia" to characterize this phenomenon in various ways, for example, as the way things are perceived by an individual who is feeling pain, seeing a color, or conceiving an idea. Given these characteristics, I think the term that comes closest to describing this unique mental phenomenon is "conscious experience" or, more briefly, "consciousness." Sometimes I also use the term "awareness" to indicate that an

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individual is conscious of something; that is, the conscious individual is in a state of awareness regarding something.

There is not yet a completely satisfactory explanation of consciousness (see Rakover 1990, 2007, 2018). Due to the failure to explain this phenomenon in accordance with the rules of the scientific method, I will refer to it as an initial explanatory factor. That is to say, consciousness (the conscious experience) will serve as an explanatory factor for the behavior of humans (and other supreme animals). This phenomenon, which has not yet been adequately explained and understood, is also specific to each individual person and, to a certain extent, to each of the supreme animals. Based on this assumption, I offer the CM model for explaining the concept of life-meaning. In the next chapter, I discuss the reasons and arguments for why consciousness has not yet been sufficiently explained. In particular, I show that there exists no theory that explains how consciousness emerges from the neurophysiological activity of the brain.

THE CM MODEL: TWO TYPES OF MEANING BASED ON CONSCIOUSNESS

Innate Meaning

Despite previous writings asserting that the world itself is indifferent and meaningless, and it is humans who attribute meaning to the world (i.e., to people, animals, plants, and inanimate objects), I offer here as a basic premise that the world of human beings is enveloped and saturated with meanings of varying qualities and degrees. I propose that normal humans (and, to some extent, the supreme animals) are born with an inherent tendency to attribute meaning to the world, which is mediated by the conscious experience of sensory stimuli (as distinguished from abstract stimuli). I suggest that awareness of sensory stimuli and states such as sight, hearing, smell, taste, touch, awareness of body posture (proprioception), pressure, heat, cold, pain, sex, pleasure, and so forth, provide an innate and basic meaning to life. These are conscious experiences through which people feel and understand that they are alive and enjoying their life. In other words, I suggest that the conscious experience of seeing a pretty color, hearing a pleasant sound, feeling soft material, tasting something sweet, causes a person to experience being alive. Even when a person feels afraid of darkness or frightening noises, these unavoidable experiences and feelings are part of a person's normal, everyday world and an innate aspect of the structure of a human being. I propose that these conscious feelings constitute "life-meaning" through which one feels alive and well, and that this process of imparting meaning to life is innate for a normal person. Since this process is immediate and automatic for a normal

person, it can be suggested that being conscious provides the basic meaning to human life; and that life-meaning is the experience of conscious feeling. Moreover, because conscious feeling is a primary, innate trait (although, as stated, a neurophysiological explanation has not yet been found) and because the current assumption states that a person is imbued with this type of conscious experience from birth, I call this: Innate Meaning. (It should be stressed here that the emphasis placed on the conscious processes does not in any way detract from the psychological importance of unconscious processes. However, the discussion of this topic is beyond of the purpose of the present book.)

As mentioned above, this trait of consciousness is found in humans and also, to some extent, in the supreme animals. Consciousness is a necessary condition for meaning and understanding; that is to say, without consciousness there is no meaning and no understanding. Furthermore, one may assume that understanding is an essential component in the sensory perception of being alive. I do not believe that even the most sophisticated robot will ever achieve a state of consciousness, and understanding of life-meaning (in this context, read about the "Chinese Room" thought experiment by Searle 1980; and see below). This approach pertaining to a robot is illustrated in the following example:

A robot has been designed to look like a woman and programmed to behave exactly like a human mother right after giving birth, including reactions to sight, touch, and smell, and behaviors such as embracing and kissing the newborn baby. There is no difference between the behavior of the human mother and the behavior of the robot mother. When the nurse brings the human infant to the robot mother, its behavior towards it is the same as that of a human mother. Furthermore, there is no difference in the behavior of a human mother and the robot mother when the nurse puts a robot infant in their lap; both reject the robot infant and search for a human baby. This is precisely the rationale behind this example. While the behavior of the human mother, in rejecting the robot infant, is clearly understood, the behavior of the robot mother is puzzling: wouldn't we expect her to adopt the robot infant and reject the human infant? If indeed the robot mother had consciousness, life-meaning, and understanding similar to that of a human mother, we would expect her to reject the human baby (that is not of her kind or "flesh of her flesh") and adopt the robot infant, which was constructed out of the same materials from which she was built. However, the robot does not possess meaningful consciousness, as does a human being. It is only a machine, albeit a sophisticated one, programmed to mimic human behavior (in which case it exhibits a strange, somewhat pathetic imitation).

Therefore, a normal person in a state of consciousness of sensory stimuli, such as seeing the sunlight in the morning, endows life with meaning. That is,

the conscious experience of seeing sunlight elicits a positive feeling, pleasure and understanding of being alive. However, it can be argued there can be no meaningful perception of sunlight (meaning that is expressed as pleasure in the sense of sight and pleasure of being alive) unless there is a normal person in a state of consciousness; someone who is conscious of the sunlight.

Although I assume that being aware of sensory stimuli, under normal conditions, automatically implies understanding and a life-meaning that involves the enjoyment of the experience of existence, this condition is limited to a certain range of sensory stimuli. Certain (usually extreme) changes in the level of consciousness are accompanied by a change in the level and quality of meanings, from pleasant and positive meanings to unpleasant, unbearable, negative meanings. In other words, I suggest that the sensory stimuli that make people aware of the innate meaning of their life are restricted to a certain range of stimuli, and that exceeding this range can change their consciousness and life-meaning from positive to negative. I will clarify this through several examples.

For example, if the intensity of light becomes excessively bright, the feeling will shift from a conscious experience of pleasantness to a conscious experience of unpleasantness and pain. In this case, a person will do everything possible to reduce the light or escape from it. If this negative situation persists without the possibility of escape (e.g., the person is in a vast desert without shelter), a positive life-meaning becomes negative. The individual may not be able to bear such endless torment and may even wish to die.

As another example, a person who sees the sunrise over the same green hills, day after day, year after year, may become immune to this pleasant situation. The person's senses become numb to the dawn, and life-meaning wanes as awareness is diminished. In such cases, the person may seek out a geographical change and go to new, exotic places to diversify and refresh the sensory stimulation, in order to restore a rejuvenated state of consciousness and life-meaning. Here we may also recall Joseph Shimshoni, who suffered from a burnout crisis, and propose that he might refrain from committing suicide not merely out of rebellion against absurdity, as per Camus, but because Innate Meaning will protect him from this terrible deed.

Furthermore, while a slight feeling of anxiety or fear may increase a person's sense of being alive, strong feelings of fear elicit a desire to end the distressing situation, and one may develop physical or behavioral disorders (such as disengagement and withdrawal into oneself, obsessive behavior, suicidal thoughts, or physical tics).

Following this description, Innate Meaning can change over time, in terms of both intensity and quality (from positive-pleasure to negative-suffering and vice versa). To support and illustrate the attribution of these theoretical traits to Innate Meaning, it is appropriate to invoke here, as an analogy, another

system that functions in a similar way: the immune system in the bodies of humans (and animals). The functional strength of this system changes over time. For example, in old age, the immune system weakens, and does not function as well as it does at a young age. Moreover, this system, whose positive function is to protect the body from invasion of harmful organisms (such as viruses, bacteria) under certain conditions, can work against human health, and thus this system can be both positive and negative. For example, an auto-immune disease is caused by the immune system attacking normal cells and tissues, a response that results in inflammation and destruction of healthy tissues. Thus, just as the immune system usually manages to protect our bodies (except in cases in which the body is invaded by lethal viruses, bacteria, or destructive radiation that overwhelm the immune system, which destroy the body and causes death, or in cases of severe autoimmune diseases), similarly, it can be suggested that Innate Meaning protects our minds from depression and suicidal thoughts that may arise from a perception of the meaninglessness of life and its inevitable end. However, in extreme cases such as severe life crises that make life seem futile, the natural protection offered by Innate Meaning may be diminished or overcome. (In this respect, Innate Meaning can be called the "immune meaning.")

What emerges from this analysis is that Camus' (1975) claim that life is meaningless (because death is inevitable and the world is incomprehensible) is inconsistent with the assumption of Innate Meaning, which asserts that people exist within a stream of positive and negative life-meanings due to the ongoing flow of sensory stimuli (see below for more on abstract stimuli).

Indeed, even Meursault, the hero of Camus' (1946) novel *The Stranger,* is placed in constantly changing situations related to Innate Meaning. (The name Meursault is based on the French words for "sea" [*mer]*) and "sun" [*soliel*].) Meursault repeatedly describes the light and heat of Algeria. For example, at his mother's funeral, he writes: "The sky was already a blaze of light, and the air stoking up rapidly. I felt the first waves of heat lapping my back, and my dark suit made things worse" (Camus 1946, 11). The light and heat are important factors in the murder of the Arab committed by Meursault. Meursault goes to the beach, where he feels assaulted by the glare and heat: "I could feel my temples swelling under the impact of the light. It pressed itself on me, trying to check my progress . . . and keyed up every nerve to fend off the sun and the dark befuddlement it was pouring into me. Whenever a blade of vivid light shot upward from a bit of shell or broken glass lying on the sand, my jaws set hard" (ibid, 37). Meursault meets an Arab, who had previously wounded his friend with his knife, lying on the beach. Meursault describes what happens next in this way: "And then the Arab drew his knife and held it up toward me, athwart the sunlight. A shaft of light shot upward from the steel, and I felt as if a long, thin blade transfixed my forehead" (ibid,

38). Sweat pours off Meursault's forehead into his eyes and blinds him: "I was conscious only of the cymbals of the sun clashing on my skull, and, less distinctly, of the keen blade of light flashing up from the knife, scarring my eyelashes, and gouging into my eyeballs" (ibid, 38). Then Meursault shoots the Arab and kills him. At his trial for murder, when Meursault tries to convince the judge and jury that he committed murder due to the sun, he is mocked and ridiculed.

To this point, the scene seems like a description of how the stimulus of light and heat become unbearable and create a negative Innate Meaning. However, Meursault feels positive Innate Meaning even when he is in prison (after being convicted of murder). After meeting with a priest, to whom Meursault emphatically insists that he does not believe in God, he writes: "Once he'd gone, I felt calm again. But all this excitement had exhausted me and I dropped heavily on to my sleeping plank. I must have had a longish sleep, for, when I woke, the stars were shining down on my face. Sounds of the countryside came faintly in, and the cool night air, veined with smells of earth and salt, fanned my cheeks. The marvelous peace of the sleep bound summer night flooded through me like a tide." Then he feels a sense of transcendence and thinks about how his mother must have felt rejuvenated at the end of her life. "And I, too, felt ready to start life all over again . . . It was as if that great rush of anger had washed me clean, emptied me of hope, and, gazing up at the dark sky spangled with its signs and stars, for the first time, the first, I laid my heart open to the benign indifference of the universe" (ibid, 75–76).

It should be emphasized here that Sagi (2000) offers a different interpretation of the natural stimuli of the sun and night in Camus' novel, *The Stranger*. While I note Meursault's conscious feelings regarding nature as examples of positive/negative Innate Meaning, Sagi sees the various natural stimuli as symbols. The sun signifies the breakdown and dissolution of meaning and the incomprehensibility of an unintelligible world. The sea, in contrast, signifies harmony and unity of the world as a whole. While this interpretation may be emotionally appealing and sheds light on deep interpretive strata of the novel, for me it raises the following question: On what basis did Camus determine that the world is unintelligible, that it cannot be understood? The following responses to this question are neither adequate nor accurate.

First, it is clear to me personally (and to many others) that the answers religion provides to questions about the world (such as time and its creation) are insufficient and incorrect. Second, it is clear that the world itself does not reveal or explain the secret of the meaning of its existence to humans—such a revelation is not recorded anywhere on Earth. Third, it is clear that observing the world and its myriad phenomena will not enable one to understand it, because according to the present approach, observation only leads a person

to Innate Meaning, a conscious awareness of being alive and experiencing pleasure (or suffering) by taking in sensory stimuli. (Note that pain and suffering are also accompanied by a feeling of being alive.) So, once again, why does Camus (and others as well) assert that the world is incomprehensible?

One possible answer to this question about the incomprehensibility of the world is that science has not yet been able to decipher all the secrets of the world, and nature is still a mystery. Will people eventually succeed in understanding the world? A negative answer to this question is grounded in two arguments. First, the universe is infinite, so it is hard to believe there will ever be a uniform theory to explain the infinite. In fact, one could argue that a complete explanation for an infinite world is impossible. If this explanation is achieved, then either it must be finite, and therefore cannot explain an infinite world of endless and unexpected phenomena, or else the explanation must delineate and limit the world in order to offer a satisfactory explanation. It can be argued that this latter strategy is not useful because such a framework is finite and therefore contrary to an infinite reality. If the explanation for an infinite world must be infinite, then the explanation itself becomes incomprehensible. Second, the scientific method suggests that anyone who claims to have discovered a complete and absolute scientific theory, has in fact retired from the rules of empirical science and moved into the world of faith (see Popper 1972).

However, this negative answer has significant flaws. I would not be mistaken if I say that science today knows much more about how the world functions (including animals and humans) than was known in biblical times, the Greek and Roman eras, or the Middle Ages. It is enough to look at the dramatic changes that science has made in contemporary life compared to life in the past, to understand how far the world has come in terms of understanding and progress. Moreover, I believe that the motive for trying to understand the world is a powerful ideal to which humans aspire. This ideal is a source of endless strength, which does not create despair but rather uplifts man's energy and will to live and to continue to investigate and uncover the mysteries of the universe. Therefore, I find the argument that the world is incomprehensible to be overly simplistic and narrow-minded.

Acquired Meaning (Ordinary, Extreme)

Despite the important role of Innate Meaning as the immune system (immune meaning) against losing one's direction in life, the purpose of this system is not to guide a person through life, or to provide a meaningful direction to follow. In essence, Innate Meaning is an innate trait that characterizes all humans in the past, present, and probably the future. In contrast, Acquired Meaning varies according to culture, place, and time, and is imparted to

people by the society in which they live. In other words, society offers individuals various meaningful paths that are suitable for them and which allow them to integrate into society and contribute to it.

Based on the above, the following ideas can be offered: In addition to the innate conscious experience that imparts understanding and life-meaning of various qualities and degrees (and, to some extent, a conscious experience among the supreme animals), a person can also create, accept, and internalize various goals, values, ideas, and thoughts—namely, abstract events. These events are imparted by consciousness with a sense of meaning that I call Acquired Meaning. I further differentiate between two types of Acquired Meaning: Ordinary and Extreme, which will be elaborated upon below. The moment that abstract events enter into the state of consciousness in the human mind, they become Acquired Meanings. In other words, consciousness imparts Acquired Meaning to an individual's abstract mental states (MS) (e.g., thoughts). In most cases, the intensity of the Acquired Meaning of the abstract events is relatively low. I will refer to this as "Ordinary Meaning." But in the following important situation, the Acquired Meaning obtains a major and powerful life-meaning:

When abstract ideas undergo long-term emotional empowerment (from childhood onwards), especially when abstract events undergo a process of imparting extreme opinions, attitudes, beliefs or worldviews, such as when an individual undergoes a process of religious or ideological indoctrination. In these cases, Acquired Meaning (religious, ideological, political) becomes a strong belief, which directs one's life. In these cases, Acquired Meaning becomes extreme and determines the life of the individual and his or her group. I call this Extreme Meaning.

As can be seen, the difference between Innate Meaning and Acquired Meaning, for a normal person, lies in the type of stimuli that elicit cognitive events and the magnitude of their bestowed meaning. Innate Meaning is created by sensory stimuli (light, sound, etc.) that, when they are in one's state of consciousness, they are imparted life-meaning, a sense of well-being, and pleasure in being alive. In contrast, Acquired Meaning is created by connecting consciousness to the values and goals developed by society, which the individual assimilates completely or partially (through socialization and learning). Sometimes, as a result of deep internalization of social goals and values (such as the importance of family, loyalty to homeland, religious observance) that society imparts to individuals through special means (such as identification with a leader), certain abstract events become so powerfully significant that they become the sole meaning of life, and completely guide a person's direction in life. To clarify this, I offer several examples.

Each morning, Reuben opens his bedroom window, watches the sunrise, smells the trees, sees the flowers damp with the morning dew, and hears

birds sing. Happy with these conscious feelings of life and being alive, he experiences Innate Meaning. On Saturday afternoon, Reuben goes with his friend Yaron to an important soccer match between the Hapoel and Maccabi teams (major Israeli soccer teams). Yaron obtained front row, center tickets. They eat, drink, and cheer during the game; in short, they both experience great pleasure. Maccabi wins, and Yaron is almost out of his mind with joy, because he is a Maccabi fan. His life is organized around the team's games and its fan club, and he travels to all Maccabi competitions abroad. However, although Reuben is aware of and enjoys the game between the two competing teams, this does not create in Reuben an Extreme Meaning, as it does for Yaron. Reuben's Ordinary Meaning derives from awareness of the game, but it is not as strong as it is for Yaron. This is the difference between the low degree of significance that Reuben attributes to the Maccabi soccer team and the high degree of meaning that Yaron attributes to this team.

While an Extreme Meaning, such as a religious belief or ideology, can disappear from a person's life, Innate Meaning remains, although it may be damaged in some cases (as will be described below). A life-meaning crisis usually happens in relation to Extreme Meaning. For example, Yaron, in the example above, may stop being a devoted fan of the Maccabi soccer team and find different life goals. This may happen as a result of membership in the Maccabi fan club becoming too great a financial burden, or the club attracting new members whose behavior is not compatible with Yaron's personality and taste.

Many people have become disillusioned with fascist or communist ideology, and their life-meaning changed completely. Similarly, many people change their way of life because they stop believing in God and become secular. This represents a tremendous mental crisis that also involves a change in lifestyle. A similar crisis also happens among people whose secular way of life has become dangerous (e.g., as a result of promiscuity or drug addiction) and the individual seeks salvation and a framework that offer protection from mental and physical deterioration, through faith in God or by joining a religious cult.

As mentioned above, in most cases involving a crisis in Extreme Meaning, a person's Innate Meaning is not damaged or dissipated. However, as we shall see below, there are cases in which Innate Meaning can also be impaired. The fact that an individual goes from one way of life to another, for example, from fascism to democracy, from a belief in God to secularism, shows that the person's Innate Meaning of life has been maintained at a reasonable level, and this enables the individual to continue to live and seek a new way of life. However, there are extreme cases that also destroy Innate Meaning. In essence, there are two cases of this: anguish from aging and illness, or loss of a close family member (spouse, offspring).

In the first case, disease and loss of control over basic daily functions greatly diminishes one's enjoyment of sensory stimuli. A person may feel like a prisoner trapped at home, and may experience incessant fatigue and unbearable physical pain. In addition, the sensory stimuli that the person can still experience no longer produce enjoyment of life and awareness of pleasant sensations; for example, food may taste bland, and sex may become intolerable. In this case, a difficult question naturally arises: What is the point of life? In this case, a person loses Innate Meaning of life.

In the second case of the loss of a close family member, such a blow can destroy a person's will to live. First, Ordinary Meaning is damaged. That is, the way of life built around the cultivation and preservation of the family unit is destroyed, and the person finds no alternative meaning in life. The individual begins a process of withdrawal and disengagement from society and the blocking of both sensory and abstract stimuli. At the end of this process of disengagement, cutting off one's social network and eventually losing contact with the outside world, Innate Meaning also fades. As a result, the person no longer has anything to support the desire to continue living. In fact, there have been a number of tragic cases of Israeli parents committing suicide on the graves of their children who were killed in wars.

There is a difference between Innate Meaning and Acquired Meaning (Ordinary or Extreme). When a normal person consciously takes in sensory stimuli (e.g., seeing a landscape, hearing music, drinking coffee) he is not mistaken as to its Innate Meaning and does not have to try to interpret this meaning because it is automatically understood. The person may focus on one sensation or another, but will not err regarding the nature of the sensation being experienced. In contrast, a person may misinterpret Acquired Meaning and may be discouraged in attempts to understand it. For example, people may be discouraged when trying to find a job that suits their talents or to find a suitable spouse with whom to establish a family. From these examples emerges another important factor that may undermine Acquired Meaning, the disappointment experienced in trying to realize or properly understand this type of meaning—a gap is created between the individual's desire to follow Acquired Meaning and the fulfillment of that will.

Another difference between Innate and Acquired Meanings is expressed in the following question: Does the bestowal of Acquired Meaning by consciousness necessarily invoke the feeling of being alive, as with Innate Meaning? My answer is qualified. I believe that the feeling of being alive is automatically bestowed by sensory stimuli. However, normal people who live according to their chosen way of life and who realize their goals, tend to feel that their life has meaning. This feeling increases in intensity when a person lives according to an Extreme Meaning. The Acquired Meaning and feeling alive hold particular strength when the individual achieves important goals, such as getting

married, having children, receiving a desired job or promotion, completing a complicated and difficult task, or finishing a creative project. In these cases, one is induced with self-esteem, joy, pleasure and a feeling of alive. However, the feeling of being alive in the case of Acquired Meaning is somewhat different from the feeling of being alive in the case of Innate Meaning, because the latter is a product of natural evolution and is interwoven with sensory stimulation.

The following table 3.1 describes briefly and schematically the connection between consciousness and the different types of meanings.

Table 3.1   Consciousness: A Necessary Condition for Life-meaning and Understanding

Innate Meaning: One senses and understands sensory stimuli and the feeling of being alive. This is the person's basic life-meaning.
Ordinary Meaning: One acquires according to one's inclinations the knowledge, values, and norms of one's society. This is the person's lifeway.
Extreme Meaning: One acquires and determines one's lifeway in accordance to certain religions or social-political ideologies that are provided by one's society. These are the person's lifeway.

HOW CONSCIOUSNESS IS RELATED TO MENTAL STATES AND HOW MEANING IS CONVEYED

Thus far, I have focused on describing the main characteristics of Innate Meaning as it compares to Acquired Meaning (Ordinary or Extreme). I have explained that the Innate Meaning is the life-meaning that keeps people (and supreme animals) alive, despite the difficulties and pain that may affect them from time to time. By contrast, the Acquired Meaning is the learned behavior conferred to the individual by society to which he/she belongs. Next, I will address two important questions that underlie this description:

(A) How is consciousness related to MSs (external and internal representations)?
(B) How does consciousness impart MSs with various degrees of meaning?

Here I must admit in full honesty that I do not have complete answers to these two questions. In fact, I can only outline some tentative answers. I will begin with the first question.

CONSCIOUSNESS AND MENTAL STATES

The conditions under which a particular MS (representing an event that is external or internal to a person) goes from one state of unconsciousness

to another state of consciousness, and the ways this happens, have been described in the Conscious Unit (CU) model, proposed by Rakover (2019). This model is developed at the functional level rather than the algorithmic or neurophysiological level (see on these distinctions in Marr, 1982). In brief, the CU model suggests that there is a hypothetical mechanism called a *linking-mechanism* in the cognitive system that connects units of consciousness to an MS, only when another hypothetical mechanism, a *link-condition*, is activated. As a result, an unconsciously MS is transformed into a consciously represented one; that is, the MS is now in a conscious state. In other words, the process of inducing consciousness occurs only if the link-condition, which is also part of the person's cognitive system, is realized. Once this condition is realized, the linking-mechanism can act upon the MS and induce consciousness on it. Following the concept of short-term memory, the following process can be proposed: once the MS enters the activated link-condition, the MS becomes conscious, and when the MS exits this condition, the MS is removed from consciousness. The number of MSs that may exist in a link-condition at one time is quite small, so room must be made for a new MS in the link-condition. That is, a new MS pushes out an old MS, and the old MS is removed from consciousness. This model, along with some additional assumptions, can explain a number of everyday phenomena, including some problems that faced previous theories, such as higher order theories of consciousness. For example, this model makes it easy to explain the following two observations.

First observation: in front of me is a beautiful black-haired Persian cat. The cat-MS entered the link-condition and as a result I became aware of this cat and can enjoy its beauty. I turn my head 180 degrees, and now face a window overlooking a green grove of trees. The landscape-MS has entered the link-condition, and now I am aware of the view through the window, and am not visually aware of the beautiful cat, whose representation is no longer in the link-condition.

Second observation: I made an appointment to meet a friend at the Green Bird café in Tel Aviv. During the drive from Haifa to Tel Aviv, I listened to classical music, Verdi's Requiem (which in my opinion is a divine operatic music for a funeral) and I didn't think about the meeting even once. As I entered Tel Aviv, I remembered the meeting. I glanced at the clock and ascertained that I would arrive on time. Again, using the CU model, it is easy to explain these cognitive events: being conscious of the meeting, removal of the meeting from consciousness, and return of the meeting to a state of consciousness.

Similarly, the current model is able to easily explain consciousness of sensory and abstract stimuli. The basic explanation, which can be applied to each specific case, is based on the idea that various MSs move in and out of the

link-condition when the units of consciousness are conferred and removed, respectively.

What is missing from this model? Essentially, there is no good explanation for how the linking-mechanism works. How is the consciousness bestowed on these MSs? How the unit of consciousness has been created by neuro-physiological processes in the brain? However, as stated above, these are questions for which satisfactory answers have not yet been found (see more below).

CONSCIOUSNESS AND MEANING

How does consciousness confer meaning to an MS? (As explained above, an MS is a theoretical concept that represents one's external or inner world. Note also that I am not going to discuss here the relation between consciousness and understanding, except for repeating the assumption that consciousness is a necessary condition for understanding.) So far, the answer to this question has been that consciousness is a necessary condition for meaning, and that under normal conditions consciousness induces meaning to an MS. What is the nature of this meaning? The answer is based on the fundamental idea that meaning is perceived as a positive, pleasurable feeling, essentially a sense of being alive, arising from the fact that one is in a state of consciousness with regard to an MS. But again, as in the answer to the previous question regarding the CU model, so too the CM model, in which meaning is dependent on consciousness, does not provide a description of the mechanism that performs the function and purpose for which it was designed: bestowing meaning to an MS in consciousness. What I have been able to show is that consciousness is a necessary condition or meaning by providing some examples in which an individual suffers from crisis situations as a result of brain injury, poor health, or major emotional crises. In these extreme situations, a person's sense of meaning has been damaged and the conscious mechanism that confers meaning has been impaired. As a result of these crises, enjoyment of life may disappear, and suffering may increase to such a degree that the person may no longer wish to live. I cannot offer more than this, although I believe that indirect support for the CM model can be given by the following argument.

As mentioned above, it is possible to suggest that consciousness is also a necessary condition for understanding. That is, without consciousness there is no sense of understanding of the various explanations and reasons for phenomena occurring in the world. In my book on explanation I discussed a number of scholars who raise the argument that there is no understanding in the absence of consciousness (see Rakover, 2018). I offered the following illustration as a support for this. A robot can easily be programmed to provide

the correct answers to any questions related to, for example, classical physics. This robot is able to answer any question about the free fall of objects and explain each calculation with a detailed clarification based on Galileo's law of falling bodies or Newton's theory of gravity. Moreover, the robot will never lose patience and will always find a way to offer various additional explanations for whatever was not understood by human students. However, despite the robot's excellent performance as a teacher who is never wrong and whose explanations would be assessed by experts as being perfect, the following question arises: Can it be said that this robot understands and grasps the meaning of its own flawless explanations in the same way that the weakest human student understands them? In my opinion, the answer is negative, because the robot does not have consciousness of even the weakest student.

MEANINGLESS AND ABSURDITY ACCORDING TO CAMUS, NAGEL, AND THE CM MODEL

In this section, I mainly rely on the following sources: Camus (1946, 1975), Lurie (2002), Nagel (1971, 1987), and Sagi (2000). Camus' basic argument that life is an absurd is based on two contradictory concepts. On the one hand, individuals seek to understand the world and their place in it through explanations that unite everything in one meaningful whole (such as belief in God, which Camus rejected). On the other, the world turns out to be silent, indifferent, and incomprehensible, and the specter of death hangs over everything as the only absolute certainty. As noted, this state of life is absurd and triggers a vast spectrum of negative emotions, including the feeling that life is futile; fear of a world that is mysterious, incomprehensible, indifferent, and alienating; dread of the uncertainty and anguish that one may endure, and fear of death that is inevitable. One may wish to commit suicide in order to end this absurd madness once and for all. Indeed, from this absurdity Camus (1975) concludes, in his philosophical treatise *The Myth of Sisyphus* (which, according to Sartre, explains his novel *The Stranger*, see Sagi 2000) the dramatic assertion, "*There is but one* truly *serious philosophical problem*, and that is *suicide*. Judging whether life is or is not worth living amounts to answering the fundamental question of philosophy," (Camus 1975, 11). Camus chooses life, and therefore struggles against incomprehensibility, lives with absurdity, and does not succumb to it. According to this approach of rebelling against the absurd, Camus sees human life as equivalent to the life of Sisyphus, who was punished by the gods to push a heavy stone up a mountain only for it to roll back to the bottom just as he reaches the top—an act that is repeated an infinite number of times. Camus suggests that

Sisyphus' act was not a futile and useless torment, but rather a life full of positive and joyful activity. He writes in the conclusion of this essay, "The struggle itself towards the heights is enough to fill a man's heart. One must imagine Sisyphus happy" (ibid, 111). In other words, it is the insistence on continuing through this difficult life, despite its disheartening absurdity and meaninglessness, the very choice to live, that gives a person a sense of happiness.

Camus' outlook on absurdity and method for dealing with the absurd (not by committing suicide, which only expedite death, and although it may end great and unbearable anguish, also puts an end to the joys of life) have elicited many discussions (see Landau 2017; Lurie 2002; Sagi 2000). [It is worth noting here that Camus (1948, 1956) changed his opinion and decided that absurdity is only the beginning of the problem, and later suggested that social unity might help in fighting physical disease, as in his book *The Plague*, as well as in the struggle against communist dictatorships.]

For criticism of Camus' concept of absurdity and alternatives to it, we can consider Nagel (1971, 1987), who tries to understand the causes of absurdity, rejects a number of reasons behind it, and finally offers a different explanation from that of Camus. For example, in rejecting the inevitability of death as a reason for absurdity, Nagel (1987, 95) writes, "Perhaps you have had the thought that nothing really matters, because in two hundred years we'll all be dead. This is a peculiar thought, because it's not clear why the fact that we'll be dead in two hundred years should imply that nothing we do now really matters." It does not seem to me that Nagel's puzzlement has great weight, because it is possible to accept the following argument (see also Landau 2017 for additional arguments against Nagel's claims (1971, 1987) that the inevitability of death does impart meaninglessness to life):

(1) An individual, "Uri" believes that a meaningful life is filled with important deeds;
(2) Uri believes that life is meaningless because death is inevitable;
(3) Conclusion: Uri perceives his life as filled with unimportant deeds.

Similarly, the following argument can be made:

(a) Uri believes that the meaning of life includes the desire to life and will to stay alive;
(b) Uri believes there is no meaning to life because of death (or for any other reason);
(c) Conclusion: Uri feels there is no point in the continuation of life (and, possibly, that therefore it should be ended immediately).

Finally, Nagel offers the following explanation for the absurdity of life. According to him, absurdity arises from a comparison between a person's subjective perception of himself and his life as bearing enormous significance, and an objective universal perception, which makes the subjective attribution of meaning completely irrelevant. Therefore, Nagel (1971, 718) writes:

> If there is a philosophical sense of absurdity, however, it must arise from the perception of something universal—some respect in which pretension and reality inevitably clash for us all. This condition is supplied, I shall argue, by the collision between the seriousness with which we take our lives and the perceptual possibility of regarding everything about which we are serious as arbitrary, or open to doubt.

On this latter point, he adds: "Yet we have always available a point of view outside the particular from our lives, from which the seriousness appears gratuitous," (ibid, 719). I will call this reasoning the "gratuitous argument."

For example, from Uri's subjective point of view, his life seems significant and important, but from a general viewpoint of the entire universe, his small, daily life does not matter at all. Objectively, it does not matter if Uri exists or not, just as it does not matter if some small icy comet is pulled into the Sun's gravitational field and completely burned up. Whether or not this comet existed is completely unimportant.

Nagel explores a number of ways to rid oneself of this sense of absurdity. He eventually suggests that instead of following Camus' path of resisting and rebelling, the absurdity of life should be viewed with irony. Consider, for example, one of the paths that Nagel (1987) rejected, namely that Uri's small and mundane life can become significant by engaging in broad religious, social, or political activities that will make the world a better place. However, this suggestion does not solve the problem and so Nagel (1987, 98) writes:

> If one's life has a point as a part of something larger, it is still possible to ask about that larger thing, what is the point of it? Either there's an answer in terms of something still larger or there isn't. If there is, we simply repeat the question. If there isn't, then our search for a point has come to an end with something which has no point.

This kind of philosophical argument is called "infinite regression." For example, a given phenomenon is explained by A, which then raises the question, what is the cause of A? When B is offered, it is then asked, what is the cause of B? And so on, in an endless chain of questions about the origin of the causation. In the present case, can this endless chain of asking: What is

the point? Will it ever end? If the answers are negative, then the proposed way of dealing with absurdity is useless. However, if this chain can be ended, the proposed method may be helpful. The question, then, is how this infinite regression can be stopped.

The answer I propose to end the infinite regression is the basis of the CM model, namely Innate Meaning, the meaning imparted by conscious awareness of the perception of sensory stimuli. (Again, I will say that consciousness and meaning also exist, to some extent, in the supreme animals.) To clarify this answer, which is also the response to the current approach to the meaninglessness and absurdity of life that emerge from Camus' philosophy, I will take a step back and first describe, in a nutshell, the concept of absurdity according to these two philosophers.

Although both Camus and Nagel address the phenomenon of absurdity, they offer different explanations for its occurrence; that is, for the conditions resulting in a sense of the absurdity of life. For Camus, absurdity arises from the gap between one's desire to understand the world and his place in it, the knowledge that the world is incomprehensible, and the awareness that life must end in death. In contrast, for Nagel, absurdity is based on the discrepancy between an individual's subjective perception that he and his actions are of great importance, and the objective perception that man and his actions have no importance.

In contrast to both of these approaches, the CM model suggests that the chances of a person feeling insignificant and experiencing life as absurd are quite low. This is because a normal person's life is infused with various levels of meaning, from Innate Meaning through Ordinary Meaning to Extreme Meaning. It is true that life crises can damage these various types of meaning, but it seems to me that very rarely the crisis is so terrible that the Innate Meaning of life is destroyed and a person faces the world without any defense, and expresses despair, depression, and the endlessly echoing thought that life is pointless.

As an example, I will briefly describe the conclusions drawn by the author of this book in response to the Holocaust during World War II, which caused me to stop believing in God and to perceive man's nature as evil at its very core (beliefs I hold unchanged to this day), conclusions that emerged from a long-term crisis of faith. This crisis developed once I realized the full horror of the Holocaust that was designed, organized, and executed, with extreme efficiency, by the loathsome Nazis. To continue with my personal testimony, I must say that despite the dramatic change in my worldview, I never lost a sense of Innate Meaning or my path in life, which is associated with university studies and the establishment of a family; I continued living my life, and all it implies. However, I completely rejected the Extreme Meaning that had been imparted to me throughout my childhood and youth; that is, belief in

God, and the perception that Jews are God's chosen people. This Acquired Meaning was transmitted to me in multiple ways, until I became aware of the horror of the Holocaust.

It can therefore be said that Innate Meaning is the last line of defense for an individual undergoing a serious crisis, during which he rejects and repudiates the meanings his life had before. One may abandon one's religion, political beliefs, firmly-held ideology—in short, undergo a massive cognitive mental crisis—and yet not lose one's sense of Innate Meaning, which is imparted by virtue of consciousness, and which grants meaning to all sensory stimuli. Innate Meaning will protect an individual from the sense of meaninglessness and absurdity, so that despite the rejection of Extreme Meaning (religious belief, social or political ideology) he may still find meaning in life through the light of dawn, the scent of flowers, the warm pleasantness of the sun on his face, and the love of his spouse. It is not necessary to see in his life a rebellion against absurdity or to perceive it as ironic. One's life is filled with various types of meaning, some of which are innately imparted to him and some are imparted to him by the society to which he belongs. As mentioned earlier, these meanings are imparted via educational institutions and their representatives, beginning with parents and family, through kindergarten, school, the military, and finally higher education institutes such as university. The individual begins to acquire these meanings from the moment of birth. For the most part, he internalizes them, and changes or adjusts them according to his natural tendencies.

According to the present approach, Innate Meaning can be seen as the most basic meaning that evolved in mankind as a result of the development of consciousness and the ability to be self-aware. It can be assumed that consciousness is the result of evolutionary processes, because a certain level of consciousness is also found in the supreme animals. For example, when a lioness in a normal physical and mental state stalks her prey, she is in a state of full sensory awareness, and her own actions and those of her prey are infused with great meaning for her (and for her cubs and the male lion at the head of the family pack).

According to Camus, the meaninglessness and absurdity of life result from the incomprehensibility of the world and the inevitability of death. Earlier, I challenged this idea, and argued, (a) that science manages to explain, to a great extent, many of the phenomena in the world, and (b) that there are many people (myself included) for whom death does not inspire great fear, but they are afraid instead of the illness, loss of control, and despair that old age can bring. (To be honest, my fear is not so much death, but rather the fear that I will not be able to fulfill and complete projects that are highly important to me. This unfortunate realization is sad and very upsetting.) However, even if we make a general assumption that man is unable to fully understand the

world and that the fear of death has a profound effect on us all, I still believe that nature and evolution have protected man from these negative events through Innate Meaning, which functions like an immune system (immune meaning).

As an example, we can consider Uri returning home at dusk. On the drive back to his house after a busy day, Uri hears a radio announcement about a new discovery in astrophysics. A satellite sent into deep space decades before discovered a new galaxy, millions of light years from Earth, a discovery that raises a number of new and unsolved problems. This knowledge gives Uri the disturbing thought that we will never understand the universe, which is a powerful and fearful mystery. Moreover, as soon as he parks his car in front of his house, Uri receives a text message on his smartphone informing him that his good friend from youth died suddenly of a stroke. As a result, Uri is overwhelmed by the fear of death, and sits in his car, in a state of shock. As he is sitting there, the door of his house opens, and his son and a friend come out to play soccer. The shouts and laughter of the children penetrate his consciousness and gradually distract him from his gloom. He gets out of his car, kicks the ball that had rolled towards him back to the two players, who don't even bother to thank him because they are so immersed in the game. He watches them, delighted with the joyful spectacle, smiles, and enters his home, where the smell of his favorite stew prepared by his beloved wife gives him a great appetite. He changes out of his work clothes into something more comfortable and hears Rossini's comic opera, *The Barber of Seville*, which his wife is crazy about. She insists that anyone who is depressed should listen to Rossini, because it will immediately drive away his depression, and that Rossini's music is like a life-saving pill that is effective immediately. Uri believes that she is perfectly right.

According to Nagel, the meaninglessness of life and absurdity rise from the objective perspective, from the point of view of the universe, that there is no value to man's actions—everything is negated by the endlessness of the universe. Some interesting arguments can be made against Nagel's "gratuitous argument" (see above). First, while the endlessness of the universe may invoke fear in some people due to our ignorance and uncertainty, in other people this situation is precisely what arouses their curiosity and desire to explore and investigate. This difference may be related to genetic development, since some empirical evidence supporting this hypothesis has been found in mice (e.g., Crusio 2001). Moreover, one might suggest that it is difficult to understand how humans could have spread across and populated the entire planet, as well as man's great efforts in modern times to explore outer space, without assuming that people have a high level of curiosity that overcomes the natural anxieties arising from the uncertainty of such explorations.

Second, it can be suggested that as a matter of fact a normal person is not bothered by the things that are taking place light years from where he is, as long as they have no effect on his life in the here-and-now. What matters to a person is what affects him in the present, and what the people who are important in his life think of him. From this normal viewpoint, consider an artist who is given two options:

(A) His artistic work will be greatly appreciated in his life but forgotten after his death;
(B) His artistic work will not be appreciated during his life, but it will be after his death.

Given this viewpoint, the artist would prefer option (A) over option (B). Similarly, a physicist would prefer option A—that his theory would be appreciated by a small number of expert physicists and not by the general public (i.e., the physicist would not become a media star like a rock or pop singer) over option B—that his theory will be appreciated by the general public but not by a small number of expert physicists.

As in the example described above, even if we accept Nagel's gratuitous argument, it can still be suggested that nature and evolution protect man from this negative situation by Innate Meaning.

To illustrate, let's look again at Uri returning to his house in the evening. As he parked his car, he was thinking that he had been doing this same routine for many years and that, in fact, his whole life was one big, dreary routine, and that if anyone was observing the Earth from space, he would not even notice Uri's routine. Moreover, both Uri and his life are unnecessary and meaningless—it doesn't matter whether he exists or not. Just as these depressing thoughts were echoing in his consciousness, the door of his house opened and his son came outside with his friend to play soccer, and so forth (see the rest of the story above).

As one may surmise from the above, the CM model does not raise the negative consequences that are raised by the approach of Camus and Nagel regarding the meaninglessness of life. Absurdity, Camus believes, can provoke a person to commit suicide, because if everything is meaningless, death is inevitable, and life is nothing but absurdity, then what is the point in making the endless effort to continue to exist? (see also an interesting discussion on this issue in Landau, 2017). Indeed, as has been said before, Camus opens the discussion of *The Myth of Sisyphus* by saying that suicide is the fundamental philosophical problem. The problem with the absurdity-suicide argument is that almost every possible action can be derived from the state of absurdity, since it includes two mutually contradictory assumptions. In fact, one can propose the following slogan: Absurdity leads to X, in which X represents every possible action.

For example, Camus suggests that the rebellion is a reaction to absurdity; but justifications can be made for other reactions to it as well. If life is absurd, then why should I alone commit suicide? Maybe I should take with me a few other miserable souls whose lives are meaningless; then I will be like the heroic Samson in the Bible who said "Let me die with the Philistines." Or maybe I will just kill for no reason, because killing doesn't make any sense either and is absurd. Indeed, the murder of the Arab by Meursault in Camus' novel *The Stranger* can be interpreted as an absurd act that has no logical explanation! (The description before the murder includes the effect of the heat and the sun, sweat pouring down his face, and the knife that the Arab pulled out while lying down. When Meursault tries to use the sun as an explanation for the murder, the jury laughs.) The scene in which Meursault is sentenced and charged with murder also seems largely Kafkaesque, absurd: what is the point of discussing Meursault's indifferent attitude to his mother's death?

Camus may have realized that absurdity can trigger everything (including murder, or drinking and eating oneself to death! Why not?). Therefore, he changes his approach in the novel *The Plague* and in his essay *The Rebel,* in which he focuses the discussion on the possibility of murder and offers solidarity and fraternity between people as a solution (see also an interesting discussion on this topic by Sagi 2000). In *The Rebel*, Camus (1956, 5) writes:

> Awareness of the absurd, when we first claim to deduce a rule of behavior from it, makes murder seem a matter of indifference, to say the least, and hence possible. If we believe in nothing, if nothing has any meaning and if we can affirm no values whatsoever, then everything is possible and nothing has any importance.

He continues:

> Hence, if we claim to adopt the absurdist attitude, we must prepare ourselves to commit murder, thus admitting that logic is more important than scruples that we consider illusory (ibid, 5)

Similar statements can be made about Nagel's views on absurdity. If, from an objective perspective as opposed to a subjective one, it emerges that human life has no meaning or value, and it doesn't matter if a person exists or not, creating absurdity, then why behave only ironically (as Nagel suggests)? Why not commit suicide, murder, rape? Or even find solace in the inevitability of death? In this case, a person who has no accomplishments, a loser, may say, "It is true that I am nothing; but the richest man in my city, the best-known author, the most famous scientist, and the most successful politician—all, without exception, all will die exactly like me! So, what is the difference between me and them?"

Chapter 4

An Explanation of Consciousness Has Yet to Be Found

Given the importance of consciousness in the CM model, the following question must concern us: what would happen if consciousness could be totally explained in terms of the neurophysiology of the brain? Clearly, if such an explanation would be realized, the CM model would be undermined and would need extensive changes in its foundations. However, this kind of explanation has not yet been achieved.

IMPLICATIONS OF THE CONSCIOUSNESS-NEUROPHYSIOLOGY CONNECTION

Let us assume that there is an explanation for human consciousness, which has revealed the neurophysiological mechanisms that create or confer the subjective experiences of consciousness, such as seeing colors, tasting a cake, or reading a newspaper. Alternatively, consciousness may be characterized as one of the particular features of a neurophysiological mechanism. Such a "law of consciousness" may be expressed in the general schema of an equation, such as: Consciousness (C) = f(Brain's Neurophysiological Activity [BNA]).

What implications can be deduced from C = f(BNA)? I will concentrate on what I call the "measurement implications," which addresses the question of how the concepts in this equation are measured. BNA can be measured using standard mechanistic units, such as differences in the voltage, intensity of electric current, or chemical reactions in the brain. For the sake of simplicity, I will refer to measurements that are expressed using standard units of measurement by the general term standard units (SU). In this equation, consciousness equals BNA. However, there is currently no general method

for measuring consciousness in the same way that concepts in physics or chemistry are measured. All we have, of course, is each individual's report of his or her own internal state.

Therefore, in the BNA part of this equation, consciousness is expressed through SU. This approach to measurement is based on the requirement for "unit equivalency" (founded on the well-known dimensional analysis). According to this requirement, the combination of measurement units on one side of any equation expressing a law or theory must be the same as the combination of measurement units on the other side of the equation (Rakover 2002, 2018). Thus, the first conclusion from the law of consciousness, C = f(BNA), is that consciousness can be measured using SU. It is worth noting that until a general method for measuring consciousness using appropriate units of measurement can be found, it will be extremely difficult to construct any constant to balance the units of measurement on the two sides of the equation: C = f(BNA), as per the requirement for unit equivalency.

Assuming that this approach to measurement is accurate, a number of interesting but weird implications and conclusions emerge. I must add that these consequences exist in the realm of thought experiments; that is, possibilities that might occur in reality.

First consequence: according to the current model, consciousness is what gives meaning to the mental representations, the MSs that symbolize various phenomena in the world, including complicated emotions and thoughts. Further, consciousness endows understandings on the various explanations for these phenomena, whether these understandings are formulated deductively, inductively, or through perception of relations between various events. Therefore, in all these cases, it should be possible to express measurements of meaning and understanding via SU. For example, if Uri's love for his wife is of great significance, then it will be possible to express this love as equivalent to (e.g.) 10 SU. But it may turn out that the importance he attaches to buying a used car is also 10 SU, and the meaning attached to watching a soccer match between rival Israeli teams is 15 SU. (Be careful!—Uri's wife might discover how much meaning he attributes to each of these things, since the information has now been made public.) That is, here the illogical possibility arises that the meaning of things with completely different qualities will, in many cases, be attributed the same level of importance if they are assessed using the same scale and expressed in SU. This would be similar to a situation in which the extent of one's understanding of the theory of quantum physics is the same as that person's understanding of how to make an onion omelet. These are pretty strange measurement implications, in my opinion.

Second consequence: suppose that in Mrs. Salomon's opinion, a concrete sculpture near her home of an ugly fat woman has a significance equal to 23 SU. Since these units are standard, they can be translated by using a series

of well-known transformational formulas, and be compared to the measurements of other physical objects. As a result, it was discovered that in a certain village in China there is an old piece of colorful fabric that can also be objectively attributed a value of 23 SU. This is where strange measurement implications arise again.

(A) How can Mrs. Salomon attribute the same meaning of 23 SU to the concrete sculpture near her house and to the colorful fabric in China, if Mrs. Salomon is unaware of the existence of the fabric or of this village in China?

(B) Even if we fly Mrs. Salomon to China and show her the colorful fabric, she may wrinkle her nose and say, "That is really ugly!" The formula C = f(BPA) enables attribution of meaning to all kinds of objects and phenomena that a particular person may not even be aware of. Further, the predictions that arise from the law of consciousness are not confirmed by the observations! This law predicts that for Mrs. Salomon, the meaning attributed to the colorful fabric will be highly positive, whereas empirical observation reveals that the meaning she attributes to it is strongly negative.

(C) If consciousness, meaning, and understanding can be measured by using SU, then it should be possible to develop pills that increase or decrease consciousness, meaning, and understanding. A dictator could force his subjects to take one pill each day to increase his importance in their eyes, and a second pill to decrease their understanding of the situation and enhance their stupidity. With such pills, it would possible to develop a small number of geniuses specifically designed to fulfill this dictator's goals, while the majority of his subjects would be required to do all the dirty work for disgracefully low wages. This would indeed be a bizarre situation.

Third consequence: following the conclusions stated above, it could be predicted that a tremendous crisis in life-meaning would change the face of humanity. Each individual's private and personal world including life-meanings and understandings would cease to exist! The possibility of assigning a certain number on a scale using SU to consciousness (which in turn imparts meaning and understanding) stands in stark contrast to the existence of individuals' private world, and their exclusive personal experiences and inner observations. Moreover, because the law of consciousness transfers consciousness from the personal level to the public level, it could be argued that robots can have personal experiences, similar to those of Mrs. Salomon. For example, robot 300R could be programmed to attribute 23 SU of meaning to the concrete sculpture, and even to wrinkle its nose at

the colorful fabric in the Chinese village. The approach, prior to the development of this law of consciousness, was that humans ascribe meaning to an indifferent world. This law raises the possibility that everything in the world can have a value of significance attributed to it through the system of transformation laws known to science. Does this indicate that the meanings attributed to phenomena in the universe are objective and independent of human assessment?

An affirmative answer to this question would lead to a conclusion concerning a wonderful world filled with life-meanings as a natural and objective feature. Because this conclusion seems so revolutionary and strange to me, I prefer to move immediately to a discussion of the negative answer. A negative answer, based on acceptance of the assumption that humans attribute meaning to an indifferent world, creates a very complicated problem. Why? Because each person may attribute a different meaning to each thing in the universe. For example, the meaning of the sun may be different according to each of the billions of humans on Earth. It is unclear whether value X or Y is most accurately attributed to the sun, or whether it is the average meaning of the sun calculated over the assessments of all these humans. On top of this problem, one can propose that we should take into consideration the fact that animals (cats, dogs, monkeys, horses, donkeys, sheep, and cows) also have a certain level of consciousness and meaning.

What I have shown above is sufficient to raise the suspicion that the law of consciousness raises a host of questions regarding the aim of the scientific research to discover an equation such as C = f(BNA), a theory of the brain/consciousness connection. How can we respond to the strange conclusions that emerge from this law? Here are some options:

First, researchers will tend to look for flaws in the logic of the conclusions presented above. If such flaws are found, the goal of developing a law of consciousness will be reinforced.

Second, if no flaws are found to discount these strange conclusions, scholars may respond that the conclusions are essentially empirical. That is, these conclusions are related to the observational world, which is inherently unpredictable and contain endless significant and fascinating surprises. Therefore, it can be said that the status of such conclusions is not equivalent to mathematical or geometrical proofs, such as that in Euclidean geometry, whereby the sum of the angles in a triangle always equals 180 degrees. It would be baffling for a researcher to make a supreme effort to show empirically the existence, in Euclidean geometry, a peculiar triangle the sum of whose angles is less than 180 degrees (of course, in non-Euclidean geometry, such a triangle exists). However, Euclidean geometry is not similar to the law of consciousness! Therefore, the following strategy can be proposed: we should make a great effort to discover the mechanism that links the

neurophysiology of the brain with consciousness. Later, we will worry about the strange and negative conclusions that were raised above, and any others that may emerge.

Third, researchers could suggest that research on the relationship between the neurophysiology of the brain and consciousness has reached a dead end, and that it is time to look for entirely different ways to explain consciousness. However, I have not found such a research program published in the professional literature. Given the above, I propose that it may be useful to conceive of consciousness as a basic and primary explanatory factor of behavior, as will be discussed in more detail at end of this chapter.

OVERVIEW OF EXPLANATIONS OF THE CONUNDRUM OF THE BRAIN AND CONSCIOUSNESS

This overview of the field has given me the impression that, to date, no theory has been developed to explain consciousness based on the neurophysiological processes in the brain. There is no brain-consciousness theory similar to scientific theories that explain energy transformations, such as friction and heat, potential and kinetic energy, electricity and magnetism; or theories explaining how substances change, such as water being formed from chemical bond of hydrogen and oxygen, and how electrolysis can break down water into these two gases. In order to support this impression, I address the question: is it possible to explain the experience of consciousness using the concepts found in the natural sciences? Further, I will break this general question into four sub-questions:

1. Can human behavior be explained mechanistically, without using the concept of consciousness as an explanatory factor?
2. Has a theory been developed that explains the relationship between neurophysiological processes in the brain and consciousness?
3. Is it possible to reduce mentalistic explanations grounded in the concept of consciousness to mechanistic explanations (such as neurophysiological explanations)?
4. Has a computer been developed that is complicated and sophisticated enough to achieve a state of consciousness?

An affirmative answer to any one of these four questions would mean that consciousness is not necessary in order to explain human (or animal) behavior. Standard scientific methodologies can be adapted in order to research and explain the various types of psychological behavior. A negative answer to all four questions indicates the need for serious discussion

and the development of a new explanatory approach that is applicable to the areas of psychological research addressing consciousness, understanding, and life-meaning.

CAN HUMAN BEHAVIOR BE EXPLAINED MECHANISTICALLY WITHOUT CONSCIOUSNESS AS AN EXPLANATORY CONCEPT?

Many researchers who adhere to approaches such as behaviorism, cognitive psychology, and cognitive-neurophysiological psychology assert that any behavior can be explained by the mechanistic models accepted for use in the natural sciences. They see no need to invoke the concept of consciousness as an explanatory factor (Rakover 2018). I call this approach the "consciousness dispensability."

This approach is based on the following "multi-explanation" argument: For each set of results presented as a set of points in the Cartesian system of Y = f (x), there is an infinite number of suitable mathematical functions that could accurately predict this set of points. Each function serves as a mechanistic explanation of the results that occur under certain conditions.

Given this argument, any psychological phenomenon can be explained using the types of explanations employed by the natural sciences. This leads to the conclusion that it is completely unnecessary to invoke consciousness as an explanatory concept. Below are several quotes that argue for the "dispensability of consciousness."

> When animal consciousness is dismissed as superfluous, we must ask whether the dismissal refers to consciousness as a phenomenon to be explained or as an explanatory device. The most plausible answer is that consciousness is superfluous in the latter role. Anything that can be explained by it can be explained equally well without it. (Radner and Radner 1989, 206)

> The goal is to formulate an explanation which does not involve any thinking or sentient agent in its premises. The explanans should involve no one who is acting as an intelligent, sentient force, guiding behavior in the right direction."(Keijzer 2001, 26)

As Dawkins (1995, 139) said:

There is no prediction we can make that if the animal has consciousness it should do X but not conscious it should do Y.

Similarly, Flanagan (1992, p. 129) proposed the concept of "conscious inessentialism" which is "the view that for any activity *i* performed in any

cognitive domain *d*, even if we do *i* consciously, *i* can in principle be done non-consciously."

In fact, a similar conclusion can be reached by the following two philosophical approaches. The first is identity theory, which suggests that there is an identity between a mental state (MS) and a neurophysiological state (NS). The second is functionalism, which suggests that a MS is functionally defined, and can be realized in various ways (see, e.g., Robb and Heil 2019). These two approaches lead to the same conclusion (similar to dispensability of consciousness): the explanatory factor is not the MS but rather the NS, which can easily be causally linked to human or animal behavior. In other words, the explanation for a behavior is provided by an accepted causal model in which the explanatory concept is the NS and not the MS, simply because it is still unclear how an MS relates to various neurophysiological events in the brain (i.e., the mind-body problem has not yet been resolved).

I completely reject the approach of the dispensability of consciousness for the following reasons. First, without the concept of consciousness, it is difficult to understand human or animal behavior. Behaviors are saturated with aspects of consciousness, such as will, belief, intention, which cannot be ignored. In my book *To Understand a Cat: Methodology and Philosophy* (Rakover 2007), I describe numerous behavioral episodes related to the relationship between a housecat Max and my wife Aviva or myself. These would be difficult to explain if the cat had no will, purpose, or intention. It would be difficult to understand our interactions with Max only using mechanistic explanations consistent with the prevalent methodology in the sciences, such as behavioral, instinctive, or automatic learning explanations.

Second, I reject the "consciousness dispensability" approach because the aforementioned "multi-explanation" is based on a misguided, implicit assumption. This assumption is related to the observational methodology of psychology. The field of psychology provides explanations for behaviors under certain conditions that are publicly observable according to the adopted scientific methodology of the natural sciences (Rakover 1990). This type of observation of behavior strips away any meaning attributed to the behavior by the individual, and every element of consciousness. The numeric behavioral indices that psychologists attribute to observed behaviors, conducted using statistical analysis, and reported in professional journals, do not represent the observed individuals' goals, meanings, or intentions. They only consider publicly observable behaviors (e.g., physical movements) performed by the study participants. Indices such as percent of correct responses or reaction time do not take into account the state of consciousness of the experiment participants. These metrics only assess their motor responses, such as whether they press the button corresponding to the correct or incorrect response, or how long it took from the time a stimulus appeared until a response was

given. These are reactions that a sophisticated robot is capable of performing, although a machine does not have the ability to be conscious. For example, sophisticated software can ascertain whether or not the face in an image appears in a database of criminals. In the same way, a human witness can go through police files and identify the face of the criminal he recently saw in a crime incident. In both cases the result is the same: either the suspect was successfully identified or not. However, the critical question is whether the forensics software understands its actions and consequences in the same way that a human being does. I don't think it does. Assuming this analysis is accurate; it can be asserted that because behavioral indices are not imbued with consciousness, there is no demand for an explanation based on this concept. Therefore, mechanistic explanations (which do not address consciousness at all) may offer quite satisfactory explanations for such objective indices. However, it should be noted that this kind of explanation does not attribute any meaning to behavior; it could equally well explain the behavior of a robot or a zombie.

Third, the philosophical literature is replete with suggestions for solving the mind-body or brain-consciousness problem. All of these have been highly criticized (e.g., Kim 1996; Rakover 2018; Robb and Heil 2019), as seen in the following examples.

Jackson (1982) published a well-known article showing that even if we know everything there is to know about a phenomenon, this knowledge still cannot explain conscious experience. Jackson posed an interesting thought experiment about a vision specialist he called Mary. Mary was an expert in physics, chemistry, physiology, and the psychology of color vision. But Mary had lived her entire life in an entirely black-and-white environment. One day, Mary came out of her black-and-white surroundings and saw, for the first time in her life, the color red. She learned and experienced something new, which her flawless scientific knowledge hadn't made possible. She learned what it meant to see the color red, and to consciously experience the sense of seeing color.

The next example is the article by Nisbett and Wilson (1977) in which they asserted that many experiments in social psychology and decision making have shown that the study participants were unaware of the stimulus, response, effect of the stimulus on the response, or their own relevant cognitive processes. Their argument was based on the finding that the participants' explanations for their own behavior were incorrect. The article drew many criticisms, including one I wrote (Rakover 1983), which I will briefly describe here. The participants in the Nisbett and Wilson experiments were certainly aware of the processes going on in their own minds. In a way similar to scientists who offered incorrect explanatory hypotheses for the phenomenon under investigation, the participants offered a wrong explanation to their

own behavior. Therefore, it is not necessarily true that the participants were unaware.

The final example is that of Velmans (1991), who suggested that in many cases, such as speech, the individual is aware of the behavior after it has been performed. On this basis, Velmans concluded that consciousness is of minimal importance in information processing, and that unconscious processes mediate between the appearance of the stimulus and the participants' responses. This article inspired extensive criticism and discussion. In my opinion, Velmans' argument is incorrect, because consciousness as a process that mediates between the stimulus and the response is crucial (see Rakover 1996). I suggested the "mental-pool" thought experiment, based on the existing psychological knowledge that the amount of conscious information is limited, while the amount of unconscious information is unlimited. I assert that information received from a stimulus is initially processed at the unconscious level, and then it goes to the level of consciousness, in which a response is emerged and supervised.

HAS A BRAIN-CONSCIOUSNESS THEORY BEEN DEVELOPED THAT EXPLAINS THE RELATIONSHIP BETWEEN NEUROPHYSIOLOGICAL PROCESSES IN THE BRAIN AND CONSCIOUSNESS?

On the basis of a broad, in-depth review of attempts to construct a brain-consciousness theory, Cosmelli, Lachaux, and Thompson (2007) concluded that to date, no neurophysiological explanation of consciousness has been developed. There has only been success in discovering associations and correlations between neurophysiological and cognitive measures: "the neurodynamical approach works at the level of correlations, albeit refined ones." (ibid, 763).

The well-known scholar Chalmers (1996, 1997) proposed a distinction between easy and hard problems of consciousness: "The easy problems of consciousness are those that seem directly susceptible to the standard methods of cognitive science, whereby a phenomenon is explained in terms of computational or neural mechanisms. The hard problems are those that seem to resist those methods." (1997, 9). In Chalmers' opinion, the easy problems are related to explanations of behaviors such as response to stimulation, discrimination, focus of attention, organization of information, verbalizing thoughts, and voluntary control of behavior. Such behaviors can be explained via cognitive and neurophysiological mechanisms, that is, via mechanisms that execute the functions of these behaviors, such as differentiating between A and B. As Chalmers wrote: "To explain access and reportability, for

example, we need only specify the mechanism by which information about internal states is retrieved and made available for verbal report" (Chalmers' 1997, 10).

Chalmers' approach has been widely challenged by scholars (see, e.g., Shear 1997). I also do not accept his approach, because I think most behaviors are saturated with consciousness. Therefore, providing an explanation for an easy problem is no simpler than for a hard one. As I argued above, cognitive psychology provides mechanistic explanations for the easy problems, corresponding to behaviors with all consciousness removed from them. In other words, the explanations for the easy problems are explanations for the behaviors of zombies or robots, and not human behaviors that are saturated with consciousness.

As a final example in this subsection, I will briefly discuss the Giulio Tononi's theory of consciousness, the Integrated Information Theory (IIT). This theory has attracted much interest in recent years, as well as receiving severe criticism (see, e.g., Fallon 2019; Tononi 2015; Tononi, Boly, Massimini, and Koch 2016). IIT is a type of identity theory, and is based on the following three ideas: (1) a specification of the consciousness properties (perceived as axioms), (2) a specification of the properties of the physical substrate (the neurophysiology of the brain) necessary for the realization of the consciousness properties (perceived as postulates), (3) a determination of identity between consciousness and a particular type of physically-processed information and formulation of a measure for expressing the degree of consciousness (Φ).

IIT takes the following positions: First, consciousness is an existing phenomenon and it has a complex structure. Second, consciousness is directed toward certain things. Third, consciousness carries information. Fourth, consciousness is unified (one cannot experience the red color of a tomato separately from its shape). Fifth, consciousness has boundaries because it is aimed at one particular thing and not another.

In IIT, these are agreed-upon traits, viewed as axioms of consciousness. Based on these axioms, the theory elaborates on the traits that a physical system must have in order to realize the consciousness axioms. For example, the axiom of consciousness being an information-bearing trait suggests the postulate that the physical or neurophysiological system must be based on elements that can combine in order to create a structure based on cause and effect, aiming at the realization of a specific state of consciousness.

According to the IIT, when a person sees a cat on a couch, a "conceptual structure" is created in that person's mind based on a number of certain concepts and their relationships, that is, integrated information. This structure represents what is seen (the cat on the couch) and is treated by the physical system, the "physical substrate" that functions according to the above-stated

postulates (in humans, this physical substrate is the neurophysiology of the brain). The IIT is based on the fundamental identity between the conscious experience (seeing the cat on the sofa) and the conceptual structure of this experience, the details of which are realized through the neurophysiology of the brain. Thus, the IIT suggests that consciousness is identical to the particular type of integrated information, which is realized by a specific physical system. This system can be divided into subgroups with various cause-and-effect structures. The subgroup with the maximum cause-effect that cannot be reduced to its component parts expresses the maximally irreducible conceptual structure (MICS).

According to the IIT, the MICS is the state of consciousness. Therefore, it can be said that a physical system which manifests the above postulates is intrinsically endowed with the trait of consciousness, just as mass has the inherent trait of gravity. This system is a mechanism that works according to cause-and-effect, and thus organizes information. The degree of complexity of the MICS can be represented by a measure called Phi (Φ). The more complex the MICS, the greater the level of consciousness, that is, the greater the Φ that numerically expresses the MICS. When MICS is maximal, the size of Φ expresses the maximum degree of consciousness (in this case, the notation is Φ^{Max}).

The IIT has been supported by empirical findings in several studies. For example, it has been shown that in a state of deep, dreamless sleep (with reduced brain activity), indices close to Φ show values smaller than those when awake. Also, in accordance with IIT, it has been found that injury to the cerebellum does not impair consciousness, because the cells in the cerebellum do not interact with themselves as the postulates require.

As mentioned, the IIT has received a great deal of criticism (see summary and discussion in Fallon 2019). Here I would like to emphasize the following three points: First, since consciousness is founded on the neurophysiology of the brain, in one way or another, it becomes a feature that can be measured by means of standardized scientific units. As a result of this, as first hinted above, a number of strange measurement implications could emerge.

Second, the possibility of constructing a mechanical system that meets all the requirements of the IIT is raised. Thus, it may be suggested that this mechanical system has consciousness. There may even be a situation in which the Φ of this system expresses greater consciousness than that of the human. This possibility is completely contrary to intuition and common sense. Everyone knows that a machine is just a machine, and to this day no device has been invented, including highly sophisticated computers, which display even a hint of consciousness (this criticism is also discussed in Fallon, 2019). The response from Tononi, Boly, Massimini, and Koch (2016), who are willing to accept the possibility of such a computer, is particularly interesting:

Intriguingly, IIT allows for certain simple systems, such as grid-like architec-
tures, similar to topographically organized areas in the human posterior cortex,
to be highly conscious even when not engaging in any intelligent behavior. (460.
See also page 458).

Third, it is possible to argue against the IIT's use of the concept of infor-
mation. Given that the concept of information depends on a person's con-
sciousness, it follows that the IIT's attempt to understand consciousness via
the concept of information is circular. The response to this criticism is that
the concept of information, according to the IIT, is built into the neurophysi-
ological substrate, which handles the conceptual structures. Thus Tononi,
Boly, Massimini, and Koch (2016, 457) write: "In IIT, information is causal
and intrinsic: it is assessed from the intrinsic perspective of a system based
on how its mechanism and present state affect the probability of its own past
and future states (cause-effect power)."

It seems to me that this kind of response, based on the assumption that
information is evaluated from an intrinsic perspective nested within the neu-
rophysiological system itself, suggests the existence of a tiny person (homun-
culus) within this system, which assesses past, present and future states, and
so the problem of consciousness remains.

If the criticisms of IIT presented in this overview and elsewhere in the
professional literature contain any indication of truth, it seems that this theory
has not solved the riddle of consciousness. What the theory has been able to
do is to locate a particular type of neurophysiological structure in the brain
that changes in its degree of activation correlate with changes in level of con-
sciousness. This I do find very interesting.

IS IT POSSIBLE TO REDUCE COGNITIVE
EXPLANATIONS GROUNDED IN THE CONCEPT OF
CONSCIOUSNESS TO MECHANISTIC EXPLANATIONS
(SUCH AS NEUROPHYSIOLOGICAL EXPLANATIONS)?

The answer to this question is complicated, due to the difficulty of drawing
a parallel between a process of reduction between theories, a topic that has
been discussed extensively in professional literature, and a process of reduc-
tion between explanatory models. Why? Because explanatory models are not
scientific theories, such as the theories of perception, learning, and recall.
They are essentially procedures that guide the researcher regarding how to
offer explanations in certain areas of research. It is therefore difficult to see
how one type of instructions can be rationally reduced to another type of
instructions. The result is that the answer to the present question will focus

on the possibility of a reduction of a *mentalistic theory* (based on subjective concepts of consciousness related to the individual's inner world, will, beliefs, intentions, feelings, emotions, etc.) to a *mechanistic theory* (grounded in objective concepts related to physics, chemistry, physiology, computer processes, etc.). The rationale behind this reductionist effort is, *inter alia*, that the field of psychology has based itself on the accepted methodology of the natural sciences, and thus favors mechanistic explanations over mentalistic explanations.

I will first briefly address the problems associated with psycho-neural reduction. Then I will address other efforts to grasp mentalistic concepts via mechanistic concepts, such as substituting mentalistic explanations (goal-based, teleological explanations) with mechanistic explanations (causal explanations based on neurophysiological processes). The discussion of these cases will clearly show that there is still no acceptable way to reduce or convert a mentalist theory to a mechanistic one.

I will start with the question: Can a psychological theory based on concepts related to the individual's inner world (desire, belief, intention, purpose, emotion) be reduced to a neurophysiological theory? (see, e.g.,, Kim 1998; Rakover 1990; Van Riel and Van Gulick, 2016). First, I will briefly explain what procedure is used when attempting to reduce Theory A to Theory B. In order not to spend too much time on this complicated subject, I will describe only Nagel's (1961) classical approach. Accordingly, Theory A, called the reduced theory (T_R), can be reduced to Theory B, called the basic reducing theory (T_B) when it is possible to derive, deduce T_R from T_B, along with the relevant bridge laws linking the concepts of these two theories. Bridge laws are usually seen as identities between the concepts of T_R and T_B. For example, in reducing thermodynamics to mechanical statistics, it has been suggested that the concept of temperature is identical to the concept of kinetic energy.

Several arguments have been made against the possibility of conducting a psycho-neurological reduction between a psychological T_R and a neurophysiological T_B. I will briefly discuss the famous argument called multiple realization (e.g., Fodor 1974, 1998). Consider, for example, the mental state called "pain" (MS_{Pain}). This MS is functionally defined because for MS_{Pain} there is specific behavior and a clear function, namely to prevent or reduce injury to the individual. This MS can be realized by various neurophysiological brain processes in humans, monkeys, dogs, cats, fish, and so on. Furthermore, MS_{Pain} representing behaviors undertaken in response to pain stimuli could be manifest among robots, via different materials other than those that exist in humans. Using this argument, it would be impossible to find a bridge law between the concepts of T_B and T_R, because the concepts of T_R can be implemented in different ways and via different processes. Therefore, if a psychophysiological bridge law cannot be found, the aim of

reducing a psychological theory to a neurophysiological theory cannot be fulfilled.

Another argument against the possibility of conducting a neurophysiological reduction is grounded in the requirement for unit equivalency. According to this requirement, the combination of measurement units on one side of the equation (expressing a law or theory) must be the same as the combination of measurement units on the other side of the equation (see Rakover 2002, 2018).

The bridge law cannot meet this requirement. Why? Because the units of measurement for the relevant neurophysiological processes that appear on one side of the equation are completely different from the units of measurement that appear on the other side of the equation, which are associated with MSs and mental processes. (In fact, no one knows yet how to measure MSs directly. They can only be indirectly interpreted from observations of behavior and verbal reporting.) It is difficult to find a uniform and common scale for these two types of measurements. Therefore, in this respect we do not discuss the bridge law based on the identity between concepts of two different theories. At best, we are addressing associations or correlations (this is like seeking a correlation between the size of tomatoes and the height of giraffes).

To end this section of the discussion, I will show that it is difficult if not impossible to translate a goal-oriented explanation (an action is undertaken to fulfill a specific purpose) into a causal explanation (an action is caused by a specific factor). Consider the following example of a goal-oriented explanation: Uri drove his car from Haifa to Tel Aviv to meet his girlfriend, Yaffa. It is possible to translate this explanation into the following causal one: The desire to meet Yaffa in Tel Aviv caused Uri to drive his car from Haifa to Tel Aviv. This translation is based on the simple idea of transforming the goal into the cause of action. However, as will become clear, this translation raises major problems that undermine the very idea of providing a causal explanation for a goal-based explanation. First, it may be seen as natural to transform the goal into the cause of the action by identifying the person's consciousness of the goal as being responsible for the action (driving the car). However, this raises the mind-body problem: how does a mental process (thought) lead to a behavior? And vice versa: how does behavior trigger mental processes? To date, there has been no satisfactory solution to the mind-body or the consciousness-brain problem. Therefore, it appears that the proposed translation does not solve the problem of explanation, but merely introduces a new problem. Just as we cannot understand how a future event can explain a present or past event, we do not understand how a mental event generates a physical event.

Secondly, an attempt to translate a goal-oriented explanation into a causal explanation will encounter extremely difficult methodological problems.

Cause and effect are viewed as different and separate events. For example, the causal event of hitting a ball with a billiard stick is separate from the resultant event, the ball rolling across the billiard table. This distinction is impossible in the case of a purposive, goal-directed explanation, because there is a dependence of the concepts that appear in the explanation: the individual's will, beliefs, and action.

In the example given above, the cause is Uri's desire to see Yaffa in Tel Aviv; the result is Uri's action of driving from Haifa to Tel Aviv. The trip is the realization of Uri's belief that this trip will enable him to achieve his goal of meeting Yaffa in Tel Aviv. In other words, the mental reason for the travel represents both Uri's goal and his intention, because intention is always aimed toward a specific goal. In the same way, it can be asserted that what is done to realize the goal (Uri's travel) is not a purposeless act with no intention; it is a meaningful act fueled by Uri's will and intention. In the case of the billiards, the cause and the effect are two separate events, whereas in the case of Uri's travel, his reason and the action are intertwined and cannot be separated.

HAS A COMPUTER BEEN DEVELOPED THAT IS COMPLEX AND SOPHISTICATED ENOUGH TO ACHIEVE A STATE OF CONSCIOUSNESS?

In general, it can be said that research in the field of Artificial Intelligence (AI) has failed to develop computers with consciousness (see McDermott 2007; Sun and Franklin 2007). AI is based on the philosophical approach called "functionalism" which is also the basis for cognitive psychology. Therefore, I will focus on this philosophical approach critically in the present context.

Functionalism offers an alternative solution to the mind-body problem, which was previously proposed by the "identity theory." The latter theory suggested an identity between MS and NS. By comparison, according to functionalism, the MS is defined as the concept that connects the stimulus to the response. It interacts with other MSs, and is realized physically (e.g., by neurophysiology of the brain). One of the most important scholars in the field, Kim (1996, 75), writes:

> psychological concepts are like concepts of artifacts. For example, the concept of "engine" is silent on the actual mechanism that realizes it—whether it uses gasoline or electricity or steam . . . As long as a physical device is capable of performing a certain specified job, namely, that of transforming various forms of energy into mechanical force or motion, it counts as an engine. The concept

of engine is specified by a job description of mechanisms that can execute the job.

Now the following question arises: If the MS is functionally defined as described above, is it possible that a "computer state" (CS) may also be attributed with consciousness, precisely because the functional mechanism of the CS is similar to that of the MS? If the answer is yes, then there is a mechanistic explanation for consciousness. The literature, however, offers a large number of counterarguments. One of the strongest and most famous is Searle's (1980) "Chinese Room" thought experiment.

This thought experiment assumes it is possible to build a computer complex and sophisticated enough to mimic the workings of the human brain. Given this, the following question arises: will such a computer develop human-like consciousness? Those taking a functionalist approach will answer affirmatively. However, according to Searle (1980) the answer is negative.

The basic idea underlying Searle's thought experiment is this: Searle, who does not understand Chinese, attempts to perform the same operations completed by a sophisticated computer in response to questions posed in Chinese. Searle enters a room called the Chinese Room, which is an analogy for the sophisticated computer's computational unit. Searle receives from one side of the room (analogous to the computer's input), a series of symbols in Chinese signs. In addition, he is provided with instructions in English telling him what to do with these symbols. At the other side of the Chinese Room (analogous to the computer's output) he provides a new set of symbols in Chinese, based on the instructions in English. Experts in Chinese language examine the output and unequivocally determine that the output is an intelligent answer, in Chinese, to the input question given in Chinese.

This conclusion indicates that Searle passed the famous test developed by Turing (1950). According to this test, a computer and a person are given the same series of questions. If panel of human judges is unable to determine which are the answers given by the person and which are from the computer, the judges have no justification for denying the trait of consciousness to the computer. Similarly, the experts in Chinese language determine that the answers received from the Chinese Room indicate that the respondent is an intelligent person fluent in Chinese. However, when Searle leaves the room, he informs the judges that he does not understand a single word of Chinese. Although he performed all the syntactic actions required to provide the correct response (answer) in Chinese symbols, he remained completely ignorant of the language. Since Searle precisely carried out all the operations of the sophisticated computer, yet Chinese remains incomprehensible to him, it also appears that the sophisticated computer does not understand what it has done in Chinese. That is, the functionalism hypothesis of consciousness is refuted!

Here I must comment on the possibility that quantum and non-digital computers may develop consciousness because of their immense capability. Although I am neither a mathematician nor a computer scientist, I doubt this possibility because I have read that any problem a quantum computer can solve can also be solved by a digital computer, only the digital computer will take a much longer time.

I will conclude this specific discussion by noting that Searle's thought experiment sparked much debate in the professional literature, which I will not discuss here, but only mention that I published an article supporting Searle's approach, based on the idea that a super-computer mimics Searle's role in the Chinese Room (see Rakover 1999). Analysis of all the possibilities arising from the question of whether a super-computer can develop consciousness has led to a negative answer.

To conclude this discussion, I address the following question: Does the analogy of the operation of a computer based on the software-hardware relationship accurately explain the relationship between consciousness and the brain? I immediately respond that the answer to this question is negative. To clarify, I must explain in a nutshell the way a digital computer works. Whenever we type something on a computer using a word processing program, the phrase in a human language (e.g., Hebrew, English) undergoes several translations, which eventually are transformed into long series of zeros and ones, identified by the computer as having one of two possible states, so that 1 = electric current, and 0 = no electric current.

Everything we want a computer to do, for example, numerical calculations, symbol-based calculations, writing in a language, drawing, and so on, are performed by specific programs, which are based on long series of zeros and one. What the computer performs physically is done with the help of two modes of electric-current/no electric-current. This is then translated back into the language that a person can use (see, e.g., Block 1995; Deitel and Deitel 1985; Von Eckardt 1993).

Some researchers believe that the relationship between cognitive processes in a human is analogous to the relationship between software and hardware in a computer. They assert that just as writing in a human language using a computer keyboard is eventually broken down into a series of electrical states, so are the cognitive process in the human brain broken down (decomposed) into neurophysiological processes. Dennett (1979, 110) described this process as a top-down strategy moving from mental concepts to biological components, "a top-down strategy that begins with a more abstract decomposition of the highest levels of psychological organization and hopes to analyze these into more and more detailed smaller systems or processes until finally one arrives at elements familiar to the biologists."

Dennett described this decomposition as a mental process that can be represented by a flowchart of boxes, interconnected by arrows, with each box containing a homunculus that performs certain functions:

> If we then look closer at the individual boxes, we see that the function of each is accomplished by subdividing it via another flow chart into smaller, more stupid homunculi. Eventually this nesting of boxes within boxes lands you with homunculi so stupid (all they have to do is remember whether to say yes or no when asked) that they can be, as one says, "replaced by machine." (p. 124)

Is this analogy of the mind-consciousness relationship with a computer software-hardware relationship accurate? That is, can the MS be broken down into such elemental units that it can finally be identified with elemental neurophysiological units, the basic NS? In my opinion, the answer is negative. In the professional literature, there are a number of reasons for this, but I will highlight the following (see, e.g., Rakover 2018).

First, the analogy between the computer and the human brain does not take into account that the meaning and understanding of the series of signs that the computer prints out or that appears on the computer screen exists only in the consciousness of the people who use the computer and who designed and built the computer to fulfill certain functions for human use. These symbols, at any stage of the process, whether they are entered into the computer through its input functions, translated into electrical states within the body of computer, or emitted as a series of symbols as the result of computer processing, have no inherent meaning and cannot be understood without the eyes and the consciousness of a human. If, for example, an archaeological excavation uncovers a tablet full of strange symbols from an ancient culture, we cannot interpret the meaning of symbols if their meanings were not passed down from generation to generation to the present day.

Second, while the step-by-step translation of the series of symbols on a computer does not remove or add any information, with humans, this is not the case. To illustrate this matter, consider the following three sentences:

- Ruth loves her cat.
- Ruth loves an egg sandwich.
- Ruth loves to dance.

It is not difficult for a computer to break down these simple sentences into individual words and then assemble them according to the simple sentence structure: subject, verb, and object. The point I would like to emphasize is that the meaning of the word "loves" is different in these three sentences, because the meaning of the word is attributed through the meaning of the

sentence as a whole. The computer is blind to this whole meaning and understanding of the word "loves." For the computer, it is only a symbol that must be inserted in the right place according to certain rules of syntax associated with the sentence structure.

This so-called understanding on the part of the computer brings to mind the following incident: One day I wrote an article in which I wrote that Hume (meaning the philosopher David Hume) said such and such. My nimble and "intelligent" computer immediately informed me in a large bold font the time, day, and year corresponding to when I was writing the article (this happened because in Hebrew, the name Hume is written with the same characters as the word "day": יום).

Third, while the concept of information is well-defined in the sciences, in psychology this concept is wide open and could refer to a collection of concepts and processes that may include ideas, content, sentences, words, syllables, memories, perceptions, imaginations, and more (e.g., Palmer and Kimchi 1986). Obviously, in such a situation in which a core concept in cognitive psychology is not well-defined, it is difficult if not impossible to reduce the concept of consciousness to the concept of information.

Fourth, as described above in the thought experiment regarding the vision expert and scientist called Mary, who learned something new when she saw the red color for the first time in her life (despite knowing everything possible about color vision, physically and physiologically), any scientific explanation of the perception of color will be incomplete and will suffer from an "explanatory gap" (see Levine 1983). Again, it follows that the perception of the relationship between consciousness and the brain as analogous to the relationship between computer software and hardware is incorrect.

The following table 4.1 summarizes the main conclusions of the present literary review regarding the possibility of mechanistic explanation for consciousness. There has not yet been found an explanation for consciousness using the accepted scientific methodology and concepts.

Table 4.1   Impossibility of a Mechanistic Explanation of Consciousness

1. It is difficult to fully explain behavior without using the concept of consciousness.
2. A neurophysiological theory of the brain that explains consciousness has not yet been developed.
3. Reduction of an explanation anchored in consciousness to a neurophysiological explanation has so far been unsuccessful.
4. A computer that is sophisticated and complex enough to achieve consciousness has not yet been developed.
5. It is difficult to translate a purposive explanation to a causal one, and to support the analogy between the relation software/hardware and the relation consciousness/brain.

CONSCIOUSNESS AS AN EXPLANATORY
BUT UNEXPLAINED CONCEPT

Consciousness refers to a mental-behavioral phenomenon occurring in humans (and higher animals). It can be described as the inner world that only the individual is able to feel and observe. So far, there seems to be no satisfactory explanation for this phenomenon or the relationship between consciousness and the brain. That is, no theory has yet been found to explain the relationship between the body and mind, or between the neurophysiology of the brain and consciousness. Any theory that attempts to describe the mind only in terms of the neurophysiology of the brain has not borne fruit. All proposed theories are problematic, including identity theory, functionalism, multiple realization, or the supervenience approach, which proposes that there is no change in the MS without a change in the NS. In each case, serious problems were raised against the proposed theory and it was rejected by most researchers.

In my opinion, the attempt to explain consciousness via neurophysiological processes in the brain raises a significant problem. On the one hand, the attempt to reduce the MS to the NS is tempting, since then behavior as a whole (including conscious behavior) can be explained by relying on the neurophysiological causal theories already known to science (but it is worth noting the strange implications that arise from such a theory of consciousness founded on the neurophysiology of the brain—see above).

On the other hand, if the explanation for behavior is covered entirely by the NS, what is the value and importance of an explanation based on the MS? Why is the MS necessary? These questions run counter to common sense. That is, everyday experiences and the CM model explain individuals' behavior by referring to their inner world, to consciousness. Here is a very simple example: I went to the movies because I wanted to see the actress Gal Gadot in the movie *Wonder Woman*. How can one explain my behavior without an appeal to my conscious intention to see Gal Gaddot?

Furthermore, if everything is explained by neurophysiological processes, the NS, then the MS has no explanatory value. This theoretical approach inevitably brings us to the outdated and largely rejected philosophical approach of epiphenomenalism that proposes that the MS is explanatorily ineffectual. As Kim (2002) writes in the précis to his previous book (Kim 1998, 643):

> To summarize, then, the problem of mental causation is solvable for cognitive/intentional mental properties. But it is not solvable for the qualitative or phenomenal characters of conscious experience. We are therefore left without an explanation of how qualia can be causally efficacious; perhaps, we must learn to live with qualia epiphenomenalism.

I do not accept Kim's (2002) view that conscious experiences are epiphenomena. I propose an inverse, contradictory, anti- or reverse-epiphenomenalism approach, namely that consciousness has a definite effect and is not an epiphenomenon. Moreover, consciousness should be regarded as a primary explanatory concept, precisely because a satisfactory explanation for it has yet to be found. That is, in light of the current chapter that no theory has yet been found that explains consciousness on the basis of the neurophysiology of the brain, the following suggestion is warranted: Let us consider consciousness as a primary, theoretical explanatory concept that cannot be explained by more basic concepts. This proposal requires the following clarifications.

First, I do not suggest that because there has been no explanation for the problem of consciousness that therefore it is reasonable to assume that consciousness in animals, especially humans, may be considered a novel force in nature. Such an assumption would create enormous confusion in the conventional infrastructure of mechanistic explanations (e.g., energy conservation laws may be broken) (see similar arguments in Carroll 2016).

Second, I do not claim that consciousness is completely independent of physical brain processes in humans or animals. Rather, I emphasize that no theory has yet been found that explains the relationship between these two. I only propose that consciousness is an explanatory but unexplained concept. That is, it is a primary explanatory concept and can be characterized as referring to the state of reverse-epiphenomenalism.

Meanwhile, then, as a conclusion of the above, I suggest that the fundamental qualities of consciousness are:

1. Consciousness exists, to varying degrees, in every individual human (and in other living beings).
2. Only the individual himself/herself is consciously aware of the content of the various representations appearing in his or her own mind (the MSs).
3. Without consciousness, humans would function purely on a physiological level and would be considered to be in a state similar to that of a plant, or a sort of philosophical zombie (an imaginary creature who acts as a human being but is devoid of all consciousness).
4. Consciousness can affect one's physical functioning.
5. Consciousness may be influenced by physical phenomena, for example, sensory stimuli such as light and sound elicit in the individual conscious feelings typically related to these stimuli (sight and hearing).
6. Consciousness is dependent on the normal functioning of the brain.
7. Consciousness enables, as a necessary condition, the typical experiences of sensory stimuli, life-meanings, a sense of being alive, and understanding.

Chapter 5

Explaining Life-meaning, Absurdity, and Suicide

The three concepts of life-meaning, absurdity, and suicide are fundamental to existentialist philosophy. In *The Myth of Sisyphus*, Camus (1975, 11) states: "There is but one truly serious philosophical problem and that is suicide." Certainly, these concepts can be discussed from a philosophical perspective. Why suicide? Suicide is a response to the perception that life is meaningless and absurd, our inability to explain an inexplicable world, and the inevitability of death.

Pondering the nature of life-meaning immediately raises a number of questions. Does life-meaning actually exist in the world, or is it solely the creation of humans? Do higher animals experience any degree of life-meaning? Does each person have his or her own individual life-meaning? Is life-meaning imparted to people by society? Is life-meaning imparted to individuals from birth? Does it evolve over time, as the learning ability of the person (or animal) develops? How can we explain that a certain way of life is meaningful to one person but not to another? By raising such questions, we address life-meaning mainly as a philosophical concept.

The answers I gave above to these questions indicate that the simple fact of being in a state of consciousness endows life with a basic meaning (Innate Meaning). This is what gives life its flavor, a sense of vitality. Without consciousness, a person loses all life-meaning and the ability to understand it. That is, a person in a state of unconsciousness cannot experience life-meaning or have any understanding of it. In one respect, this answer belongs in the realm of philosophical discussion. In another respect, it has empirical implications, and can therefore be discussed from a theoretical-scientific point of view.

In his book on Albert Camus and the philosophy of the absurd, Sagi (2000) discusses the concept of absurdity from several points of view. For

example, he discusses whether, according to Camus, absurdity constitutes a cornerstone of the philosophy of human existence. Based on Camus' books, *The Stranger* and *The Myth of Sisyphus*, it seems the answer is affirmative. According to the latter book, the absurdity in Sisyphus' life is manifest in every realm of human life. We live in a world whose very essence is absurd. This is the basic configuration of human life. In *The Stranger*, Meursault's actions, attitude regarding his mother's death, and the murder he committed, are all illogical and absurd. Meursault's trial for the murder is similarly a bizarre and absurd act. However, in his novel *The Plague* and philosophical essay *The Rebel*, Camus expresses a different perspective on absurdity. In these works, absurdity (and rebellion against it) is not presented as a basic concept or cornerstone describing the state of human existence, but rather a starting point for understanding the human condition. Like Descartes' methodical doubt, in which the French philosopher grounds knowledge in one point of certainty, Camus uses absurdity to ultimately reach a perception of the individual as a component of society, and an understanding of human responsibility and solidarity. Camus (1956, 8) writes about absurdity:

> This basic contradiction, however, cannot fail to be accompanied by a host of others from the moment that we claim to remain firmly in the absurdist position and ignore the real nature of the absurd, which is that it is an experience to be lived through, a point of departure, the equivalent, in existence, of Descartes's methodical doubt.

Another point of reference for the concept of absurdity is expressed in the following question: According to Camus, does absurdity constitute a primal, sensory experience of the world? An affirmative answer indicates various ways of experiencing absurdity. For example, an absurd reality is perceived as being composed of a series of successive events with no logical connection or unifying meaning. Such a reality is meaningless and incomprehensible, and therefore the world is strange, alienating, frightening, and threatening. The present becomes worthless when the future is completely uncertain, and one lives in anticipation, wondering what will happen even in a few minutes. Only one thing is certain—death. This is an important element in creating a sense of absurdity and the feeling that there is no logical reason to continue living, and therefore that it is better to end this senseless farce by committing suicide.

Earlier, I mentioned that it is possible to draw many incongruent conclusions from the state of absurdity: suicide or murder, debauchery or asceticism. While self-contradictory assumptions can produce any kind of conclusion, it is certainly possible to offer a definition of life-meaning that leads naturally and smoothly to the conclusion that one should commit suicide. If we define

life-meaning as a logical basis for continuing to live despite the suffering it entails, then loss of life-meaning (as a result of perceiving life as absurd) negates any reason for continuing to live, and therefore an individual may conceive of ending this absurd life once and for all.

As seen in this brief analysis, Camus refers to the concepts of absurdity and life-meaning from two perspectives. The first is that these are philosophical concepts that testify to the essence of humans and their world. The second perspective refers to human behaviors, thus requiring an interpretation that revolves around the basic concept of absurdity.

If Camus did not feel in his heart that existence is absurd, or if he did not regard the behavior of others as evidence of absurdity, he would not have developed his philosophy of absurdity. It can therefore be suggested that strange, incomprehensible, and absurd human behavior is a prerequisite for Camus' philosophy of the absurd. This behavioral perspective might lead researchers to think that treating people who suffer from loss of life-meaning, alienation, and fear of an absurd world is a psychological issue, rather than a philosophical one. This psychological approach may be upheld by saying, following Eagleton's suggestion (see above), that the philosophical approaches of Camus and Sartre developed during times of terrible crisis, World Wars I and II, and therefore it is possible to see their philosophical approaches as reactions to the severe intellectual crisis that the horrors of war presented to the world. Absurdity was manifest in the atrocious murders committed by people who justified their abusive and oppressive actions through obscene and gruesome ideologies such as fascism, which justified racism and promoted the extermination of the Jews as parasites polluting the pure and supreme Aryan race.

In contrast to this perspective, which attempts to divert discussion of these core concepts to a psychological direction, Landau (2017) raises a number of arguments that support the philosophical analysis of these concepts. He writes:

> Some might claim that meaning and meaninglessness are solely a matter of moods, emotions, and other psychological states. Hence, philosophical and rational discussions such as those presented in this book are irrelevant. According to this view, issues relating to the meaning of life should be dealt with by psychologists. (Landau 2017, 254)

Landau does not agree with this approach, and raises a number of considerations and examples to show that using clear, logical, philosophical arguments is highly relevant and may change the pessimistic mindset of a person who has lost his or her way in life, thus making that person more optimistic. The fact that emotions have definite cognitive-logical components may be

the basis for changing the mind of a person who has lost life-meaning, but by employing philosophical, not psychological, techniques. I have no doubt that there is a great deal of truth in Landau's words, that in many cases, people can be persuaded to change their minds. I am similarly certain that life-meaning and absurdity can be addressed using philosophical tools. (It is also possible to read the discussion that Camus and Sartre present in their theoretical and philosophical writings in this way.) However, in the present chapter I am interested in discussing the following question and the way the CM model may answer it.

With regard to the concepts in question, what is explanatory, what is explained, and what procedures are used to explain them? To answer this question, I will first consider the methods for providing explanations in various disciplines and situations.

1. Mathematics. In mathematics, particular hypotheses and mathematical laws are explained theoretically, by providing proofs for them. Conclusions regarding a given hypothesis are drawn through inference, using certain rules of logic and mathematics.
2. Social norms. In cases of normative behavior, individuals behave in accordance with accepted social rules. For example, when a driver stops at a red traffic light, this behavior is explained by noting that the individual is following accepted and known traffic rules.
3. Philosophy. In philosophy, explanations take the form of explication, clarification, justification, interpretation of general concepts and phenomena, and conscious-cognitive processes that are characteristic of each individual. These explanations are accomplished via various techniques that include the use of broadly accepted empirical examples, thought experiments, building theories (mainly metaphysical) and use of metaphors that illuminate the subject and clear the fog of confusion.
4. Psychology. Psychology empirically explains behavioral phenomena using theories and explanatory rules and models which, in most cases, are borrowed from the natural sciences.

It is clear from this brief characterization that it would be difficult to address the topics of this book using mathematical tools or via socially accepted norms (such as traffic laws). What can be done is to treat these concepts using a philosophical approach, as Camus and Sartre did (and as has been done so far in parts of this book). Alternatively, they may be treated as concepts that describe behavioral phenomena that can be explained, as in psychology. This, in fact, is the main purpose of the present chapter.

To realize this goal, one must clearly state that each of these behavioral concepts has two facets, so one must explain why one group of people

behaves in accordance with the concept while another group opposes it. In the same way, one must explain why most people find life beautiful and not absurd, while another, much smaller group, perceives the world as absurd. If, according to Camus, suicide can be seen as a cognitive-emotional behavioral index, a response to lack of life-meaning and a perception of the absurdity of the world, then the following statistics may say something important about the existentialist concepts in question. The number of suicides in the world is quite low. The global average is about 15 suicides out of 100,000 people (0.015%), although this rate varies by gender, age, and country of origin (World Health Organization, suicide data). Given this, one must explain why the vast majority clings to life despite its difficulties and suffering, while only a small minority commits suicide. To offer a proper explanation, I will use the CM model, which I summarize here to refresh readers' memory.

The CM model assumes that people attribute varying degrees and levels of meaning to the world (people, animals, plants, and inanimate objects). The model distinguishes between three types of meanings: Innate Meaning, Ordinary Meaning, and Extreme Meaning.

INNATE MEANING, ORDINARY MEANING, AND EXTREME MEANING

Innate Meaning

A basic assumption of the CM model is that humans (and to some extent higher animals) are born with an innate attribution of meaning to the world. Consciousness bestows meaning and understanding on MSs created by sensory stimuli, such as vision, hearing, smell, taste, tactility, body posture (proprioception), movement, pressure, heat, cold, pain, and pleasure (touch, food, sex). Thus, consciousness constitutes the innate and fundamental origin of life-meaning. These are the conscious experiences through which one feels alive. In the CM model, consciousness is a necessary condition for life-meaning and understanding. Why a necessary condition only? Because in order for consciousness to endow meaning, a number of other factors must be realized such as the normal functioning of the brain.

I assume that, under normal conditions, being aware of sensory stimuli automatically implies life-meaning and a sense of being alive. However, this condition is limited to a certain area of sensory stimuli. Extreme changes in the level of consciousness are accompanied by changes in the degree and quality of the meanings, which range from pleasant and positive meanings to unpleasant, negative, and even unbearable meanings.

Acquired Meaning, Ordinary, and Extreme

People are able to conceive of, accept, and internalize various abstract concepts such as goals, intentions, values, ideas, and thoughts, which are endowed by consciousness: Acquired Meaning (Ordinary and Extreme). In most cases, the intensity of abstract events is low, but they can become major and powerful ways of life, in the following important situation: when abstract ideas undergo a long-term process of emotional empowerment (from childhood onwards). This is especially true when the process imparts extreme opinions, attitudes, beliefs or worldviews, such as when the individual undergoes religious, ideological, or political indoctrination.

Generally, concepts endowed with Extreme Meaning, such as religious beliefs and ideologies, may disappear from a person's life during major times of crisis, but Innate Meaning is not impaired and remains intact (except in extreme cases such as serious illness or loss of a close family member). It should be stressed that the fact that people are capable of moving from one way of life to another, for example, from fascism to democracy, from belief in God to secularism, indicates that Innate Meaning is preserved at a level that is sufficient to enable the individual to seek a new way of life.

Given this brief summary of the CM model, I now turn to this basic question: How can one explain that the vast majority of human beings have life-meaning and what they see as a meaningful way of life? The basic reason is that Innate Meaning is transmitted to individuals from the moment they are born. Because this type of meaning is given to humans from birth, Camus' question about suicide is not so pressing. The meaning attributed to sensory stimuli constantly surround every individual. Simply being conscious and having a sense of being alive provide the fundamental meaning of life. As a result of the adaptation process, Innate Meaning may decrease in intensity. In such cases, people seek a change that can alter or intensify sensory stimuli. This is why people travel and go to restaurants, parties, movies, theater, cultural events, and so on.

In addition, humans develop Acquired Meaning (Ordinary and Extreme). These are transmitted to individuals by society in the form of general and scientific knowledge. This is of great importance, so that individuals know how to behave in their society. These meanings take the form of beliefs to which the individual commits cognitively and emotionally. The development of these meanings begins in early childhood and continues throughout life. In adolescence and adulthood, individuals begin to have individual responses to Ordinary and Extreme Meanings (religious beliefs, secularism, political ideologies, etc.). In general, according to the CM model, every individual is constantly surrounded by various meanings, whether they are Innate, Ordinary, or Extreme.

A similar explanation can also be given with respect to the question of absurdity. The vast majority of people do not find life absurd because their lives are filled with life-meanings of various types and degrees. This is also applicable to the observation that most people do not commit suicide. Why? Because life is filled with meaning. (Here, I do not see a need to discuss the despondency and depression from which people sometimes suffer for a variety of reasons, since these situations are transient and most people are able to return to normal functioning.) The remaining problem is for the CM model to explain the relatively small number of instances in which an individual loses life-meaning, perceives the world as absurd, and become suicidal.

I will start with the basic question: How does the CM model deal with the loss of life-meaning? How can one lose the various types of meaning? First, it is hard to imagine cases in which Innate Meaning disappears, that is, situations in which a person is conscious but the meaning of experiencing sensory stimuli disappears. How is such a thing possible? I believe that Innate Meaning can be lost in situations of serious crises, such as incurable illnesses and severe pain. In these cases, the meaning of life becomes negative and one may wish to die in order to put an end to the suffering. In other words, the will to live is dissipated since Innate Meaning becomes a continuous torture. I have known elderly people with malignant cancer that caused them severe anguish and loss of control over their bodily functions. These people came to terms with their impending death. They felt they had already lived their lives and it was time to end their ongoing pain and hopelessness. Other cases are related to the death of a close, beloved relative. As mentioned above, in Israel, there have been cases in which fathers committed suicide on the graves of their sons who had been killed in battle. In all these cases, negative life-meaning outweighs its positive meaning. How does this happen psychologically, cognitively, and emotionally?

I propose the following explanation. In situations of severe pain and anguish, the cognitive system is overwhelmed, and all resources are mobilized toward alleviating the pain and distress. This leads to a reduction in the range of sensory stimulation that normally makes a positive meaning (e.g., people who are ill often stay in their room, have trouble eating, find it difficult to read, watch TV, or listen to music, become isolated, prefer darkness over light). Eventually, their system deals only with negative stimuli and thoughts, as representations of the wider world diminish and they focus on their ongoing pain and agony. I think that in such cognitive mental states, an individual quickly loses the taste for life, sees it as absurd, and questions the point of continuing in this terrible state. In response to this horrendously difficult situation, suicidal thoughts begin to throb and reverberate in the head of the sufferer.

What happens to Acquired Meaning (Ordinary and Extreme) during a crisis? It would seem that as the intensity of Innate Meaning decreases and even disappears during difficult situations, the intensity of Acquired Meaning would do the same. I hypothesize that in severe crisis situations, when a person's conscious attribution of meaning to sensory stimuli is dulled (because the cognitive system is only minimally processing sensory information), the cognitive system also ignores the Acquired Meaning. For example, it is hard to imagine that a person suffering from pancreatic cancer, who is tormented by terrible pain, will continue to be interested in the realization of his or her ideas regarding a social or economic program or an educational reform, even if these issues had previously been the center of that person's interest and occupation. No one will be surprised if the patient is completely focused on the critical question of when the next injection of morphine will be given. However, the relationship between Innate Meaning and Acquired Meaning is not so simple. I believe there are at least three situations in which Acquired Meaning may overtake Innate Meaning.

The first is when people transform sensory stimuli (Innate Meaning) into their life goal, and their way of life becomes a pursuit of sensual pleasures. That is, Innate Meaning is given maximum empowerment. This way of life may quickly become one of gambling, wild sex, heavy drinking and eating, and taking drugs. The ways of life promoted by society may be easily rejected, because Acquired Meaning, as a way of life, is easily realized through the pleasures of the senses. As the popular saying goes: Eat, drink, and be merry, for tomorrow we die. However, this path leads quickly to the mental and physical destruction of the individual, who must take drastic steps to end this devilish dance of consumption of sensual pleasures, and find a new way of life, a new life-meaning of the type of Extreme Meaning, with which the individual may be saved from the edge of the abyss. For example, in Israel, there is a phenomenon of people living a Bohemian lifestyle who deteriorate to such a level that only taking on the extremely religious lifestyle of ultra-Orthodox Judaism saves them from self-destruction.

The second case is when religious beliefs are strengthened at the end of life. With old age, the intensity of sensory stimuli becomes weaker and fades. For example, elderly people often experience a decrease in sexuality and loss of vision and hearing. There is decreased exposure to sensory stimuli and even to abstract ideas and thoughts. As Innate Meaning fades, the individual may seek refuge in Acquired Meaning. Religion readily offers itself, and people may submit to this and adopt it as a way of life. Thus, religion may take on a role as Extreme Meaning.

The third case is the bypassing of Innate Meaning due to commitment to Extreme Meaning. These are cases of ideological, political, and military struggles that require the sacrifice of the individual for the realization of

goals, such as national goals in wartime, and violent demonstrations against corrupt tyrannical rule. In such cases, individuals may sacrifice themselves for the cause. That is, the individual gives up Innate Meaning for the sake of Extreme Meaning. In wartime, acts of heroism are undertaken in which a person sacrifices himself for the homeland, or to save his friends from death. In many societies, these are praised as acts of heroism. However, there also cases in which people sacrifice their lives for ideals that are widely considered evil, such as the phenomenon of Japanese kamikaze fighting against the US military during World War II, or Muslim martyrs who declare a jihad war against disbelievers (in their terms, the Great Satan of America and the Small Satan of Israel). This is not the place to discuss the psychological and social factors underlying these acts or the major differences between these types of social phenomena. All I wish to do is bring clear examples of when Extreme Meaning overrides Innate Meaning.

However, as stated above, in most cases when a person undergoes a severe crisis, Acquired Meaning (Ordinary or Extreme) collapses, but Innate Meaning is not eliminated and continues to support the person so that he or she may survive the crisis and continue living. As an outstanding tutorial example of this, I will now discuss the severe crisis experienced by the great Russian writer Leo Tolstoy.

THE CONFESSION AND NOVELLA BY LEO TOLSTOY

Leo Tolstoy published his great novels, *War and Peace* and *Anna Karenina*, in 1869 and 1877, respectively. He was at the height of his literary fame. His family life and the management of his estate, Yasnaya Polyana, were also going exceedingly well. Then, in 1882, he attempted to publish *My Confession*, in which he wrote that his life had lost all meaning, and everything he had achieved so far in his life seemed absolutely worthless. He questioned why he should continue to live. The Orthodox Church banned this book, but it was published in its entirety in Geneva in 1884 and in Russia in 1906. In 1886, Tolstoy published the novella *The Death of Ivan Ilyich*, which describes the protagonist Ivan as a man who has lost all meaning in his life, and as a result undergoes great torment.

What brought Tolstoy to this miserable situation, to a mid-life crisis? (For an interesting discussion of this topic, see Lurie 2002.) It appears that the crisis was rooted in the thought that life has no meaning because God does not exist and impending death is the only thing of which one can be certain. Tolstoy expressed this harsh thought in the first pages of *My Confession*, through the following parable (which I call "The Well") which hints at Tolstoy's own life: A man is fleeing for his life and falls into a well.

At the bottom of the well is a fierce dragon with its jaws agape. While fall-ing, the man catches hold of a bush growing from the wall of the well, thus saving his life. But, alas, two mice, one white and one black (representing days and nights), nibble on the stem of the bush. The man realizes that his struggle is lost, because the bush will eventually be ripped out of the wall and he will fall into the jaws of the dragon. Suddenly, the man notices that the flowers on the bush have drops of honey, which he licks as he clings to the bush.

The parable can be related to Tolstoy himself. He clung to the bush, which symbolizes life, out of fear of death, obviously represented by the dragon. He did not understand why he is in this terrible situation. He tried to take comfort in the honey, but the taste no longer pleased him. The mice (the passing time) constantly nibbled on the stem of the bush to which he clung, as his limited life span ran out.

What happened to Tolstoy? According to the parable, he is in a situation in which the pleasures of life (the honey) have faded because death is inevi-tably approaching (as the mice nibble on the bush) and eventually the man (Tolstoy) will fall to his death (in the jaws of the dragon). Tolstoy can no lon-ger take comfort in God, because he lost his religious faith long ago. (Here, I have to confess that when I first read the story of The Well, I thought the man would take the mice and throw them into the dragon's mouth, but that was not the case in this parable.) If life is nothing more than clinging on and licking a drop of honey while waiting for death, how should such a situation be treated? How can one respond in the face of inevitable death without the comfort that belief in God previously provided?

Therefore, Tolstoy (1983, 34) writes in *My Confession*:

> My question, the question that had brought me to the edge of suicide when I was fifty years old, was the simplest question lying in the soul of every human being, from a silly child to the wisest of the elders, the question without which life is impossible; such was the way I felt about the matter. The question is this: What will come of what I do today and tomorrow? What will come of my entire life? Expressed differently, the question may be: Why should I live? Why should I wish for anything or do anything? Or to put it still differently: Is there any mean-ing in my life that will not be destroyed by my inevitably approaching death?

Tolstoy sought answers to his basic question of the meaning of life, and failed to find a satisfactory answer through either religion or science. Furthermore, he found two great thinkers who reached the same question about the meaning of life, the German philosopher Schopenhauer, and King Solomon, author of Ecclesiastes, whom Tolstoy quotes extensively (i.e., "Vanity of vanities! All is vanity.")

It should be emphasized that this crisis did not hit Tolstoy suddenly, but was built on the foundations of his life to that point. From his adolescence, Tolstoy had long been tormented by pangs of conscience and distress. He condemned his life as bleak, wild, outlandish, rakish, and immoral. He hoped for redemption through marriage and starting a family. Moreover, at the age of 18, he lost faith in God. This last fact made me wonder why his life-threatening crisis of faith came only 30 years later, around the age of 50, given that he lost faith in God long before, during his adolescence. It is possible that, despite Tolstoy's lack of faith in God, he retained in his heart some elements of Christian morality. Otherwise, it would be difficult to understand the great writer's agony, his desire to be a good person, and the fact that his crisis ended when Tolstoy became a religious person.

Tolstoy offers four possible ways to address the problem of life-meaning:

1. Ignorance of death: If a person is not aware of his death, it will not disturb him. However, Tolstoy argues once a person becomes aware of this horrific news, it cannot be ignored. (Again, I must ask, why did Tolstoy, who participated in the Crimean War in his youth, only become aware of death at the age of 50?)
2. Hedonism: When one is aware that life is short and finite, one will seek to enjoy it as much as possible. Tolstoy rejects this possibility as immoral. (Before Tolstoy married in his early thirties, he was known as a great hedonist.)
3. Committing suicide: Tolstoy considered suicide to be an expression of intellectual integrity, but stated honestly that he lacked the courage to do it.
4. Continuing to live: Although he had lost his life-meaning, Tolstoy pointed out that he persisted in living this unbearable and absurd life.

Eventually, Tolstoy emerged from his crisis as a man of faith in God, but his belief was inconsistent with the plethora of ceremonies of the Russian Provoslavic Church, in which he participated during his youth. (Tolstoy rejected these ceremonies and a number of other arguments and ideas in this belief system.) He spoke (it was, in fact, like preaching) in favor of a simple and practical lifestyle like that of the Russian peasants, because only in this way is the will of God carried out and life given meaning. In his opinion, the simple life brings about religious salvation, a belief in the God that comes from within, from the emotions, from the life of deed and toil that is widespread among the common people. In his opinion, only through an innocent life of labor and belief in God can life have meaning. Thus, Tolstoy wrote in *My Confession* (ibid, 61) "If a man lives, then he must have faith in something. If he did not believe that he had something he must live for, then he would not live." And he went on:

> the one thing that saved me was that I was able to tear myself from my isolation, look at the true life of the simple working people, and realize that this alone is the true life." (ibid, 71). He concluded: "It is clear that I do not live whenever I lose my faith in the existence of God, and I would have killed myself long ago if I did not have some vague hope of finding God. I truly live only whenever I am conscious of him and seek him. . . . To know God and to live come to one and the same thing. God is life. (ibid, 74)

This change in his way of life inevitably led to serious conflicts with the Russian Orthodox Church and also with Tolstoy's family, especially his wife. This conflict and unrelenting quarrel tore his family apart. In his old age, Tolstoy fled his home, got chilled on a train ride, fell ill, and died in a train station in 1910.

Some interesting similarities can be found between Camus and Tolstoy. Camus wrote *The Stranger* and *The Myth of Sisyphus* explaining the crisis of life-meaning and absurdity, and finally found salvation in human solidarity, as expressed in *The Rebel*. Tolstoy wrote *My Confession*, in which he discusses the crisis of life-meaning and absurdity in his life, followed by the novella *The Death of Ivan Ilyich*, which is a literary expression of Tolstoy's life crisis. The character Ivan Ilyich was a successful judge, a hedonist who only wanted an easy and comfortable life. He treated his family members as a tolerable nuisance, and expressed no empathy toward them. He suddenly developed a strange illness that began with a slight pain in his side, and developed into a fatal disease. In the face of his impending death, the hero of the novella undergoes a crisis of life-meaning, in which his entire past life seems to him of no value, without meaning (similar to Tolstoy's in *My Confession*). Eventually, redemption comes to Ivan: in the final moments of his life, he finally listens with humanity and compassion to his young son, who has mercy on him from the bottom of his heart. Ivan feels empathy and compassion for his son and his wife. His great anxiety about death dissipates, he feels joy, and then passes away peacefully. Like Camus, who found salvation in human solidarity (*The Plague* and *The Rebel*), Ivan Ilyich (representing Tolstoy) found peace as a result of attributing great meaning to his family, which had previously been unimportant to him.

In giving these brief descriptions of Tolstoy's two works, *My Confession* and *Death of Ivan Ilyich*, I return to my previous hypothesis: In most cases, when a person goes through a severe crisis, Acquired Meaning (Ordinary and Extreme) collapses, but Innate Meaning is not lost, and continues to support the individual's life. This hypothesis is supported by Tolstoy's admission that he continued to live his life, despite its absurdity. Thus, Tolstoy writes in *My Confession* (1983, 55):

All of these arguments could not persuade me to follow my thinking to its logi-
cal end, that is, to kill myself. I would not be speaking the truth if I were to say
that it was through reason that I had arrived at this point without killing myself.
Reason was at work, but there was something else at work too, something I can
only call a *consciousness of life*. (my emphasis)

I highlight the similarity between his phrase "consciousness of life" and
Innate Meaning. Moreover, Tolstoy found a new Extreme Meaning, which
brought him a certain degree of inner peace. He became a religious person,
living the simple, monkish life of a Russian peasant. Because of this new way
of life, he wished to divide his property among the common people, which
led to a terrible rift with his wife Sophia Andreyevna, and severe fights in his
family.

Ivan Ilyich, Tolstoy, and Camus clung to life until the last possible moment
(like the man in the parable of The Well). Camus found solace in human
solidarity, and Tolstoy found a new way of life and a refuge in the simple
Christian religion of the masses. In this respect, it should be noted that Camus
found salvation in human solidarity, but without any religious undertones,
as he did not accept religion. For example, in the novel *The Plague,* Father
Paneloux argues that the plague has come upon his followers as punishment
from God. He tells them to seek refuge under the wings of God and return to
the bosom of the Church. Doctor Rieux protests against him, and tells him
that the plague has killed a child, innocent of all sin. He asks what the child
is being punished for, what sin he committed. For Rieux, religion is nothing
but a denial of the truth, and he does not accept it in any way.

Tolstoy's crisis raises a number of questions, some of which I have alluded
to above. First, Tolstoy stopped believing in God at the young age of 18. So
why did this disbelief not disturb him until a much later age? What happened
when he turned 50? What specific factor combined with loss of faith to bring
Tolstoy into a crisis of life-meaning?

Second, Tolstoy emerged from his life crisis through a kind of revelation
of Christian faith and a way of life based on the simple lives of the peasants
of his estate. Again, the question of time arises: Tolstoy lived most of his
life around peasants, and witnessed their difficult and troubled lives. So why
did Tolstoy only become aware of this simplicity of life when he reached his
fifties?

Third, if simple and illiterate people see the truth about God, how could
the intelligent and educated Tolstoy not understand such a clear and simple
thing? Did Tolstoy's education and arrogance blind him, such that he only
achieved clarity of vision at the age of 50?

Fourth, a well-educated and intelligent man like Tolstoy would have known
that earlier generations in Russia and people throughout the world held beliefs

that were completely different from Russian Orthodox Christianity (and Christianity as a whole, in all its various forms). Did all these commoners throughout the ages understand the divine truth about which Tolstoy spoke? The answer is clearly negative, and the beliefs held by the common people indicate nothing about the divine truth. Why did Tolstoy ignore this? (Here I must point out that *My Confession* is interwoven with such moral-religious debates, which greatly disturbed Tolstoy.)

I addressed these questions in an article I wrote (Rakover 2016) about Tolstoy's novel *Anna Karenina*. In that article, I proposed a hypothesis about Tolstoy's crisis of life-meaning, for which I found some support in the professional literature on Tolstoy. (However, in *My Confession* I found no reference to the writing of his two novels, *War and Peace* and *Anna Karenina*, which are still considered the pinnacle of prose.) After writing his two masterpieces, Tolstoy had exhausted all the sources for writing about life. What else could Tolstoy write about, that he did not already address at length in these two novels? To write such broad and realistic novels, a writer has to draw on a vast pool of memories, from which he can extract the raw materials to create the heroes and plot. (Similarly, the wonderful novels of Charles Dickens and Jack London were fed by vast collections of personal memories of these creators.) After writing these novels, Tolstoy's sources dried up and his writing waned. In searching for a new source for his creativity, Tolstoy went into a crisis that completely undermined him. This crisis was intensified by the two aforementioned factors, his loss of religious belief and the harsh lives of the peasants (about which Count Tolstoy, who lived at their expense, must have tormenting guilty feelings). Tolstoy's solution was to embark upon a new way of life that was contrary to the one he had led until this crisis: he became religious, led the near-monastic life of a Russian peasant, rejected his earlier literary work, and began to write literature that incorporated his new ideas.

Philosophical and Explanatory Status of Life-Meaning, Absurdity, and Suicide

How is it possible to determine whether or not an individual's path in life provides him or her with life-meaning? One may directly ask, "Does your life seem meaningful to you?" The person might answer, "Yes, because this way of life precisely fulfills my desire and beliefs." One can then go on to ask, "How can you justify your desire? What justifies your belief?" The person may respond definitively that this is his desire and this is his belief, and that is all he has to say about it—period. This is, clearly, a response that arbitrarily ends the infinite string of questions: "then what justifies X"? This answer is undoubtedly a practical one, because it satisfies the person who is answering. That person can then continue along his life path, avoiding these and similar questions, which, in his eyes, are nothing but meaningless philosophical inquiries. In this book, however, I am not satisfied with such an arbitrary answer. I examine a number of other responses to justify individuals' life-meaning and ascertain whether or not these responses are satisfactory. I will start by trying to anchor the concept of the life-meaning in the concept of value.

ANCHORING LIFE-MEANING IN VALUES

A number of researchers have linked the concept of life-meaning to the concept of "value." For example, X considers his path in life to be meaningful, because it is established on value A, which is the most important value for him (e.g., Landau 2017; Lurie 2002). The problem with this attempt to base the concept of life-meaning on the concept of value is that it can give rise to a circular argument. If we ask X why one considers value A more important than values B or C, he may answer that A is the most important value because

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it holds the greatest significance for him. This circular argument may seem overly simplistic, especially in light of the developments of "value theory" in economics and "decision making" in psychology, with which it seems possible to counter this argument (see discussion in Coombs, Dawes, and Tversky 1970; Schroeder 2016). Nevertheless, I must note three issues that raise difficulties in the connection between life-meaning and the concept of value.

First, it is not clear what qualities make a given value something that can create life-meaning and offer a path in life for an individual to follow. To illustrate, I will examine the concept of life-meaning and finding one's path in life from two perspectives: (a) external to the individual, that is, from the perspective of the society to which the individual belongs; and (b) from the individual's personal point of view. Economically, cigarettes and alcohol have a great positive value because their production provides work for a large sector of the population. However, from a medical or moral perspective regarding the individual, cigarettes and alcoholic beverages can have a significant negative value because they are harmful to health and can generate an intense addiction for the smoker or drinker. This example clarifies that society and the individual may relate to the same way of life from completely contradictory points of view.

However, even from the perspective of the individual, it is difficult to ignore the possibility that a person may explain life-meaning using the concept of value, while explaining the concept of value (i.e., the choice of value A over other values) by relying on the concept of life-meaning. For example, David has a custom to which he attributes great life-meaning: he likes to get drunk every Friday with his friends. In his view, being with friends has enormous social value. When he is cautioned that excessive drinking harms his health, David replies that he does not care, because the social value holds greater life-meaning than his health. In support of this example, it may be noted that Sartre (2007, 51) stated, regarding this matter of the connection between value and life-meaning, that "value is nothing more than the meaning that we give it."

The second point is that members of the same society may adopt completely opposite values as being important. That is, people in the same society may hold contradictory values and life-meanings and choose different paths in life. This often leads to severe conflict and violence. It is difficult to see how a uniform and orderly society can develop when its values evoke strong internal contradictions.

Third, when examining values in the current context, one tends to talk about positive values. There is a prevalent view that it is difficult to think of life as meaningless and absurd when human life has a positive value. Similarly, it is difficult to perceive life as meaningful if it is based on a negative value. For example, it is hard to imagine that Mrs. Malka, who is generally satisfied

with her career and loves her husband, will feel that her life is meaningless and useless, that it has a negative value.

However, is such a perspective (described above) valid? The answer is no. Life-meaning may be associated with something that has a strongly negative value. For myself and for many millions of others around the world, the Holocaust has a strongly negative value—it is the essence of all that is negative! Despite this, for myself (and many others) the Holocaust exerts a tremendous influence on life-meaning. As mentioned, this event changed my worldview on humanity and negated my belief in God (for a similar argument, see Thomas 2019). In this context, the following general observation can be made: some people, for various reasons, build their values, life-meaning, and path in life on something which others see as appallingly negative, but which, according to their own perspective, represents the essence of positivity. History is full of such examples. I can point to German fascism, Nazism, which, to its followers, seemed very positive and involved the worship of and total identification with the despicable dictator and other fascist leaders.

ANCHORING LIFE-MEANING IN GENERAL PATHS OF LIFE

A number of researchers have supported the concept of life-meaning by anchoring the individual's life path in general paths of life (e.g., Nagel 1987). For example, X is able to justify his life-meaning by anchoring it in altruistic activities to help the poor and needy in his city (he is the chairman of the "Benefit the Needy" association). We can ask him what justifies his perception that the Benefit the Needy association provides significant meaning for his life. He may answer that this organization is a branch of the National Association for the Elimination of Inequality. We may then ask him to explain on what basis the Association for the Elimination of Inequality has bearing on the meaning of his life, and X may answer and so on, in an infinite string. That is, trying to anchor life-meaning in large and broad activities or ways of life may lead to a problem called infinite regress. Each answer raises a question with no definitive answer, because a follow-up question can be raised regarding what justifies the current answer. Endless regression shows that logically, the current exercise is unsuccessful, and does not solve the problem of justifying life-meaning.

If this is the case, how can the problem of justifying life-meaning be solved? The solutions proposed so far do not meet certain criteria. First, it is difficult to accept an arbitrary determination for how people should conduct their lives, because this may lead to social disintegration. Each person may

arbitrarily choose a life path that stands in stark contrast to those chosen by his friends. This situation can lead to severe conflicts and social chaos.

It is also difficult to anchor life-meaning to the value that is most important in the eyes of an individual, because this approach may create a circular argument. Moreover, if each person has his or her own highest value, a situation rife with interpersonal conflicts may arise, and social chaos will erupt. It is similarly problematic to anchor life-meaning to a broader path in life than the previous one cited, because it is not possible to justify this broader path.

Thus, the question arises: can these obstacles be overcome? We will look at the following three possible solutions: general consensus, religious belief, and the CM model. As will become clear in the discussion of these possibilities, only the CM model comes close to providing an adequate answer to the question of how can these obstacles be overcome.

GENERAL CONSENSUS

Suppose all the members of a group, tribe, or nation agree to accept and behave in accordance with certain values, such as the value-based statements of "Thou shalt not kill," "Thou shalt not commit adultery," and "Honor thy father and thy mother" which appear in the Ten Commandments. Does this consensus end the problems of circularity, infinite regress, and internal social contradictions? Even if we may assume that all members (citizens) of this group of people accept a certain set of values and rules of conduct (social norms), in reality such a situation has not yet been achieved anywhere in the world (see, e.g., secular versus religious Jews in Israel). The differences between individuals and societies remain vast and unbridgeable. For example, there are differences between Western democracies, Nazi fascism, and the communism of the Soviet Union or China. In this respect, general consensus does not make life-meaning immune from serious social conflicts, which have led to major crises and bloody wars throughout human history. Next, we will ask whether general consensus prevents circular arguments and infinite regression.

It could be argued that, in practice, general consensus within a group or nation inhibits circular arguments and infinite regression. However, the theoretical justification for establishing consensus is problematic, because no theoretical system of justification has yet been developed that can successfully meet all the criticisms leveled against it. If we examine various significant proposals for certain paths in life that have been put forth over the course of human history, we will see critiques of each one's acute shortcomings. For example, in his book *The Open Society and Its Enemies*, Popper (1994) criticizes the political-civic approaches proposed by Plato, Hegel, and

Marx. In Popper's opinion, Marxism is flawed because human society cannot be based solely on economic processes. In contrast to these approaches, Popper defends democracy as a meaningful way of life that inherently enables social change and advances society towards a better future. It seems to me, however, that when one examines contemporary Western democracies, one immediately sees that they can barely cope with internal ideologies that are driven by extremist nationalism, clear tendencies towards dictatorship, and intense xenophobia. In recent years, there has been a sharp rise in extremist nationalism in European countries, in response to large waves of immigration from Muslim countries, which bring with them a tsunami of terrorism stemming from Islamic extremism. It is possible to argue that, in practice, this is simply the way things are, such is life. Every nation has a system of agreements, meanings, and paths in life that are considered acceptable. However, as mentioned, this general consensus within each society is only an ideal, and in many cases, it is a fiction, far removed from reality. These agreements, in many cases, stand in stark contrast to the agreements adopted by other societies. This situation cannot be ignored, as it creates severe conflicts between peoples, which ultimately constitute a crucial component in the outbreak of aggressive, belligerent, and hostile behavior. To date, no acceptable way has been found to prevent the problems described above.

RELIGIOUS BELIEFS

Historically, humans have tried to solve the difficult problems discussed here by developing a belief in a higher power, that is, by developing the concept of God and His accepted messengers on Earth—religion. Ostensibly, this presents a solution to all the problems in question. For example, if X is asked why he should accept the agreed-upon values and ways of life as providing a proper and satisfying life-meaning, he will answer in all sincerity: "Because this is what God commanded, this is the commandment that was given to me in the name of God by His messenger to us." For a believer with complete faith, the problem of circular argument does not arise, and there is no infinite regress. If everyone believes in God and His messengers (angels) on Earth, internal conflicts do not tear a society apart in bloody conflicts. Everything is smooth and clean as a beautiful blue sky.

Of course, the reality is quite different. Now I will list three clear and practical reasons why religion has failed as a basis for life-meaning. I will not enter into a dead-end debate about proof of God's existence or nonexistence since, quite simply, this seems pointless to me.

First, it has become clear to many people that what our ancestors thought about the world and what they wrote about it in the holy texts is

not scientifically correct. That is, reality as described by science does not correspond to what religion describes and preaches. For example, in *My Confession*, Tolstoy describes the extent to which these inconsistencies regarding religion bothered him.

Second, many people (myself among them) lost faith in the idea of a good and all-powerful God, due to the injustices and atrocities that have taken place in the world (in my case, the Holocaust; see also Camus in his book *The Plague*).

Third, there are many religions, some of which are ideologically opposed to each other, hostile, and willing to destroy each other. Moreover, each religion is itself divided into different branches and sectors that are in serious conflict with one another. Furthermore, it has become clear throughout history that God's messengers were not personally appointed by God. These messengers appointed themselves, and their entire purpose was to exert control over believers, solely for their own benefit.

The following table 6.1 summarizes the three problems associated with justifying the concept of life-meaning.

Attempts to address these three problems by using general consensus and religious beliefs do not hit the mark. Solutions to these problems are unsuccessful.

Table 6.1   Problems Associated with Justifying a Life-Meaning

Circularity: When the justification uses the concept to be justified as a justifying factor.
Infinite Regression: The possibility of asking what justifies the justifying factor, and what justifies that justifying factor and so on indefinitely.
Social Conflict (Social Chaos): This arises when it can be understood from the justifications given that different groups have chosen different and contradictory ways of life.

THE CM MODEL AS A RESPONSE TO THE THREE PROBLEMS UNDER CONSIDERATION

The CM model assumes that, in normal, ordinary people, consciousness imparts Innate Meaning to perceptions of sensory stimuli, such as seeing color or hearing music. Such stimuli are common to all humans and most of the higher animals such as monkeys, dogs, and cats. Essentially, conscious perception of sensory stimuli provides life-meaning. In other words, the consciousness of the represented sensory stimuli in the mind, their cognitive information, is the fundamental life-meaning for humans and animals. According to the CM model, although the Innate Meanings are unique to each

person, this type of meaning is common to everyone. For example, the Innate Meaning of a person X bestowed on seeing the color green color is equivalent to the Innate Meaning of seeing that color by person Y (when other factors that may affect the perception of the color green are controlled). These characteristics stem from the apparently paradoxical feature of consciousness, which I will call "generality-uniqueness." On the one hand, consciousness, to varying degrees, is found in every normal person (and, as mentioned, also in the higher animals). That is, every normal person is conscious when seeing, for example, the color green, and therefore consciousness can be characterized as a common feature of all humans. On the other hand, as individuals consciously experience seeing the color green, individual X experiences his own unique perception of the color green. No one else (neither Y nor Z) can have the same experience as X. Each has a personal conscious experience of seeing the color green—this is the "uniqueness" feature of consciousness. (Here I must skip over the classic problem of "other minds," the consciousness of others people, because the debate on this issue never arrives at a solution. Further, I am convinced that other people do have consciousness, as do animals, to varying degrees.)

Is it possible to justify the argument that Innate Meaning adequately answers the three problems raised above? The answer depends on the complicated relationship between the three types of meanings (Innate, Ordinary, and Extreme). In brief, according to the CM model, these are the three types of information in a person's consciousness. Innate Meaning is based on sensory information. Acquired Meaning (Ordinary and Extreme) is based on abstract information presented to individuals through education, using verbal and visual means. Essentially, Acquired Meaning is related to the information that society transmits to an individual, beginning at birth. This information takes on various meanings by virtue of being in one's consciousness. (Towards adolescence, individuals begin to exercise personal judgment, thought, and imagination, and to express their personal tendencies, which will influence the direction of their chosen path in life.) Ordinary Meaning is related to various types of information that society passes on to its individual members in order for them to adapt well and function in that society properly. Society sometimes devotes special effort to the education of individuals in order to transmit an Extreme Meaning, which is usually concerned with instilling a particular religious belief or socio-political ideology.

The fundamental difference between Ordinary Meaning and Extreme Meaning is in the activation of the individual's emotional system. Ordinary Meaning is based on the operation of the cognitive-logical systems. Individuals use these systems to acquire information related to literacy, reading comprehension, engineering, mathematics, logic, science, and the acquisition of social customs and norms. Extreme Meaning is imparted

primarily by activating the emotional system. For example, educators invoke symbols and rituals. Individuals must then make a physical and mental effort to internalize and realize the imparted religious beliefs or ideological principles. Individuals develop admiration for and identification with religious or ideological leaders.

These differences among the three types of meanings—Innate, Ordinary and Extreme—largely determine the way in which the CM model succeeds in addressing the three problems discussed above and that will be discussed later. Their distinctions are determined by the "survival-suitability principle." This principle constitutes the theoretical foundation on which the three meanings are constructed. According to survival-suitability principle, Innate Meaning constitutes the basis of *survival* for the individual, and has a common evolutionary basis in humans and animals across the globe. For example, the perception of the sensory stimulus of someone approaching requires the individual to immediately determine its meaning: is it a predatory animal or a person? If it is a person, is it a friend or an enemy? And so on.

Acquired Meaning, according to this principle, serves as a basis for the *suitability, accommodation,* of the individual to the society in which he/she lives. In the modern world, individuals must acquire a vast amount of information in order to be able to utilize all the real and abstract products (norms of behavior, evaluations, and decisions) that society imparts to enable them to adapt to it and function within it effectively and without mishap. Extreme Meaning is, on the one hand, a basis for adapting to the specific society in which the individual lives (which could be an extremist religious group or sect). On the other hand, this type of meaning can be a tool to bring about social change, such as in fascist or communist societies, and to some extent in democratic societies. These differ from each other mainly by the means through which they try to realize their socio-political ideology (e.g., by using harsh means of repression and forced identification with the leader, as in fascist and communist societies, as opposed to using free criticism, as in democratic societies).

How does the individual manage to operate these three types of information in daily life? To address this problem, several facts must be taken into account. First, the amount of information that may enter consciousness is limited. Second, individuals are inundated throughout their waking hours with a huge and continuous input of sensory stimulation. Therefore, individuals must learn to filter the information by its degree of importance to themselves, for example, by focusing their attention, and directing certain types of information to their conscious mind.

Using the theoretical CM model, we will try now to determine how the three problems discussed above can be answered. The basic answer is this: if an individual's Extreme Meaning is shattered (e.g., one stops believing in God and

the religion in which he was raised and educated), or if an Ordinary Meaning is undermined (e.g., even though throughout his childhood one believed the Sun set in the sea, and he eventually came to understand and accept that the Earth orbits the Sun), that is, if one goes through a crisis in life-meaning, this does not necessarily impart a sense of life being pointless and a lead to a desire to end the torture and nightmare of an absurd life by committing suicide. To this individual, Innate Meaning offers a solid line of defense. Despite all the crises that shake one's life, he/she still experiences being alive and having a meaningful life from the very fact of the conscious perception of sensory stimuli.

In the previous chapter, I discussed the relationship between Innate Meaning and Acquired Meaning (Ordinary and Extreme). I argued that there are special situations in which Innate Meaning may also be destroyed (illness, loss of a loved one, the pursuit of sensory pleasures, becoming religious at the end of one's life, or martyrdom for the sake of one's homeland, religion, or ideals). Nevertheless, in the vast majority of cases, Innate Meaning is not destroyed, and people cling to life, as they say, by their fingernails. As an example, I suggested an interpretation of the life crisis of the great Russian writer, Tolstoy. In this case, Innate Meaning withstood the breach, and despite the major mental crisis that Tolstoy underwent, he did not commit suicide (although he considered it several times), and he eventually found refuge in a new way of life (religious, in his case).

I will now describe two real cases of which I am well aware from my own life. I believe that these cases testify that Innate Meaning is the last line of defense against loss of life-meaning (Acquired Meanings) and the desperate will to commit suicide. My interpretation of these two cases is as follows. A person can be prevented from committing suicide if Innate Meaning can be restored in his or her consciousness. However, if Innate Meaning is destroyed as a result of the removal or obstruction of sensory stimulation, the person may lose his last line of defense against despair, loss of one's path in life, and loss of life-meaning. Such a condition may cause the individual to commit suicide. For example, empirical studies have found that sight loss causes depression, suicidal thoughts and attempts to commit suicide (e.g., De Leo et al. 1999; Meyer-Rochow et al. 2015). These two cases are particularly important because, as Camus argued in the opening to *The Myth of Sisyphus*, no philosophical issue is more important than the question of suicide. The two cases described below occurred about fifty years ago, after the Department of Psychology at the University of Haifa was moved from Eshkol Tower to Rabin building.

Case 1: The Young Woman on the Ledge

Eshkol Tower, which houses executive and departmental offices of the University of Haifa, rises to a height of about thirty floors. Each floor is surrounded by a

ledge wide enough to stand on, enabling the windows to be cleaned from the out-side. One afternoon, as I was driving home, I noticed a group of people looking at the top of the tower. I stopped the car, looked up, and saw a woman standing on the ledge outside the nineteenth floor, her arms outstretched to the sides. She seemed ready to jump to her death. I parked the car, ran to the entrance of the tower, and took the elevator to the nineteenth floor. When I got out of the eleva-tor, I met two maintenance workers who told me that they were afraid that if they entered the room from which the suicidal woman had gone out to the ledge, they might startle her into jumping. They told me that the district psychiatrist had been called to deal with the situation, and was expected to arrive in half an hour.

"Half an hour? By then she might have already jumped!" I said. Without giving it much thought (I must admit), I entered the room and closed the door behind me quietly so as not to startle the woman on the ledge. She was staring into the abyss below her, frozen, as if mesmerized by hell and doom. I went to the window (again, I admit, without thinking much), but kept my distance from the woman on the ledge. I noticed she was young. I opened the window, took out a cigarette, lit it (at that time I still enjoyed smoking cigarettes) and found myself talking to her.

"Hello," I said, using a tone of surprise, "What are you doing there? Looking at the beautiful scenery?" (The view from Eshkol Tower is indeed amazing. At its foot, lies the city of Haifa, surrounded by avenues of trees and forested areas, descending the mountain slopes to the beach that stretches from north to south in a soothing blue span.)

The young woman turned her head to me and answered, "Yes."

"Listen," I said, "Maybe you want to look at the scenery and smoke a ciga-rette here with me? What do you think?"

"Okay," said the young woman, and she began walking along the ledge towards the open window, "But I don't smoke cigarettes."

"That doesn't matter," I replied and quickly brought a chair over to the ledge. "Here is a chair that you can climb on," I said, "Can I help you?"

"No. I can do it alone. Move back."

"Okay," I replied, backing away from the window.

She climbed on the chair and entered the room.

As soon as she was standing in the room (intended for meetings) the two maintenance workers entered and quickly closed the window. They stood by her side as the young woman sat on the chair. I looked at them for a moment, and realized I had nothing more to do here. I left the room, and took the elevator back to the ground floor. There I discovered that the cigarette held between my fingers had gone out. I relit it and filled my lungs with smoke— what pleasure! As I put out the cigarette butt, a dumpy woman came running up, gasping and panting. She turned to me and asked, "Where is the suicide? On what floor is she?"

"Are you the district psychiatrist?"

"Yes."

"Nineteenth floor." I answered.

I wanted to tell her that I had already saved the young woman's life, but the psychiatrist had hurried to get in the elevator.

How did I save her life? Today in retrospect, I can say that my intuition was correct, without even realizing what I was doing. I broke the cycle of her suicidal thoughts and let everyday sensory stimuli enter her consciousness, which had been in the grip of depression. Innate Meaning did its job. For a few minutes, the young woman re-experienced what normal people experience, the sensory experience that is simply what gives meaning to life, the very experience of being alive.

Later, I learned that the young woman was hospitalized in the psychiatric ward at Rambam Hospital, after suffering a psychotic attack. It is clear to me, in retrospect, that what I did was exactly right. I broke her spiral of suicidal thoughts and presented her with Innate Meaning.

The immense importance of Innate Meaning is also expressed in the following observations. First, we encounter everyday people who have lost their capability to see or hear, and are witnesses to their terrible suffering and moment-to-moment agony. As mentioned above, the removal of part of a person's sensory capacity, such as sight, is disastrous. Second, the results of sensory deprivation experiments, in which the individual senses, such as vision, hearing, and touching, are blocked, showed many severe disturbances in the individual's behavior: visual hallucinations, lack of orientation in time and space, and major reductions in concentration and thinking (e.g., Zubek 1969).

Case 2: The Druze Woman

One afternoon, about two months after the case of the young woman on the ledge, I received an urgent phone call at my office. A maintenance worker told me in a tense tone, "I was referred to you as the one who saved a woman from suicide a few months ago. There's another one like that, on the seventeenth floor. Please come quickly."

When I entered the office on the seventeenth floor, there were three maintenance workers standing near an open window talking to a young woman who was standing on the ledge outside and below the window. They cleared a path for me and I stood near her. Before introducing myself, I put my package of cigarettes back in my pocket, because it was clear that the cigarette trick that worked in the previous time had no place in the current case. I told her that I came to offer help, but I do not know how to do that unless she told me what the problem was (I did not use the word suicide).

She began to speak, and told me that she was from a respectable, but not rich, Druze family. She felt that she had become a burden on her family. She was very fat, ugly, and worst of all; she had breast cancer that had metastasized to her stomach. She had undergone chemotherapy and lost all her hair. She was completely bald, and was wearing a wig that had cost her father a lot of money. No man would take her for a wife, even if she wasn't ill, but especially with this damned disease. She felt she had no future, no hope. Over time, she would become an ever-increasing burden on her family. She already felt they were fed up with her, so what was left for her to do? It would be better to commit suicide, and get over the disease and the whole nightmare. She would jump off the tower and crash on the rocks below. From such a height, with her weight, there was no chance that she would survive. Her family would be sorry, of course, but overall, in the end, it would benefit everyone—they would be rid of the fat, ugly, and sick woman with no hope in life.

"Listen," I said to her, "That sounds really difficult, I have to admit. But what you told me is just a general description, like chapter headings. I have a million questions to ask you, but it's going to take a while. We can't have a real talk like this, with you standing out there on the ledge and me inside the office, above you. It won't go well. Why don't you climb back up through the window? We can sit here quietly. They will bring us something to eat and drink, whatever you want. We can talk about what can be done. What do you say?"

She didn't answer. She looked down and saw the gaping abyss, at the bottom of which were rocks that looked like the teeth of a predator. She lifted her head to me and said, "No."

"Okay," I replied, "So maybe I'll get you a chair. You can sit on it and talk. What do you say? Maybe it's best to climb on the chair and come in through the window? What do you say?"

Again, she looked into the abyss and repeated, "No."

I did not know what to say. I had a feeling that she had decided to end her life no matter what. I turned to the three maintenance workers and said, "I think she has decided to commit suicide and that's it! Nothing will change her mind."

"So why is she not jumping?" asked one of the workers. "She has been standing here for more than two hours."

"Forget it," said another worker, "She will not come in here of her own free will. She has decided to commit suicide. She should be forcibly brought in. Tie a strong rope around me, and I will go down to her and grab her. I will tie her to me, and then we will all pull and bring her in through the window."

"Brilliant," said the third worker, "You are strong, a bodybuilder who lifts weights all day. But look at her, she's like a tank. If she throws herself down,

you too will go with her. Forget it. Don't do anything crazy. That is definitely not the thing to do."

While we were talking, the president of the university came in. After learning of the situation, he approached the Druze woman, introduced himself, and promised to let her study whatever she wanted at the university, at the expense of the university, if only she would come back into the office. When she did not answer, the president further promised to give her assistance in getting treatment for her illness and would do as much as possible to make peace between her and her family.

The Druze woman looked down again and shook her head—no.

The president left the office and we returned, each one in turn, to speak to her from our hearts, but to no avail. In the meantime, it was starting to get dark. I drank some coffee and ate an egg sandwich that someone had brought to the office. The Druze woman refused to drink or eat, although I was sure she was hungry and certainly thirsty. The sky darkened, and on the horizon, one could see the crescent of the setting sun, like a blood-red scythe, sinking into the black sea. I suddenly realized why the Druze woman had not yet jumped. It was for the same reason that the young woman who had suffered a psychotic attack had stared at the abyss gaping at her feet—the inborn fear that arises from the perception of a great height. How had I not realized this before? After all, as a psychologist I learned about Eleanor Gibson's famous "visual cliff" experiment, which proved that depth perception is innate, and that animals and even newborns exhibit a fear of heights. As darkness hid the dragon's teeth that glistened threateningly at the bottom of the tower during the daylight, the suicidal woman's fear would disappear.

I went over to the maintenance workers and said, excitedly but in a soft voice so that the Druze woman would not hear, "Turn on all the lights of the tower. Turn on all the lights! She will jump as soon as it gets dark, because then she will not be afraid of the height. I'm telling you, in the dark she will not be scared and will jump. Run! Now, turn on the lights on all the floors!"

They ran out of the office, but darkness fell before they reached the bottom floor to turn on the lights that illuminated the jagged rocks. When I turned to see how the Druze woman was doing, she was no longer standing there. The lights on the lower floor, lit too late, illuminated her battered corpse on the rocks at the bottom of the tower.

Both of these cases clearly illustrate the significance of Innate Meaning in suicide attempts. In the first case, successfully getting this type of meaning to infiltrate the suicidal woman's thoughts restored her desire for life, even for a few minutes, and she was saved. In the second case, suicide was postponed as long as the innate fear of heights continued to affect the woman. This fear disappeared as soon as the physical stimulus, the sight of the gaping abyss, was obscured by the darkness. There was nothing to counter the despair that

gripped her, because the Acquired Meaning for her life had been shattered. She felt that because she was overweight, unattractive, and terminally ill, she would not be able start a family. Above all, she felt she was nothing but a burden to her family. Once there was no Innate Meaning to protect her and make her wish to continue to survive, once darkness fell on Haifa, she ended her life.

Now we return to the questions posed above. First, is it possible to escape circular arguments and infinite regression by applying the CM model? (I will discuss later the problem of arbitrary determination, which is part of the more general problem of relativism). I do not think that Innate Meaning is affected by the problem of circular arguments, simply because this type of meaning is inborn, and therefore does not depend on any external values or additional mechanisms to justify it. Innate Meaning is the experience of life, of being alive, which is evoked by every sensory MS within one's consciousness. There is no need to confirm or legitimize this meaning in any way. There is no need to justify it. This argument can also be made against the problem of infinite regression, simply because there is no need to anchor Innate Meaning in any broad moral rules or general social norms, as this type of meaning stands on its own, based on the power of life and a person's sense of being alive.

Second, assuming that Innate Meaning is indeed not threatened by circular arguments and infinite regression, is it possible to raise similar arguments for Acquired Meaning (Ordinary and Extreme)? The answer is negative, because this type of meaning is learned, and not inborn. The difference between the two types of meanings lies in the type of information on which meaning is endowed by consciousness. In the case of Innate Meaning, information is sensory stimuli (sight, hearing, touch, taste, pain, pleasure, etc.), which is also found among animals.

In contrast, in the case of Acquired Meaning the information is theoretical, abstract, and based on the culture developed by the society to which the individuals belong. The difference between Ordinary Meaning and Extreme Meaning lies in the type of system responsible for processing the information. In the case of Ordinary Meaning, the information primarily deals with the cognitive system (verbal, visual). In the case of Extreme Meaning, the emotional system is also strongly activated to create a deep commitment to the content. In all three cases, meaning is imparted by consciousness. In Innate Meaning, the sense of life and vitality is intertwined with the type of feeling itself, whereas Acquired Meaning imparted by consciousness, is dependent on the content of the information represented in one's mind.

If this is the case, how does Acquired Meaning address circular arguments and infinite regression? Since Acquired Meaning is implanted in the hearts and minds of individuals from birth by the society in which they live, this type of meaning is anchored to the accepted rules of behavior, goals and

values of that society. These guide members' behaviors and they must live in accordance with them (for short, I refer to all of these by the general term "norms"). Are these norms objective and absolute and therefore accepted by societies around the world? The empirical answer is that they are not. Indeed, this is exactly the problem of relativism (see discussion of this subject in Landau 2017).

Here it is worth noting that not only do different societies have differing norms that may stand in stark contrast to each other, but even within the same society there are individuals and groups who do not accept the agreed-upon norms, resulting in conflicts often lead to serious violence. That is, even if we assume that the problem of circular argument is not drastic (because norms may be anchored to a well-rooted tradition) it is still difficult to justify Acquired Meaning (Ordinary and Extreme) and avoid the problems of infinite regression and arbitrariness (which is nothing but relativism in new clothing).

Is it possible to escape these inconsistences by reducing Acquired Meaning to Innate Meaning? (As stated, Innate Meaning avoids the problems raised above by virtue of being among the qualities with which nature equips humans and animals.) The answer is negative. Aside from the above-stated fact that all meanings are endowed by consciousness, I do not see any way in which Acquired Meaning can be derived from Innate Meaning under certain conditions. Therefore, I propose the following "necessary condition": Innate Meaning is a necessary condition for Acquired Meaning. That is, it is not possible for a particular person to develop Acquired Meaning without first being equipped with Innate Meaning. Why? Because it is difficult to imagine any living creature that is devoid of Innate Meaning yet has Acquired Meaning. That would mean that a person who has normally functioning systems, including the sensory systems, yet has no sense of being alive, still devoutly observes, for example, religious precepts. This person is not an unconscious zombie, but rather a creature without Innate Meaning, which I will call *vanitas* (Latin for meaningless).

However, it immediately becomes clear that the necessary condition proposal faces a problem. It cannot be ignored that there are certain cases in which a person sacrifices himself or herself, ends his or her life, for the sake of religion or some other ideology. That is, there are cases of Extreme Meaning completely eclipsing Innate Meaning. Are these cases evidence that contradicts the proposed necessary condition? After all, can't an argument be made that these cases demonstrate that Acquired Meaning can exist without Innate Meaning? I think not, because these cases of self-sacrifice are similar to the case of the Druze woman. She had a clear intention to commit suicide, however, as long as Innate Meaning functioned, she could not carry out her goal. As soon as darkness fell and Innate Meaning disappeared or was obscured, nothing stood in the way of her carrying out her intention. In

the same way, it may be suggested that when a person feels he or she must sacrifice himself for Extreme Meaning (his ideal), and therefore as soon as Innate Meaning is reduced or destroyed by various means (stirring up emotions of attachment to a leader, drinking and taking drugs, social rituals evoking ecstasy and strong identification with symbols of Acquired Meaning, etc.) there is nothing to stand against the realization of Acquired Meaning, and the individual will indeed sacrifice his or her life.

Why is it important for a society to develop Extreme Meaning among its members? The answer lies in the "generality-uniqueness" feature of consciousness. That is, while all people are endowed with consciousness, only each individual is able to experience and observe his or her own conscious experiences. Therefore, people can develop social relativism and identify with another society, or develop personal relativism and develop a personal life-meaning that differs from or is contrary to that of the surrounding society, and even radically change their life-meaning over time. Every individual has a private inner world of thoughts, desires, intentions of which only he or she is aware. That is, people have free will, and the rulers of society have no way to monitor this. The only means of controlling this is to use force (e.g., using the police) or to cause individuals to identify emotionally with society's dictated norms by having them internalize an Extreme Meaning.

Given the fact that people go through crises of Extreme Meaning, for example, as the result of a move from one way of life to another (from religiosity to secularism or vice versa), the problem of the relationship between life-meaning, free will, and relativism arises. Two questions are of particular importance. First, is free will a condition for life-meaning? Second, does relativism, by its very nature, constitute fertile ground for undermining life-meaning?

FREE WILL

It may be argued that a person has free will to choose a path in life and that free will is a necessary condition for creating Acquired Meaning; that is, acquired life-meaning is not possible without free will (e.g., the individual decides whether to accept or reject a religion or ideology that society transmits). This statement seems logical. It is the opposite of the claim that determinism is contrary to life-meaning. If everything is fixed and the future is predetermined, then what is the importance of one's path in life or the life-meaning that an individual chooses and develops with great effort? After all, there is no point in doing so if everything is fixed and determined in advance! In this respect, despair caused by determinism is similar to despair at the inevitability of death. (The debate over free will versus determinism is

ongoing, but beyond the scope of the present discussion; see a recent review of this complex issue in O'Connor and Franklin 2019.)

I am interested in an argument that raises doubts about determinism and the idea that everything is fixed and that free will is only an illusion (see Nichols 2011). The following argument can be made against determinism: if everything is fixed, then it is also known that there was a reason for any event, such as a dialogue between X and Y that turns into a violent, physical fight. Does X's free will provide a reason for insulting Y, as a result of which the discourse between X and Y became a real fight? If X insulted Y out of his own free will, the body-mind problem arises: how is it possible that a mental event causes a physical event?

However, if we decide that X is not to blame for this behavior because everything is determined and free will is nothing but an ineffective illusion (an epiphenomena), we must also accept the following possibility. The judge in the court case that Y filed against X can punish X with a large fine. After deep legal consideration, the judge will also be able to counter X's argument that he is not guilty because everything is predetermined. The judge can respond that if everything is fixed, then this determinism also applies to the verdict, the imposition of the current sentence, and the penalty. These things were also determined in advance! This argument, in my opinion, takes the wind out of the sails of determinism, because determinism becomes nothing more than a nickname, another term for the concept of free will. Why? Since although the judge can state that he determined the verdict through his own free will, the judge himself can, as he did, interpret the whole episode as deterministic.

In addition, the debate between free will and determinism can be challenged in the following way (in the footsteps of the "liar paradox"). Suppose that one declares: "I say from my own free will that everything I do or say is deterministic." Now, if this declaration is correct, then it is a lie, since not everything is deterministic. And if this declaration is a lie, then it is correct, since it follows that everything is deterministic.

The CM model is inconsistent with determinism and consistent with free will. It may be suggested that if, in normal human beings, consciousness bestows Acquired Meaning, and if determinism denies this type of meaning, then determinism denies consciousness. However, observation shows that all human beings are blessed with consciousness, as are higher animals. Therefore, it can be concluded that, according to the CM model, determinism is false. What about Innate Meaning? It can be proposed that determinism avoids taking aim at Innate Meaning because it is an inherent trait, but attacks Acquired Meaning and all its nuances, precisely because this type of meaning is learned. However, as can be seen above, this attack has been defended satisfactorily.

Furthermore, the CM model does not claim that Acquired Meaning cannot go through a severe crisis to the point that it is abandoned. The opposite is true. In some cases, people go through acute religious and ideological crises (not to mention changes of opinion and attitudes) as Tolstoy did. But in most cases, these crises do not lead them to committing suicide or other harmful behavior, because Innate Meaning serves as a protective wall and saves them from being overwhelmed by the feeling that they have lost their path in life and taste for life. The result of this personal and private struggle is the replacement of a previous Acquired Meaning with a new one. This replacement of one meaning with another depends largely on the personal decision of the individual; that is, free will. For example, people who have rejected the religion in which they were raised and educated face a difficult choice between a variation of their previous religion, another religion, and secularism.

RELATIVISM

The approach of relativism claims that a person's assessments are context-dependent, related to personality, society, and culture. Therefore, there are no perfectly objective standards by which the values, rules of conduct, and cultural products (including scientific theories) of various cultures and societies can be judged impartially (see a recent review of relativism in Baghramian and Carter 2019). Relativism, it should be emphasized, applies to many and varied fields such as science, knowledge, society, ethics, and aesthetics. A distinction must be made between, first, the relativist approach that claims that any theory is, by its very nature, dependent on the context, and second, the fact that even absolute theories (theories that have not been refuted) succeed in producing specific predictions when they are applied to certain specific conditions. Therefore, the prediction is a function of a theory and a certain condition [Prediction = f(Theory & Specific Situation)]. I will, of course, discuss the first possibility.

The relativist approach is at the base of an arbitrary response to life-meaning. As stated above, it is difficult to accept an arbitrary justification for the way people conduct their lives, because this approach may lead to social disintegration. There is a possibility that each person will have an individual and arbitrary life path that stands in stark contrast to that chosen by his friends—a situation that can lead to intense conflicts and social chaos. Moreover, if each person's path in life is determined arbitrarily, not only may violent social conflicts arise, but people may change their minds for one reason or another, rejecting a previous way of life (as in the case of Tolstoy) and creating a new way of life, which, in time, may then be contemptuously rejected. In short, the approach of relativism (and the arbitrariness that arises from it) can lead

the individual to an anomalous state of confusion regarding values and rules of conduct, to the point of loss of sanity.

Is the CM model capable of dealing with relativism's threat to life-meaning? The answer is yes. But before I explain how this model deals with the threat of relativism, I present here sketches of a few objections to relativism, which appeared in my mind while I was reading a significant part of the vast literature on the topic. Let us consider the following question: If everything is relative, how can it be assessed whether relativism itself is right or wrong? The answer, according to this approach, is that the assessment will be context-dependent, related to the personal and social situation of the respondent. That is, the answer will be relative. Therefore, one assessment, arising from one situation, may suggest that the relativist approach is extremely poor, while a second assessment, arising from a second situation, may suggest that relativism is a good method, and so on. In this way, the approach of relativism is never really assessed (see more on this below).

Another way to illustrate the problematic nature of the relativist approach is this (it is based on the famous Russell's paradox): Suppose we have a relativistic theory T^r proposing that all theories in the world are relative and not absolute. Is T^r itself a correct, true theory or is it false? If we assume that T^r is correct, it should be considered absolute and not a relative theory whose correctness depends on the context. This means that T^r is in fact false! However, if we assume that T^r is false, then it is clear that not all theories are relative, because the statement that T^r is false clearly indicates that there are absolute theories. Hence, from whatever direction we try to judge T^r as true or false, it follows that the approach of relativism is based on shifting sands.

The answer provided by the CM model to relativism is this: Innate Meaning is a universal protective wall against any attack on life-meaning, because it anchors human life to the deepest type of life-meaning, the innate sensory experience of being alive. In contrast, Acquired Meaning (Ordinary and Extreme) is context-dependent, because it develops within a particular society and culture. Here I must mention that although Innate Meaning is inborn and universal, it is unable to withstand opposing forces stronger than it. Therefore, in extreme cases such as severe diseases or shaking crises of religious beliefs, a person may commit suicide (an act that Camus evidently found so shocking that he determined that suicide is the most important topic of philosophical discussion). From a functional viewpoint, I see Innate Meaning as being similar to the immune system that constantly shields us and protects our lives (and animal life), except in severe cases when destructive forces (bacteria, lethal radiation, etc.) enter the body, overcome the immune system, destroy the body, and lead to death. Similarly, Innate Meaning protects us from severe depression, with the help of the conscious awareness of the significant meaning of simply being alive.

It may be difficult to defend Acquired Meaning against the attacks of relativism, since eventually any argument may end in the statement: X thinks such and such, and Y thinks the exact opposite, and there is no way to show that X is right and Y is wrong, or the opposite. Hence, there is an interesting question of how to address relativistic criticism and debate. The answer, in my opinion, is also relative. Here, I will discuss two opposing points of view. The first is a pessimistic approach, which says that relativism is destructive because no argument on any issue can reach a decision, and therefore everything remains stagnant, without being able to progress in any direction, since all options seem equally correct. An optimistic approach says the opposite: relativism has an important value in humans' conceptual and mental development, because without it, people would reach a state of mental stagnation. Without its influence, only one idea would rule, only one idea would be considered the pure and absolute truth. This is not because the truth has been revealed, but because no critique offers an alternative idea that may be more interesting or important than the prevailing idea. In other words, without criticism there is only a thought dictatorship and a lack of development. According to this approach, the argument against relativism described above (concerning the context-dependent one) stems in fact from the pessimistic approach.

To illustrate these matters by example, I will now focus on the influence of relativism in science. In his book *The Structure of Scientific Revolutions*, Kuhn (1970) shows, with the help of historical analysis, that the development of science takes place within the framework of a scientific paradigm accepted by the scientific community, such as the Newtonian paradigm in classical physics. Scientific developments are assessed from the perspective of the dominant paradigm. As long as there are no deviations from this paradigm, scientists continue to work within the existing paradigm. However, once enough empirical phenomena (and theoretical problems) have been documented that are inconsistent with the dominant paradigm, a great deal of upheaval is created that eventually leads to a scientific revolution in which the previous paradigm is replaced by a new emerging scientific paradigm. This happened, for example, when Einstein's theory of specific and general relativity replaced the Newtonian paradigm (and eliminated the dubious notion of the "ether").

Thus, relativism in the field of science is interesting from two important points. First, empirical observations are perceived from the point of view of the dominant paradigm. Second, there is no objective scale by which one can judge the correctness of theories of different paradigms, because each such scale will depend on the context. That is, the scale depends on a paradigm that determines the nature of the scale itself. This idea, called the "incommensurability of theories," shows that theoretical concepts in various theories

of different paradigms are not comparable, because each concept refers to its own paradigm, to a completely different content issue. For example, the concept of mass in the Newtonian paradigm refers to different phenomena, as compared to this concept in Einstein's theory. In Newton's theory, the effect of gravity is immediate, whereas Einstein speaks of the propagation of gravitational waves at a speed that cannot exceed the speed of light. While the concepts of space and time, in the Newtonian paradigm, are fixed and absolute, in Einstein's theory of relativity, these concepts vary according to the magnitude and motion of the mass in space-time, with the only constant value being the speed of light. Despite all this, I have argued (Rakover 1990, 2018) that methodologically, the measurement of physical values such as distance, time, and weight is done in such a way that, in most cases, it is not influenced by the physical theory itself (i.e., the theory based on a given paradigm) that is used to explain the phenomena being measured. In other words, I have argued that the theory underlying physical measurement is either unaffected by physical theory itself, or that the degree of influence is reduced to the use of a physical law well-grounded in theory and empirical observations, with the aim of measuring the physical concept in question, such as temperature. (In the latter case, after temperature measurement was empirically based on the classic "ideal gas law," this measurement became so standard that it can be said that widespread use of temperature measurement has been detached from dependence on the physical theory itself.)

To conclude this brief discussion of relativism, I must raise the following question: Is the theoretical approach I propose in the present book—the CM model and its various implications—the fruit of the culture to which I belong, the culture in which I was raised and educated—Western culture? Since my knowledge of other cultures, such as Eastern cultures (Arab-Islamic culture, Indian, Chinese, and Japanese culture) is minimal, I am unable to present a reasoned answer as required. All I can say in this regard is the following.

On the one hand, if my hypothesis regarding the Innate Meaning is correct, then this type of meaning is universal, and therefore applies to all cultures, and is not limited to Western cultures. I assume that when a person from an Eastern culture is exposed to sensory stimuli (e.g., sight, hearing, touch, and taste) the sense of being alive that person experiences is similar to the feelings experienced by a person from a Western culture, when being in the same state of sensory stimulation. Further, because I assume that Innate Meaning is based on evolutionary processes, I will not hesitate to say that an Indian tiger stalking its prey feels similarly to a tiger in Africa stalking its prey. (Although no tiger says to itself, "What a great hunter I am, what a wonderful world, and how amazing that I live in this universe.")

On the other hand, since Acquired Meaning (whether Ordinary or Extreme) is learned, it is impossible to ignore the fact that these meanings are created

by the society in which the individual lives. That is, these meanings are context-dependent. Every society emphasizes the ideas, values, and rules of conduct it desires for its own survival and prosperity. As mentioned, society begins to cultivate and instill all its norms in its members from birth. The distinctive tendencies of the individual begin to influence the person at later ages, as society cultivates the skills and abilities of the individual that will advance the whole society towards the realization of its goals. In this respect, it can be said that even in a case in which different nations accept the same specific social or economic ideology, this ideology is not the same in these nations. For example, Russian communism is different from that of Chinese communism, and American capitalism is different from that prevailing in England, Canada, and certainly in Israel.

Furthermore, the division of responsibility for existence of the society itself and for its members differs greatly from society to society: some are taking great responsibility for their members, and some are saying that it is the business of each individual and that there is a limit to what the state can do for its members.

Chapter 7

The Concept of Life-meaning Is Explanatory and Explained

The majority of people live, until the day of their death, without undergoing severe crises that bring them to the verge of self-annihilation or that cause them to lose all sense of life-meaning and their path in life. Nevertheless, a small percentage of people do undergo such disruptive life crises. For example, some people fail to properly realize their way of life and achieve their Acquired Meanings. They may divorce, change their profession, move to another place or even another country, shift from religiosity to secularism or vice versa, or become addicted to drugs. Occasionally, they manage to escape their unbearable situation.

Previously, I described the terrible crisis that Tolstoy went through at the age of fifty, during which he experienced a sense of meaninglessness and rejected his previous way of life. Tolstoy emerged from this difficult crisis and found a new life-meaning, namely by becoming a religious man. However, his particular religious approach was inconsistent with the position of the Russian Provoslavic Church.

As another instructive example of a change in life-meaning, I describe a second artist who underwent a major life crisis; the painter Paul Gauguin. He was born in 1848 in France and died there in 1903. Gauguin was married to a Danish woman (Mette-Sophie Gad), who bore him five children. He worked in Denmark as an investment agent and began painting as a hobby. In 1885, when he was in his mid-thirties, Gauguin abandoned his family and moved to Paris to paint. He briefly shared a residence with Vincent van Gogh in Arles in southern France. Eventually, Gauguin emigrated to French Polynesia, where he lived and painted for many years.

Somerset Maugham's famous novel *The Moon and Sixpence* (1944) is based on Gauguin's life. This novel depicts the life of the protagonist of the story, Charles Strickland, a London stockbroker who, at the age of forty,

abandoned his wife and children, and moved to Paris and then Tahiti, and dedicated his life to painting (for a discussion of this book see Landau 2017). Maugham graphically portrays this great rupture in Strickland's life: the abandonment of his family, his impoverished and miserable life in Paris and Tahiti, his indifference to everything, and most of all his shocking selfishness. His egoism is realized in the fact that Strickland robbed the wife of his friend, who had cared for him during a deadly illness. His neglect and exploitation of this woman led her to commit suicide, but even this horrible event did not affect Strickland. The explanation Maugham offers for Strickland's behavior is that he was madly engaged in the pursuit of artistic beauty through painting, and nothing else interested him in any way. Strickland eventually died of leprosy in Tahiti.

This novel offers a possible explanation for the life of Paul Gauguin. It is probable that Strickland's insanity—his obsession with painting—also gripped Paul Gauguin. Gauguin and Strickland share rebelliousness against the governmental and religious establishment. However, various differences can be discerned between the details of the lives of Gauguin and Strickland. Unlike the apathetic Strickland, Gauguin was highly sensitive to people's reactions to his paintings. He exhibited his works, sold paintings, and even served as an interpreter for his art, specifically that created in Tahiti. Moreover, Gauguin missed his children and sent letters to the wife he left behind.

The point I wish to emphasize is that these two important artists (the writer Tolstoy and the painter Gauguin) went through major life crises that led them to change or abandon their previous way of life and start a significantly different way of life. That is, the loss of life-meaning does not necessarily lead to the desire to end one's life by committing suicide. In the vast majority of cases, the opposite occurs; people change or abandon a previous way of life and choose a new and different path. In the cases of Tolstoy and Gauguin, one can see that the seeds of their new life-meanings and paths in life had already sprouted in their previous lives. Tolstoy had previously been preoccupied with religion, the living conditions of the peasants, and, of course, literature. Gauguin began painting as a hobby while he was still married. Over time, painting took over Gauguin's entire world, to the point that he abandoned his previous life and family in Denmark.

Based on these two cases, it can be suggested that often the end of one way of life constitutes the beginning of a new one. The majority of divorcees remarry. Leaving one profession is often done in order to begin another. People undertake the difficult effort of moving from one country to another in order to improve their lives. Religion may be abandoned in favor of a secular way of life, or vice versa. In short, it is possible to propose an empirical generalization that when people lose their way in life, they strive to find another

path constituting a new life-meaning, when the seeds of the new way of life were already planted in their previous way of life.

These examples raise the question of how life-meaning explains a person's behavior. In answer, I consider again the life of Paul Gauguin. Until 1885, Gauguin lived in Denmark. He married Mette-Sophie Gad and established a family with her. They lived together for about twelve years and had five children. Throughout this time, Gauguin was following the typical way of life that his society had instilled in him. In fact, this lifestyle is generally accepted in most human societies, whether in France, Denmark, or elsewhere— namely, the establishment of a family unit and concern for one's livelihood. It would be difficult to explain Gauguin's behavior during this period without taking into account the fact that he had internalized this standard type of life-meaning and realized it successfully for many years.

Before 1885, Gauguin began to suffer from a severe crisis, which eventually led him to abandon his family in favor of a new way of life that held tremendous meaning for him—dedication of his life to the art of painting. A number of factors led to this crisis and help explain Gauguin's behavior during this period, such as his difficulties in adapting to Denmark and its language, and his dissatisfaction with his progress as an amateur painter. Gauguin's subsequent conduct can be explained on the basis of his new life-meaning; devotion to the art of painting. He perceived this way of life as being in accordance with his natural inclinations. This analysis of Paul Gauguin's life is based on a three-stage model:

Stage 1: The individual's conduct prior to the crisis stage can be satisfactorily explained by a previously acquired life-meaning.

Stage 2: The individual's conduct during the turbulent crisis stage can be satisfactorily explained by the undermining of the previous life-meaning, leading to restlessness and dissatisfaction. Many of the factors responsible for creating a crisis are rooted in the previous life-meaning. The person experiences problems for which the previous meaning fails to offer a satisfactory solution.

Stage 3: A new life-meaning is acquired, which satisfactorily explains an individual's conduct during the period following the crisis. It would be difficult to explain the person's new conduct according to the previous life-meaning, or by referring to the factors responsible for the crisis, whose seeds were planted in the previous life-meaning. The individual's behavior and conduct are understandable in light of the newly adopted way of life.

Here I must emphasize two points. First, Innate Meaning accompanies individuals through all three stages. It helps them through a crisis and the subsequent changes caused by replacing an old life-meaning with a new one.

Second, this three-stage model is based on the idea of a scientific revolution as outlined by Kuhn (1970). Scientific revolution also consists of three stages. First, scientists conduct research in accordance with an accepted and prevailing scientific paradigm of their time. As their research continues, a large number of unexpected phenomena are observed and data are collected that are inconsistent with the prevailing paradigm. A period of scientific crisis arises. In order to address these problems and resolve the crisis, a new paradigm emerges which revolutionizes the previous paradigm. For example, we may briefly consider the major revolution in cosmology, when Copernicus' heliocentric theory that the Earth orbits the Sun replaced Ptolemy's previously accepted geocentric theory that the Sun orbits the Earth. (I shall refrain here from describing the crisis stage, which involved also the Catholic Church that supported the geocentric theory.) Similarly, an old, established life-meaning may be fertile ground for the growth of problems that cannot be resolved by this life-meaning. As a result, the individual enters a period of severe crisis, at the end of which a new life-meaning is adopted, as a solution to this crisis. (Here I refrain from discussing the possibility that a new meaning does not emerge and the individual lives in a period of ongoing crisis.)

LIFE CRISES THAT UNDERMINE INDIVIDUALS' LIFE-MEANING

As can be seen from this overview, many possible reasons for life crises are related to the circumstances of the individual's life. One major cause of a crisis is a misperception or unsuccessful realization of the individual's path in life. Such a crisis may emerge as a result of losing one's job and the resultant economic difficulties, other major disappointments, one's own serious illness, or the illness or death of family members.

In my view, Tolstoy's crisis arose as a result of the fact that the great Russian writer had exhausted all his memories in writing his two massive realistic novels, "*War and Peace* and *Anna Karenina*." He had no remaining raw material from which he could create another major realistic novel. Gauguin was disappointed by his progress as an amateur painter. Camus, like other existentialists, saw no point in life because death is its inevitable end.

Many difficulties that individuals encounter undermine their life-meaning and lead to major disappointments. However, these are not fatal blows. In most cases, a person can recover from an economic setback, recuperate after an illness, and even overcome the depression following the death of a beloved family member. However, the perception that death is inevitable is a serious and fateful component, which may lead to the emotionally dangerous conclusion that there is no point or meaning in life, and the only logical way to end

the endless cycle of anguish is to commit suicide. Indeed, Tolstoy wrote in *My Confession* that he considered suicide several times, but never acted on this depressive thought. Camus said that suicide is the most important philosophical issue to discuss.

It can therefore be suggested that the inevitability of death evokes a wide range of emotional reactions in individuals. The general empirical observation of Birth, Blooming and Death (BBD) does not logically evoke any particular human response, neither suicide nor mindless pursuit of pleasure, neither belief in idols nor in one God who rules the entire universe. These responses are based on the individual's emotional system, which essentially evokes in each person a strong emotion: fear of death! This also includes fear of illness and suffering in old age, fear of the unknown after death, fear of not living as one wanted, fear of not being able to complete things that one considers vital, fear of losing everything related to Innate Meaning (e.g., being unable to see, hear, or feel) and fear of losing everything related to an Acquired Meaning (Ordinary or Extreme); that is, no longer being able to enjoy expanding one's mind, not being able to read wonderful literature, or no longer being able to participate in the effort to improve one's society. Moreover, the fear of death goes hand-in-hand with the indisputable and clear recognition that every passing second is lost and will never return. Each lost second is a kind of miniature death. (This is easy to ignore; only at the end of a week or month do people suddenly notice that time has Gone with the Wind, and say to themselves, "How quickly this week or month has passed, like sand slipping through my fingers."). This raises two important questions:

(A) How does a person deal with the certainty of death, and the passing of each second as a miniature death, the fear of which shatters life-meanings and leads to suicidal thoughts?

(B) What is the explanation for a person being overwhelmed by the fear of death, even though rational thought does not necessarily evoke this kind of emotional response?

COPING

According to the CM model, Innate Meaning enables people to cope with the certainty and finality of death, as well as with the miniature deaths that occur throughout life as the seconds slip by and disappear, one after the other. As long as people are in a state of consciousness, they constantly receive sensory stimuli that fill them with a clear sense of being alive in the present moment, of having life-meaning. They appreciate having lived until the present, experience how pleasant it is to be alive at the moment, and

anticipate continuing to live into the future. Acquired Meaning (Ordinary or Extreme) cannot erase a person's awareness of the inevitability of death, nor the sense of time passing. A person can temporarily forget these fears while engaged in daily life or striving to fulfill one's dreams (personal, social, ideological, religious). But they can never completely eliminate these fears, which repeatedly return to one's consciousness. What can successfully fight and eventually overcome the fear of time rushing by is the clear knowledge and awareness that during each of those seconds, one was alive and fully conscious, aware of light and colors, sounds, smells, the taste of a drink. In short, a person understands that those seconds were not wasted, because during those seconds the individual was fully conscious, full of life, and aware of being alive.

RATIONAL THOUGHT

Knowledge and awareness of the inevitability of death does not necessarily lead to the conclusion that one should commit suicide. Here I will state two logical arguments supporting this observation.

Inevitability of Death

In order to draw any conclusion from the inevitability of death, we must add several assumptions to clarify feelings about death. It does not seem reasonable to draw a definitive conclusion that X should commit suicide because of the inevitability of death, if X is in excellent health, wealthy, and completely satisfied with his life. However, this pessimistic conclusion can sound reasonable based on the assumption that since death is a certainty, and X is suffering terribly from a painful cancer, there is no point in continuing his current life.

"Life-Bubble"

Ordinary, normal people live in a "life-bubble," which is finite in both space and time. It can neither affect nor be affected by other places in the world or other creatures on Earth or entities in the universe. (I will refrain from discussing the fantastical possibilities associated with quantum theory, the subatomic world, and all they imply.) Based on this concept of the life-bubble, it can be suggested that the perceived meaninglessness of life due to the inevitability of death and individuals' negligible influence on the universe do not originate from a rational cognitive system, because human life is limited in time and space. Rather, it emanates from their heartfelt desires. This concept of a life-bubble requires a number of clarifications.

First, the concept of a finite temporal-spatial life-bubble necessitates the empirical generalization of BBD. The life-bubble encompasses the birth, blooming, and death of an individual. There can be no eternal life or infinite impact in space or time.

Second, this theoretical concept is similar in nature to a theoretical concept within a scientific model. Just as the concept in a model refers to a closed ideal system, so does the concept of a life-bubble refer to the closed system of a normal person. (e.g., in Newtonian physics, each planet is represented as a point of mass. The calculation of the gravitational pull between two bodies of mass does not consider the impacts exerted by other planets in the solar system.)

Third, a distinction must be made between a physical impact and a notional impact. A physical impact reflects the fact that a person lives in a certain space and time. This type of impact can be perceived through the senses, often immediately, although some kinds of radiation have impacts that can be felt years later. Theoretical calculations in physics are based on the "principle of locality," according to which the impacts between objects cannot exceed the speed of light and are limited to the immediate environment. For example, the gravitational pull of our Sun has no effect whatsoever on stars in the Andromeda Galaxy. (I will refrain from discussing the implications of quantum theory, especially the famous Einstein–Podolsky–Rosen (EPR) paradox, since it is still being debated, and no definitive conclusions have yet been made.)

A notional impact is abstract. It is transmitted to the minds of individuals via symbols (writing), art, and memories expressed in speech (as is common). A lifespan can be no more than one hundred and twenty years, at best. Human life is currently limited to the Earth (living on the Moon or other planets currently seems extremely improbable). Actually, human life is even more limited, mainly to the geographical area in which one lives. A person's actions have no impact on the actions of people in distant locations. It is difficult to assert, for example, that Mrs. Ping's choice to eat rice for breakfast in Beijing could affect Mr. Gustavo's financial situation in Argentina. It is even more difficult to assert that the alien WOW living on a planet in the "nearby" Andromeda Galaxy has any effect on the life of Mr. Gustavo. (Of course, a writer with a fertile imagination may invent a compelling story that connects these creatures.) (I will not discuss the "butterfly effect," which is associated with nonlinear systems whose development depends on initial conditions, although it would not be incorrect to say that a person can be seen as a nonlinear dynamic system.)

Fourth, I have described that a person in a life-bubble takes actions, absorbs stimuli, and learns. I must now add another dimension, related to the continuation of a person's impacts after death. This refers to impacts that are ideological,

genetic, socio-political, industrial, spiritual, artistic, related to heritage, and so on. These types of impact may have a long-term influence on people living generations after the death of the individual. Even in these cases, it would be difficult for a person's legacy to exceed the physical limitations of life on Earth, and their impact over time is limited. For example, today we know that the pyramids in Egypt and the Terracotta Army statues in China were built by thousands of people, but we know nothing about the life of any particular worker in ancient Egypt or the sculptors and their assistants in China. It is as if they did not exist. Similarly, the vast knowledge accumulated in the huge library in Alexandria at the time of the Greek Empire was destroyed when the library caught fire. Therefore, it has no effect; it is as if this knowledge never existed.

If we consider the concept of the life-bubble alongside the empirical generalization of BBD, questions arise regarding the origin of the arrogant thought about eternal life and having a major and lasting impact on the world. After all, the data lead to two fairly clear conclusions. First, a person's life-bubble is temporally and spatially finite. Individuals are not affected by what happens outside the limits of their life-bubble, and they do not affect what happens outside its limits. Second, only a tiny minority of people have any notable notional impact after their death. Soon after they die, any minor influence they did have gradually fades.

The answer to the question regarding the aspiration for eternal life must be based not on pure logic, but on irrational human thought. Why? Because the desire to have eternal life and an impact on the universe is based, in one form or another, on a refusal to acknowledge reality. X knows that his life is limited to a life-bubble that does not affect and is not affected by distant parts of the world. So how can it be explained that, despite this knowledge, X ardently wishes for eternal life and a far-reaching impact? The answer lies in humans' cognitive ability to invent models, including completely imaginary ones, which are inconsistent with reality. This ability gives tremendous pleasure, and people can become immersed in their imaginary models to the point that they forget reality.

Cognitive models can lead to accepted scientific advances, provided they are compared with reality and are found to accurately reflect it. Much of the tremendous scientific progress of our time is based on comparisons between people's cognitive models and objective reality (see Rakover 1990, 2018). I call these "realistic models." I call models that are not compared with reality and do not conform to it "imaginary models." These latter models are rooted in faith and are characterized by how people respond to them. Believers may completely ignore aspects of reality that do not fit the model. They may try to cover up any discrepancies between the model and reality by citing unfounded justifications and incomplete data that loosely seem to fit the imaginary model in which they have faith.

I would like to make two comments on these types of models:

First, following the philosopher David Hume (1888/1967), according to science, it is impossible to predict with complete certainty what will happen in the future based on past experience. (Note that the field of statistics has developed methods for predicting trends of a given population based on a sample from that population.) In contrast, people's thoughts, which are often completely irrational, produce imaginary models that foresee, with false certainty, what will happen in the future based on the past. However, this exists only in people's minds, corresponding to their wishes and desires.

Second, because of these features that differentiate between faith and science, science will never be able to fulfill the roles that religion plays. Religious belief is an imaginary model, providing believers with complete assurance that everything that happens is a perfect expression of God's intentions. Science can never provide such perfect assurance. Scientists cast doubt on their own theories and research methods. One could claim that doubt is a cornerstone of the scientific method. Every theory is viewed as a statement whose truth is only temporary.

Religions (Jewish, Christian, Muslim) are imaginary models based on beliefs such as the existence of a divine being, life after death, reincarnation, and miracles. They have no support in reality. Nevertheless, empirical studies report that religion offers believers comfort and peace of mind. They believe the world is under the supervision of the Almighty and that events are conducted according to a standard of justice, even if it is not always understood by people. Belief in God offers life-meaning to the believer (Beit-Hallahmi in press; Belshaw 2008). For example, Palgi, Shrira, and Ben-Ezra (2011) found that ultra-Orthodox Jewish Holocaust survivors were better able to cope with their horrific experiences and losses, due to the support provided by their deep faith and sense of belonging to a religious community. According to Landau (2017), numerous scholars have argued that if belief in God is false, then life is meaningless. Why? Because only belief in God promises eternal existence (mental and spiritual) and perpetual impact of people's actions, and without this belief, human life becomes meaningless and worthless. Landau's book raises a number of arguments that life can be meaningful even if religious beliefs are incorrect, because religion is only one way to create a meaningful life. The CM model comes to similar conclusions, but for different reasons.

First, Innate Meaning exists in every person from birth and does not depend on any religious belief or socio-political ideology. Second, any Acquired Meaning can provide individuals with life-meaning, just as religious belief does. Any socio-political ideology can offer its followers a type of life-meaning. However, Acquired Meanings and socio-political beliefs are not absolute or eternal. Many people become disappointed with religion and turn to a secular way of life, just as others turn from a secular way of life to

religion. Some people abandon a mundane life path for an ideology, and vice versa (abandon their ideology for a mundane lifestyle). Thus, according to the CM model, religious faith should not be seen as a necessary or sufficient condition for life-meaning. People can lead a meaningful life without religious belief (atheists, such as myself). But it can be argued that religious faith can help believers find life-meaning and a path of life.

EXPLAINING LIFE-MEANING

To explain life-meaning, this concept must be defined as accurately as possible. As can be seen from this discussion and from the professional literature on the subject, this concept is multidimensional and a clear general definition seems out of reach (see, e.g., Metz 2013; Messerly 2012; Seachris 2019). However, a precise conceptual analysis of the concept of life-meaning is not required in order to make advances in this field (Metz 2013). In the present book, I address the concept from various perspectives and present three types of life-meaning: Innate, Ordinary, and Extreme (individuals learn the latter two types of meaning, and adapt them to their own life path).

I will now attempt to explain how these three types of meanings are created. The explanation presented here is not based on the development of a neurophysiological mechanism nor on a mathematical algorithm. It is a speculative description, at the functional level, of a theoretical structure, based on two basic components.

The first component is the CM model described above (see especially chapter 3). This model assumes that consciousness is a necessary condition for all types of meanings. It is assumed that in a normal person, every MS that exists in a condition of consciousness is inspired with meaning, whose nature varies according to the type and quality of the mental representation. In other words, without consciousness, a person can have no meaning, Innate or Acquired (Ordinary or Extreme).

The second component includes three functional explanatory systems that are involved in the creation of the three types of life-meanings. They function together with the process of conferring meaning onto the MS in a person's consciousness. Thus, they largely determine the nature of life-meaning. This is based on the premise that consciousness is involved in an interactive process with the explanatory systems that address an MS. At the end of the process, this representation is endowed with a certain meaning (Innate or Acquired). The nature and content of this meaning is largely determined by the three explanatory systems that process the information represented by the MS. The ways in which the three explanatory systems are expected to contribute to life-meaning will be described below.

To develop this approach, I first describe the systems involved in constructing the meanings according to which people conduct their lives. I then explore how these systems construct the meanings under discussion. Finally, I address the question of what kind of explanatory model is needed in order to explain the creation of these meanings, and how behavior can be explained according to these types of meanings. I call the model that addresses all of these issues an Explanatory Model for Meanings (EMM).

The role of EMM is to address two important goals. The first is to provide a functional description of how explanatory systems construct the above-mentioned three types of meanings. The second is to describe how these three types of meanings explain the behavior of individuals (this description was already discussed above and in the previous chapters).

The behaviors relevant to the current case can be outlined in the following way. Life-meaning is expressed in the path a person chooses to follow in life. This type of life-meaning is expressed, in an integrative way, through all the systems and subsystems required for people to function in the environment in which they live. For example, a man may decide to study a particular profession in order to support himself and his family and provide them with the best life possible. This has enormous significance for him and his family members. Among other things, his way of life determines the quality of life for his family.

EXPLANATORY SYSTEMS: A SCHEMATIC OUTLINE

The Cognitive System

Beyond the basic processing of information that every MS undergoes (as described in any book on cognitive psychology), people activate their cognitive system in order to address their needs in terms of life path, life-meaning, and significant expenditures of effort and time. They think about it, ponder, wonder, consult, read about the subject, imagine various situations in which life-meaning is expressed, and examine whether they intend to continue in their current way of life or change it. In short, every person cognitively explores and analyzes this subject. In the existentialist philosophy and the philosophy of life-meaning, one can see the application and deep expression of the cognitive system, especially in times of crisis (as mentioned, Camus and Sartre lived through world wars).

The Emotional System

The absorption of information (whether tangible or abstract) is largely carried out through emotional processes. For example, people identify with their

parents, educators, thinkers, scientists, and religious, political, and ideological leaders. Moreover, normal people respond to life-meaning according to their degree of success in realizing it. People feel positive emotions (satisfaction, enjoyment, pleasure, and power) when they succeed in fulfilling their life-meaning. They feel negative emotions (disappointment, anxiety, depression), when they fail in this mission. Acute crises, such as the death of a family member, serious illness, or loss of livelihood, can lead people to question their way of life or life-meaning.

The Sensory System

Every person is in a state of consciousness from the moment of birth. (Obviously, many biological processes are conducted unconsciously, but I am not going to discuss them or their impact. The emphasis here is on the state of consciousness, without which there is no meaning.) People perceive stimuli and respond to them in a characteristic way. These sensations provide an awareness of being alive, a sensation instilled by the very fact of being conscious. By this, I do not mean that people are constantly aware of being in a state of consciousness or say to themselves, "How wonderful! I am alive, and my life is a great gift given to me by my parents." People spend their days dealing with mundane aggravations, often without noticing that they are in a state of consciousness. They do not constantly ask, "Is this the entire meaning of my life?" But sometimes, for one reason or another (in many cases after going through and surviving a severe trauma), a person may suddenly say to themselves, in the words of the famous jazz musician Louis Armstrong, "What a wonderful world!" Perhaps the analogy to health will help in conveying what I have in my mind with regard to feeling alive. A person does not say to him/herself all the time "Hallelujah, I am in good health," but continues with his/her life in a regular way without paying attention to his/her health condition in a way similar to the fact that one is breathing all the time. However, after recovering from a disease, one does appreciate very much the very fact that s/he regains good health. (This state of inattention to one's feeling alive, being in a good health, is probably due to the process of adaptation.)

CREATING MEANINGS VIA THREE EXPLANATORY SYSTEMS

Here I focus on the contribution of the three explanatory systems to the construction of various meanings, without describing the role of consciousness, which was explained in previous chapters. Innate Meaning is naturally imparted by the individual's consciousness whenever the sensory system

perceives stimuli. This type of meaning accompanies individuals during every moment of consciousness, providing a sense of how good it is to be alive. However, a person's attention is not constantly focused on this state of consciousness or the fundamental meaning of life or the sense of being alive. People tend to be preoccupied with the management of daily life. However, when a sudden and negative change occurs in the conduct of life or some sensory stimuli are dulled or lost, for example, impairment to one's vision or hearing, the person may suffer grief and anxiety upon realization that an aspect of life has been lost. Part of the great gift of life has been taken away. Under normal circumstances, the emotional system contributes to the meaning designated by consciousness, and the individual is filled with the positive feeling of how wonderful it is to be alive. This feeling may intensify after an individual recovers from a crisis and regains strength, or when something positive happens, such as falling in love. I do not know what mechanism is responsible for creating consciousness, and the literature review described above indicates that the mystery of consciousness has not been solved. I came to the conclusion that consciousness is a primary factor responsible for inspiring life-meaning and understanding. Beyond offering a description of this functional state, I have nothing more to add.

Acquired Meanings (Ordinary or Extreme) are obtained with the help of the cognitive system and is transformed into a way of life to be followed. Adults adapt these meanings according to their inclinations. Innate Meaning alone is not sufficient, despite its immense importance as the significant basis a person's sense of being alive, because a person is a social creature. Therefore, people must internalize, from the moment of birth, a huge amount of information, social norms, and so on, which are essential for them to adapt and integrate into the society in which they live.

Seeing a beautiful cat dozing in a tree is a visual perception of beauty that makes me aware of fact that I am alive. Without consciousness, a person is presumed to be either dead or in an artificially sustained vegetative state. (Sleep is also a certain type of consciousness, with transitions between various types and degrees of consciousness, for example, sleeping with and without dreams.) I postulate, based on evolutionary development, that a cat also has a certain level of consciousness and Innate Meaning, but does not need as high a level of Acquired Meaning as humans need. Certainly, the cat must learn how to hunt, get food, and adapt to its living conditions. He needs to mark his territory with urine, learn the hierarchy among the group of cats with which he occasionally comes in contact, and the like. That is, a cat must also learn a certain level of Ordinary Meanings in order to adapt to its living situation. I do not suppose that the cat learns the types of Ordinary Meanings in the ways that people do, such as through language, mathematics, physics, chemistry, laws of morality, and so forth. Nor does the cat

learn Extreme Meanings, such as religious, ideological, or political beliefs, via its cognitive or emotional systems. Only people acquire these, through many years of learning and training. This is how people acquire an advanced culture. As the culture becomes more advanced, the effort for learning the necessary Acquired Meanings (Ordinary or Extreme) becomes increasingly complicated.

OUTLINES OF EXPLANATORY MODELS FOR (A) LIFE-MEANING AND (B) UNDERSTANDING BEHAVIOR USING LIFE-MEANING

This section outlines the systems responsible for constructing the three types of life-meanings discussed in this book. It further offers explanations for individuals' behavior according to these meanings (as mentioned before, some explanations were given in previous chapters). It is worth reiterating that the explanations are outlined solely at the functional level and indicate the direction that needs to be taken in order to offer full explanations.

The explanations are presented at the level of an outline for two reasons. The first, as stated above and as will be discussed again below, is lack of knowledge. I do not know how the experience of consciousness is created, nor how it confers meaning and understanding. Second, I assume that, despite this lack of knowledge, what is written here is sufficient. I do not believe that a detailed and lengthy description of, for example, the system of visual perception would help us better understand the conscious experience of seeing a beautiful flower, how the meaning associated with seeing a flower makes a person feel alive, or how this is the basic Innate Meaning that the person experiences. Given this introduction and disclaimer, I can proceed to discuss the way we should explain life-meanings.

MODELS FOR EXPLAINING LIFE-MEANINGS

No mechanisms have yet been proposed describing how consciousness is formed, or how it confers meanings on mental states. Further, none of the explanatory models that are common in the natural sciences can be used to explain Innate or Acquired Meaning (Ordinary, Extreme) (see review of explanatory models in Rakover 2018). These models are justified procedures by which scientists provide explanations for various phenomena. The models common in the sciences are appropriate to the way in which, under certain conditions, objectively observable phenomena can be explained. They are not appropriate procedures for explaining behavior that expresses the inner

world of humans. For example, it is difficult to explain a person's conscious feeling upon seeing a bright red anemone or poppy. There is no well-established empirical law or generalization describing the relationship between the conscious experience of seeing flowers and the physical system of visual perception. No cognitive-neurophysiological mechanism been proposed that adequately describes this relationship.

Psychologists can only design an experiment to describe a cognitive mechanism that makes an association or correlation between the experience of seeing a red anemone and a behavioral response. For example, they may randomly project on a screen a series of color images of anemone and poppy flowers for a certain amount of time, *T*, which changes during the experiment, and document a particular motor response, such as pressing the right-hand button when a red anemone is projected on the screen and the left-hand button when a poppy appears. The stimuli and responses are considered by psychologists to be objective events. The explanatory mechanism is considered to be objective because it describes the processing of visual information in a way that is analogous to the information-processing mechanism conducted by a computer.

In truth, however, this explanatory mechanism is only a clever way of ignoring the most important component of an individual's behavior—the person's sense of consciousness and the Innate Meaning, the sense of being alive, which is intertwined with the perception of a stimulus (color). Personal subjective feelings have no place in the methodological approach developed in the natural sciences and borrowed by psychology (behaviorism, cognitive psychology, neuro-cognitive psychology, and physiological psychology). In the explanations proposed in the sciences, there is no place for the private world of the individual. Similarly, there is no place in psychology for the consciousness and meanings of each individual. Just as the Earth does not move around the Sun at Newton's whim, but rather according to the law of gravity that he discovered, so also a person's behavior must be explained according to a theory describing behavior in certain situations, without reference to that person's inner world.

This rigid methodology is unsuitable for research of human consciousness and life-meaning. It is no wonder that when the research methodology of the natural sciences is applied to psychology, and especially to aspects of consciousness, something nonmethodological occurs. The strict boundaries and definitions of the theoretical concepts and processes as they appear in the natural sciences become loosened. For example, the concept of information is well-defined in the sciences (e.g., in physics or in the computer sciences). However, in psychology, the concept of information has become breached and is completely undefined. In fact, this concept applies to almost everything: various types and contents of stimuli and responses, and also the

processing of information by the cognitive system (see discussion in Rakover 2018).

INNATE MEANING

What is the appropriate EMM needed to explain the creation of Innate Meaning? As in the brief discussion above, I repeat that I have no clear answer. In this particular matter, I can only examine and analyze the CM model. In this way, it is possible to gain some impression about the nature of the procedure that should be used to offer an explanation of Innate Meaning. The CM model offers a preliminary functional diagram that can be used to answer questions about the construction of this type of meaning. The basic assumption is that consciousness is a primary explanatory factor, and functions as a necessary condition for the acquisition of Innate Meaning. Under normal conditions, consciousness bestows sensory stimuli with Innate Meaning. It is assumed that the sense of being alive is integral to the perception of these stimuli. In some cases, awareness of the meaning of being alive is sharpened, such as when an individual overcomes a severe crisis, or when the person is undergoing a major emotional awakening. Moreover, Innate Meaning stands out when an individual enters a period of crisis that undermines Acquired Meaning (Ordinary or Extreme).

From this description, it follows that the explanatory model required to address life-meaning must devote attention to the neurophysiological processes related to the subject in question, as well as to processes related to how consciousness bestows meaning and understanding to representations in the individual's mind. As we shall see below, the only explanatory model that attempts to theoretically connect and unify neurophysiological processes with processes that appear in consciousness is a model I developed: The Methodological Dualism (MD) and the Multi-Explanation Framework (MEF) (Rakover 2018). Before I briefly summarize the MD and MEF model and show its connection to the problem of life-meaning, I must discuss Acquired Meaning (Ordinary, Extreme) in order to build a complete picture of life-meanings. These Acquired Meanings are created and function alongside other important cognitive processes.

ACQUIRED MEANING (ORDINARY, EXTREME)

This meaning is transmitted to individuals by society through its various agents and representatives (parents, teachers, educators, leaders, commanders, friends, spouses, etc.). Individuals acquire various life-meanings that

allow them to adapt and integrate into the society to which they belong, contribute to it, and help realize its goals. In this regard, I would like to emphasize a few important points. First, individuals are taught in diverse ways, which include learning through the use of reinforcements and punishments, imitation, identification with key figures (parents, friends, teachers, commanders, leaders), lectures, books, experiments, and simulations.

Second, the contents that individuals learn, acquire, and internalize are similarly diverse, and typify their societies and cultures. Moreover, content appears in different forms: speech (mouth-to-ear), writing, visual portrayals of people and landscapes, movies, and so on. Thus, it can be suggested that the explanatory model, the procedure by which we try to explain the acquisition of life-meaning must address the many and varied factors noted here. These multifaceted factors can be understood as follows. On the one hand, society has an interest in its members acquiring certain life-meanings and rules of behavior that will help them achieve its goals. On the other hand, individuals are interested in learning what society offers, because this will help them realize their own goals. (As stated, individuals can choose, according to their natural inclinations, from among the paths that society offers, once they are old enough to stand their ground, rationally and emotionally.) In both cases, one explanatory pattern emerges, a purposive explanatory model that takes into account social and personal goals, and offers an explanation for the behavior of the individual. I suggest that the aforementioned purposive explanation model, the MD and MEF model that I have developed over the years, may best address Acquired Meaning (Ordinary, Extreme) and Innate Meaning (see summary and discussion in Rakover 2018). First, I briefly explain why the MD and MEF model should be used. Then I describe this model in some detail. Finally, I apply it to the problem of life-meaning.

WHY USE THE MD AND MEF MODEL?

It is difficult to deal with Innate Meaning using a teleological model, because Innate Meaning is automatically designated to any MS that exists in a state of consciousness and represents sensory stimulation (sensory MS). Innate Meaning is an intrinsic part of the evolution of humans (and higher animals that are endowed with a certain level of consciousness). I do not believe that a teleological explanation can be offered for consciousness, which is interwoven with meaning and understanding. I believe that the evolutionary explanation in this case is good and satisfactory. As an illustration of this we will consider the following example. David sees a red anemone flower. His conscious perception of the beauty of the flower gives him a sense of being alive. It is difficult to offer a purposeful explanation for why seeing

the flower and perceiving its beauty makes David feel alive. This is because (among other reasons) a large number of people are preoccupied with daily life and are unaware of the flower's beauty. They do not concentrate on the life-meaning designated to their consciousness when they see a flower.

The professional literature that discusses models of purposive (teleological) explanations does not address the component of consciousness, which, in my view, is the primary factor in understanding human behavior (and that of higher animals). Teleological models address the methodological difficulty in understanding how a future event can affect an event in the present time. It is clear that World War II did not in any way affect the assassination of Julius Caesar or the conquests of Alexander the Great or the destruction of the First Temple in Jerusalem by Nebuchadnezzar's army. The fundamental question of interest to philosophers, such as Nagel (1961), is how to transform a teleological explanation into a methodologically acceptable causal explanation. For example, the purposive (teleological) question, what is the heart's function? should be replaced with the causal question, why is this specific component, the heart, part of the circulatory system of the blood? A purposive answer would be: the heart's role in the circulatory system is to pump blood through the arteries (which carry oxygen-rich blood from the heart to the body's tissues) and the veins (which carry blood back to the heart). This explanation can be translated into a causal explanation: the action of the heart is a necessary condition for blood flow in the circulatory system, and therefore the heart exists in all creatures with a circulatory system. However, the heart is not a necessary condition, because the blood can be circulated by other means, such as an artificial heart or an out-of-body machine that pumps blood through the circulatory system.

This attempt to translate a teleological explanation into a causal explanation that answers the question of Why has failed. Instead, the following approach suggests translating a teleological explanation into a causal one by addressing the question of How: How does a specific component contribute to the proper functioning of the system as a whole?

The philosopher Cummins (1975, 1983) suggested answering this question with what he called "functional analysis." Functional analysis examines how the various components organized in a given system operate, so that as a whole the system functions as needed, and produces its proper outcomes. An industrial production line, computer software, and physiological processes in the animal body can all be functionally analyzed. Each of the system's components can be broken down into sub-components. This process ultimately yields the simplest, most basic component, which cannot be further broken down. This idea of analysis of a complex system as an organized collection of basic components has been applied to cognitive processes. Dennett (1979) suggested that a cognitive process can be broken down into

its various components, and these components into sub-components, until one reaches the most basic and simple neurophysiological component in the brain, in the same way that it is possible to disassemble a computer's infrastructure into its most basic components. A computer has components that function as binary units (zero and one) connected to an electrical system in such a way that zero indicates there is no current and one indicates there is a current.

Can this process of breaking a system down into its component parts provide an explanation describing how a cognitive or mental process is anchored in the neurophysiology of the brain? The answer is negative (see chapter 4). One of the problems with this approach as a neurophysiological explanation for cognitive processes is that this decomposition process does not always follow a path from the complicated to the simple (e.g., as seems to be the case in a computer). On the contrary, this decomposition process leads from the complicated to the more complicated. Even the dissembling of a computer into increasingly simple components eventually leads to the subatomic world, and the enormous complexity associated with it, for example, the miniaturization of electronic components such as the transistor and the complicated theory underlying its creation (in 1956, Bardeen, Brattain, and Shockley received the Nobel Prize for inventing the transistor).

Inspired by the ideas of Cummins (1975, 1983) and Dennett (1979), a number of contemporary researchers have developed a mechanistic explanatory model primarily designed to treat physiological processes. It has also been applied to cognitive functions (see, e.g., Bechtel 2008, 2009; Rakover 2018). The basic idea underlying this mechanistic explanatory model is that the behavior of a particular system can be understood by breaking it down into its components, each of which have distinct functions, and which are organized so that their combined activity produces the behavior that is being explained. I previously described (Rakover 2018) a simple example of such an explanation: the operation of a flashlight. This system can be disassembled into its components (battery, light bulb, etc.), each of which has certain functions. The interaction between these components enables the behavior in question: the production of light.

Application of this explanatory model to cognitive psychology encounters a fundamental difference between a mechanistic explanation of a physiological activity and an explanation of a cognitive, mental activity. The explanatory model in psychology is an information-processing mechanism. This mechanism, which is based on computer activity, is mechanistic and therefore it can be categorized as similar to explaining a physiological process in the brain that describes activities related to chemical and electrical transformations. In comparison to these transformations, the cognitive mechanism of memory describes transformations related to information processing (e.g.,

translation from visual to verbal information, storage in short- or long-term memory, and information retrieval processes).

Can an information-processing mechanism address behavior that is saturated with consciousness, meaning, and understanding? As I explained earlier, the answer is negative, because a mechanistic explanatory model for the processing of information is not based on components related to an individual's will, beliefs, intentions, and consciousness. This model is analogously based on the activity of a computer, that is, on physical and chemical processes. Therefore, this explanatory model, by its very nature, is not suitable for dealing with consciousness-interwoven behaviors.

It can be suggested that human behavior is based on two types of processes: mechanistic and mentalistic. Mechanistic processes are automatic and not consciously controlled by the individual, such as the activity of the nervous system, digestive system, or neurophysiological activity in the brain. Mentalistic processes are based on consciousness, meaning, understanding, desire, and belief; that is, the inner world of the individual. For this reason, it is difficult to claim that a complete explanation of human behavior can be obtained only using explanatory models borrowed from the natural sciences; that is, explanations related to mechanistic processes. In order to offer a full explanation, it is necessary for scientists to also use mentalistic explanations that are related to processes of consciousness. This conclusion leads straight to a discussion of the MD and MEF model.

BRIEF DESCRIPTION OF THE MD AND MEF MODEL

Methodological Dualism

The basic idea behind MD is that in order for a mentalistic explanation, using concepts relating to the individual's private world (desires, beliefs, and consciousness), to be accepted by the scientific community, it must meet the methodological requirements of a scientific explanation (at least, for the most part, the important aspects). I assert that the following model of purposive explanation, the procedure for providing a teleological explanation, with the help of the mentalistic concepts of will and belief, does in fact meet important methodological requirements of the sciences. We can examine this procedure, which will be indicated as:

[Will/Belief]: If X wants G and believes that behavior B will realize his or her wish, then X will perform B.

As an illustration, let us consider the following example. How do we explain the fact that David drove his car from Haifa to Tel Aviv? The explanation offered according to [Will/ Belief] is: David wanted to meet with

Ruth who lives in Tel Aviv. He believed that traveling in his car from Haifa to Tel Aviv would fulfill his wish. Therefore, David drove from Haifa to Tel Aviv. However, this explanation raises a problem, since the explanatory concepts are related to David's inner world, his consciousness, will, belief, and intention. Thus, the question arises of whether this type of explanation meets important methodological demands of science. I have proposed that the answer is affirmative (Rakover 1997, 2007, 2011/2012a, 2011/2012b, 2018). The [Will/Belief] model includes the following features of a scientific explanation: (a) the model is a general procedure; (b) it emphasizes the rationale or reasons for the behavior; (c) it is based on practical, rational considerations; (d) the model allows for empirical testing of the specific prediction (David will travel to Tel Aviv); and (e), the model's procedure for explanation is not affected whether the specific prediction (David will travel to Tel Aviv) fits or does not conform to reality (i.e., the empirical test is related to a scientific theory and not to the explanatory procedure itself).

This last point is of great importance, since the explanatory procedure (and the procedure intended for conducting an empirical test) cannot be itself empirically tested! What can be empirically tested is only the specific purposive theory, which is judged according to the empirical correctness of its prediction. It follows that it will be difficult to treat [Will/ Belief] as a psychological law that can be empirically confirmed or refuted, as suggested by a number of researchers (see discussion in Rakover 2018).

Here I must make an important remark regarding the explanation of [Will/ Belief]. This explanation has long been discussed in the philosophy of mind. It also has great importance in creating empirical models in the fields of social psychology and decision making (see, e.g., Coombs, Dawes and Tversky, 1970 on decisions and subjective probability; and Fishbein and Ajen's, 1975, Theory of Reasoned Action [TRA]).

My approach to this matter differs from these empirical models. This can be summed up in two contributions in the philosophical-methodological field. First, I have shown that [Will/Belief], as an explanatory model, meets the accepted crucial methodological requirements of science. Second, I propose a new approach to constructing a psychological theory based on two types of explanatory models: mechanistic (explanations that are accepted in the natural sciences) and mentalistic (explanations based on the inner world of the individual, such as will and belief). In contrast, the psychological approach to will/belief is focused not on the philosophical aspect, but rather on constructing empirical explanatory models for predicting behavior based on these concepts of will and belief.

As an example, we will briefly examine the TRA model. This model was designed to improve the prediction of behavior on the basis of the individual's viewpoint. The TRA attempts to predict an individual's behavior based

on several subjective explanatory factors: beliefs, attitudes, norms, and inten-
tions. Behavior depends on the individual's intention to perform the required
behavior. This intention is dependent on two other factors: (a) individuals'
attitude toward the behavior, as expressed in the strength of their belief in
the behavioral outcomes and (b) the subjective norm associated with the
behavior in question, which is expressed in the individual's perception of the
socio-normative pressure regarding whether or not to perform the behavior
in question.

Although this model has received empirical support, it has drawbacks.
For example, its application to new areas of research requires many adjust-
ments and changes. Any intention to accomplish a particular goal stands on
uncertain ground. Not all behaviors are determined by previous intentions. A
large portion of people's behavior becomes automatic over time and is not the
result of logical considerations.

Multi-Explanation Framework

The basic idea behind the MEF is that a full explanation of an individual's
behavior requires both a mechanistic explanatory model and a mentalistic
explanatory model. The MEF provides a way of constructing a specific
theory to explain a specific behavior based on both mechanistic and mental-
istic processes. For example, David decided to pour himself a cup of hot tea.
The chain of behaviors, in which he goes to the kitchen to pour the cup of
hot tea, includes mentalistic elements: a desire to drink tea, a decision to go
to the kitchen, and so on. It also includes mechanistic elements: retrieving
relevant information from his memory, activating his leg muscles to walk to
the kitchen, performing the task of infusing the tea in hot water, and so on.
The MEF provides a procedure for constructing a specific theory that offers
an explanation for the behavior under investigation, based on the use of
these mechanistic and mentalistic models of explanation. This procedure is
founded on correspondence between the type of explanatory model (mecha-
nistic, mentalistic) and the type of behavior being studied (matching explana-
tion and behavior). The [Will/Belief] model is suitable to explain the belief
that infusing tea in water will fulfill one's desire to drink tea. A mechanistic
model based on a specific neurophysiological mechanism is necessary to
explain the extraction of information from memory and the operation of the
muscular system to walk to the kitchen and prepare the cup of tea.

The MEF offers a number of guides and indicators for how to prepare or
adapt an explanation of a behavior (see, Rakover 2018). One of these indica-
tors is called the principle of explanation-behavior matching. It deals with
behavior that can be broken down into several components. For example, the
general behavior A can be broken down into its behavioral components a_1,

a_2, a_3. The principle suggests that if behavior A is explained by a mechanistic explanatory model, then its components a_1, a_2, a_3 must also be explained using a mechanistic model; however, if behavior A is explained by a mentalistic explanatory model, then its components a_1, a_2, a_3 have to be explained using either a mentalistic or a mechanistic model.

The MEF further explains how a specific theory based on two different models of explanation can be empirically tested. Additionally, it offers a general theoretical framework for organizing the specific theories underlying the two types of explanation discussed above. In most cases, a general broad behavior is explained using a mentalistic model. This general behavior is broken down further into mechanistic or mentalistic behavioral units (see Rakover, 2018).

The Relationship between the MD and MEF Explanatory Model and Life-Meaning

The basic idea of present section is that the MD and MEF model provides a framework for explaining Innate and Acquired (Ordinary, Extreme) life-meanings, and also for understanding how these meanings are crucial and necessary aspects of explanations for a person's behavior. In both aspects of this proposal, the concept of consciousness is of immense importance as an explanatory concept. To the best of my knowledge, the only explanatory model that is essentially based on consciousness, and that gives consciousness a crucial place as an explanatory factor of behavior, is the MD and MEF model.

INNATE MEANING

The present model incorporates mechanistic and mentalistic processes. Therefore, the following ideas can be proposed as factors for the creation of Innate Meaning, and its appearance in people's consciousness. The MD and MEF explanatory model can handle the cognitive-neurophysiological process necessary to treat the appearance of an MS in consciousness. At the same time, in addition to a mechanistic explanatory process, a mentalistic process can be proposed, based on the fact that consciousness is a primary explanatory concept for conferring meaning and understanding on an MS. This Innate Meaning is based on the assumption of the evolutionary development of consciousness (evolution is explained mechanistically) and the assumption that consciousness is a primary explanatory concept. That is, consciousness bestows a sense of meaning (of being alive) that is interwoven into the perception of sensory stimuli by humans as well as by

higher animals. As can be seen from this outline of the creation of Innate Meaning, a number of processes are involved in its formation, some of which can be classified into the category of a mechanistic explanation and some into the category of a mentalistic explanation. In my view, a purely mechanistic explanation cannot offer a full explanation for the relationship between the onset of an MS as a representation of a stimulus, the processing of the information of this MS, and the interaction between the MS and consciousness as a necessary condition for imparting meaning and understanding. (It is worth reiterating that a mechanistic model includes both a neurophysiological model and a cognitive explanatory model, because this latter model is based on the theory underlying the activity of a computer. See Rakover 2018.)

Since previous chapters of the book addressed at length how behavior can be explained by Innate Meaning, I will now only briefly summarize the main points. Innate Meaning is expressed in the awareness of the content of the sensory stimulus (sight, hearing, smell, taste, touch, sex, etc.) intertwined with an individual's feeling of being alive. For example, I see the blue sky, and through the fact of this sight, I know I am alive, and the feeling of being alive is wonderful. However, people are not conscious of these feelings during every second of exposure to sensory stimuli, but rather tend to be focused on other things that preoccupy them. In fact, people become aware of how precious these normal feelings are only when they realize that they are about to be diminished or lost. Innate Meaning serves as a kind of immune system protecting against negative emotions such as disappointment and depression. It allows people to transition from one way of life to another. Innate Meaning, then, provides a satisfactory explanation for the general phenomenon that the vast majority of people clings to life with all their might and do not wish, in any way, to end it. The primary, basic, and profound reason for this is that people do not want to lose everything related to the awareness of sensory stimuli. People wish to perpetuate the enjoyable perception of stimuli, and the sense of aliveness intertwined with this perception, which is, in fact, the most incredible of all. A mechanistic explanation model cannot adequately address all these kinds of behaviors. Why? Because it is assumed reasonably that consciousness plays a necessary role, and Innate Meaning is based on conscious sensations, which require use of a mentalistic explanatory model as well. To illustrate this kind of mentalistic explanation, we may consider the following simple explanation, which shows the protective role Innate Meaning plays in helping David get through a life crisis:

Premises:

(1) Innate Meaning developed in humans through evolutionary processes,
(2) Innate Meaning helps people overcome disappointments and depression,

(3) David underwent a severe disappointment because his beloved girlfriend abandoned him.

Conclusions:

(1) David is endowed with Innate Meaning.
(2) The Innate Meaning bestowed on David helps him overcome his severe disappointment.

Prediction (based on the conclusions): Eventually, David will return to the normal course of his life and begin dating other women.

It seems to me that this kind of explanation, which does not concentrate on mechanistic (cognitive, neurophysiological) processes but rather on mentalistic processes, that is, Innate Meaning based on sensations arising from conscious perception of sensory stimuli, is the most appropriate explanation for David's behavior. He overcame depression that resulted from being abandoned by his beloved.

It is worth emphasizing here that one of the things that close friends can do for a depressed friend is to visit frequently to talk, to get the person out of isolation, out of the house, to restaurants, movies, and so on. The interpretation I attribute to these good deeds is that friends can expose the depressed person to Innate Meaning. They expose him to life, while being with him all the time and thus providing him with protection. It is as if they are saying, "We will protect you from the evil spirit that has taken hold of you. Together we will go to the beach to enjoy the blue sky and the smell of the fresh air."

ACQUIRED MEANING (ORDINARY, EXTREME)

Acquired Meanings are transmitted to the individual from birth by educators, parents, teachers, friends, partners, spouses, and so on. The basic premise is that newborn babies need to acquire a large and varied number of meanings, lifestyles, values, and so on, which they internalize according to their abilities, so that they can integrate into the society to which they belong. These meanings pass (a) from the consciousness of educators (b) via diverse means of communication (speech, reading, visual presentation, etc.) (c) to learners, who acquire abstract ideas that help them adapt to, contribute to, and improve the world in which they live. They acquire these ideas through various ways of learning (by watching and imitating, teaching accompanied by rewards and punishments, etc.) and refer to them accordingly, based on their inclinations and abilities. Individuals try to realize, with varying degrees of success,

whatever they are learning, with the supervision and encouragement of their educators.

As can be seen from this short summary of Acquired Meaning, the corresponding explanatory model is fundamentally based on processes at the mentalistic level. Therefore, it can be suggested that the appropriate explanatory model is the [Will/Belief] model. The educator is interested in teaching the student and believes this goal can be achieved with the help of a particular teaching tool, and therefore, the educator utilizes this tool. This model may also be used in the case of explaining behavior via the concept of Acquired Meaning.

As an illustration, we will analyze the following simple example. David is the father of Jonathan, who has reached adolescence. David wants his son to learn how to drive a car. He believes that the way to fulfill this desire is by enrolling his son in a driving course at the highly regarded "Safe Driving" school. Jonathan, for his part, ardently wishes to learn to drive. He also believes that the way to fulfill his desire is to enroll in the "Safe Driving" school. Both of them wish to realize an Ordinary Meaning that is prevalent in their society: in order to integrate into modern society, the adolescent should, at the appropriate age, learn to drive a car. The success of the son in this task is of great significance to the father and certainly to the son.

It is worth noting that this seemingly simple goal-based explanation, which is in line with the life-meaning and way of life that is accepted in the society in which David and Jonathan live, is based on previous teachings and skills (such as motor skills, vision, hearing, information processing that is analogous to computer processes, and so on), most of which can be explained using a mechanistic model. All explanations of the components of the behavior in question, whether they require a mentalistic explanation (e.g., learning the rules of road driving) or a mechanistic explanation, are well-organized (in a hierarchical complicated manner) and can be explained with the help of the teleological mentalistic explanation, the [Will/Belief] model, which is a part of the MD and MEF explanatory model.

Once Jonathan has successfully passed the driving test in accordance with the laws of his country, it will be easy to explain his subsequent behavior, driving his father's car so he can take his girlfriend Ruth to the movies and a restaurant, by citing Ordinary Acquired Meaning and with the support of the [Will/Belief] model. We can explain Jonathan's behavior in this way: Jonathan wanted to celebrate getting his driver's license together with his girlfriend Ruth. He believed that inviting her to a movie and a restaurant would fulfill his wish. Therefore, Jonathan implemented the norms of his

society, and drove his father's car to take Ruth to the cinema and restaurant. Is it possible to explain this normal behavior with the help of a mechanistic explanation alone? The answer is negative. Jonathan's behavior is based on elements that require a mentalistic explanation.

The following table 7.1 summarizes the MD and MEF explanatory model and its relationship to life-meaning, which explains one's behavior.

Table 7.1   The MD and MEF Model

Methodological Dualism (MD): Methodological dualism essentially proposes that a mentalistic explanation model, that is, the purposive (teleological) explanation model, meets the main methodological requirements for a scientific explanation.

Multi-Explanation Framework (MEF): This framework offers means of developing a specific theory to explain a particular behavior, based on two types of explanatory models: mechanistic (accepted in science and psychology) and mentalistic (based on the inner world of the individual).

The Relationship of the MD and MEF Model to Life-Meaning: Since the current model of explanation is based on both mechanistic and mentalistic explanatory models, the following can be proposed:

1. Innate Meaning can be explained using mechanistic explanations related to mechanisms of sensory perception, along with the help of a mentalistic process of consciousness, which endows meaning and understanding;
2. Acquired Meaning can be explained by referring to the mentalistic, purposive (teleological) model;
3. The connection between consciousness and life-meaning can be explained by using both of these types of explanatory models;
4. The various types of life-meanings address individuals' behavior, which is largely intertwined and saturated with consciousness, can be explained by using the MD and MEF model.

Discussion

Comparison of the CM Model with Other Approaches to the Problem of Life-Meaning

To make a comparison between the various approaches to the question of life-meaning addressed by the CM model, I focus on and refine four fundamental features of this model, which I have discussed throughout the development of this model in the present book, in one form or another. Finally, the chapter discusses the relationships between life-meaning and scientific progress and evolution.

THE ESSENCE OF THE CM MODEL

The CM model is based on three types of meanings: Innate, Ordinary, and Extreme. These meanings are conferred on the various representations in a person's mind via consciousness, which is a necessary condition for meaning and understanding. Innate Meaning serves as a kind of immune system (immune meaning) against the loss of life-meaning. Humans cling to life so as not to lose their sense of being alive, which is an important and fundamental aspect of life-meaning. However, it is Acquired Meaning, transmitted to individuals by society, which offers guidance and direction for what people must do to be fully and beneficially integrated into the society to which they belong. Thus, society offers its members a scale by which they can evaluate their chosen lifeway as good/ bad, effective/ineffective, moral/immoral. Without Acquired Meaning, people will, like the mythological Ariadne, lose the thread that orients them within the maze of life, and will not know what choices to make regarding how to live. (It is worth emphasizing that a lifeway is not judged as right/wrong, true/false, but rather according to the effectiveness of the realization of its goals, that is, as good/bad, effective/ineffective.)

LIFEWAY

Life-meaning necessarily includes the lifeway, that is, the practice of one's life, the rules of conduct, values, and norms by which individuals conduct their lives. It would be difficult to claim that Acquired Meanings are not directed at the way individuals conduct themselves within a given society, because the purpose of these meanings is to help individuals integrate into and contribute to the society to which they belong. At the same time, Innate Meaning is also connected to the ways in which people conduct themselves. For example, it is clear that individuals' behavior may be determined by their purpose of pursuing the pleasures of the senses, that is, when Innate Meaning becomes the sole purpose of life. However, even if individuals do not actively pursue such pleasures, they are not indifferent to Innate Meaning, because every second that they are conscious, they feel alive. Therefore, in one way or another, their lifeway is greatly affected by this state of consciousness. Basically, Innate Meaning provides one with the desire to live, to feel alive; without this, it is hard to see how one will cope with the efforts and suffer-ings involved in the realizations of the Acquired Meanings. People's eyes are opened to the immense importance of Innate Meaning when they find themselves in situations in which this meaning is taken from them, even par-tially and temporarily. One can therefore conclude that if life-meaning is not expressed in a lifeway, then this concept becomes a vague and trivial concept with no connection to people's real life or inner world.

GENERAL TEMPLATE

The CM model does not specifically declare any life-meaning as the only one or the desirable one. It does not state that life-meaning is found in: belief in God, individual self-fulfillment, starting a family, accumulating wealth, pur-suing happiness, maintaining health, the process of following a path to the fulfillment of a goal, the fulfillment of the goal, the full experience of every moment in life, the pursuit of pleasures, solitude accompanied by reflections on self-discovery, etc. In other words, the CM model does not describe any particular condition, or say that all people who conduct themselves according to lifeway *A* will achieve significant life-meaning.

This model, therefore, does not purport to offer a specific interpretation of the question: What is life-meaning? Therefore, the question that immediately arises is, why? The answer is this: because each and every society may offer its members different life-meanings, based on reasons and justifications that arise from its culture and social, political, economic, and military status. Beginning at birth and continuing throughout life, society transmits to its

members Acquired Meanings, values, rules of conduct, moral norms, etc., which individuals must fulfill, taking into account their personal inclinations. When individuals deviate from Acquired Meanings, society defends itself, within certain limits, by using rewards and punishments. (One of the severe punishments for deviating from Acquired Meanings is the limiting of Innate Meaning by imprisoning the culprits.)

As a general example of how Acquired Meanings are dependent on society and culture, we will examine the dramatic changes that have taken place in the modern period as a result of tremendous technological developments in transportation, communication, medicine, housing, management of family life, etc. Technological developments in these areas have completely changed the life-meanings of individuals in comparison to those of the days of ancient Greece or Rome, or the Middle Ages. For example, life expectancy has almost doubled since those days. This has provoked moral problems that did not exist in the past, such as the dilemma of using euthanasia in cases of extremely elderly people whose life has become unbearable, yet can be prolonged with advanced medical technology.

The CM model, therefore, is a general template, schema, into which different specific values and goals can be placed. This attribute is especially true in the case of Ordinary Meaning and Extreme Meanings. As stated, each society may offer individuals various types of specific Acquired Meanings. As an illustration, we will look at means of transport. During the Middle Ages, learning to ride and care for a donkey or horse was an important part of a person's way of life. Today, learning to drive a car is an important part of life for a free person in the modern world, where spatial movement is virtually unlimited. Horseback riding has become an entertaining sport in the modern world.

Even Innate Meaning can be viewed as a template, albeit one that is limited to the realm of sensory stimuli, such as the five senses, sexual pleasure, pain, relaxation, and so on. (Usually in everyday life, the conscious person is focused primarily on the sensations of visual and auditory stimuli.)

In this respect—namely, the generality of the CM model—one may suggest that the present model differs from the psychoanalytic approach (see review and discussion in Thornton, 2020). The Freudian psychoanalytic approach offers a specific structure of personality, based on defined stages of development and three specific systems that struggle among themselves: the id, the ego, and the super-ego (conscience). The CM model, in contrast, can be seen as a proposal for a general structure of human personality based on life-meanings.

Consistent with this idea, I wish to point out two main differences between the CM model and the Freudian approach. The first difference is that according to the CM model, human behavior is explained via three types of

life-meanings. Of these, only Innate Meaning is defined by sensory stimuli, whereas Acquired Meaning is a general and broad concept that may entail various values and behaviors, depending on the culture to which the individual belongs. The Freudian approach offers a personality structure based on specific systems that have defined interactions. For example, according to the psychoanalytic approach, the super-ego is the result of the internalization of social values that activate mechanisms to forbid, inhibit, or repress the id's passions and impulses (e.g., aggression and violence). According to the CM model, in order for individuals to be well-integrated into the socio-economic-political fabric, Acquired Meanings mainly include positive values and guidelines on how to behave and what to do, as well as, of course, various prohibitions telling individuals what not to do.

The second difference is that, while the psychoanalytic approach emphasizes the importance of unconscious processes in explaining human behavior, the CM model emphasizes the importance of consciousness as a necessary condition for both types of life-meaning and the individual's ability to understand them. That is, without consciousness, life has no meaning and cannot be understood. Without consciousness, an individual has no personality and is nothing more than a vegetable.

LIFE-BUBBLE

For any individual, the CM model applies to a lifespan that is limited within a particular temporal and spatial domain. This life-bubble, therefore, delineates the boundaries within which what a particular person does can be explained using this model. As we shall see below, other approaches to the question of life-meaning (apart from religious belief) can be seen as implicitly based on this realm of an individual's life-bubble. It follows, therefore, that all questions about life-meaning that are not limited to the bubble of human life are nothing but questions arising from imaginary desires, not based on reality, such as eternal life bestowed by the grace of God.

Given the above, let us now compare the CM model with other approaches to the subject of life-meaning.

SUBJECTIVE APPROACH

According to this approach, a meaningful life depends on individuals' will, the fulfillment of the goals they set for themselves, and achievements that they perceive as having great importance. This approach raises significant criticism (see, e.g., Messerly 2012; Metz 2013; Seachris 2019). For example,

individuals can create or adopt a way of life and socio-political ideology based on hatred and murder of others, as for example, in the horrific example of Nazi Germany, which offered an unbearable and destructive life-meaning. I will not expand on this, but rather I will focus on comparing the CM model with Sartre's approach. According to Sartre, only the individual determines the meaning of his or her own life. He writes:

> Man is not only that which he conceives himself to be, but that which he wills himself to be, and since he conceives of himself only after he exists, just as he wills himself to be after being thrown into existence, man is nothing other than what he makes of himself. This is the first principle of existentialism. (Sartre 2007, 22)

He continues:

> And when we say that man is responsible for himself, we do not mean that he is responsible only for his own individuality, but that he is responsible for all men…When we say that man chooses himself, not only do we mean that each of us must choose himself, but also that in choosing himself, he is choosing for all men. (ibid, 23–24)

The CM model does not claim that the entirety of life-meaning is implanted in people by external forces, or that people have no determination regarding how to conduct their lives. The argument of the CM model is that individuals do determine the meaning of their life, but not in the totality to which Sartre refers, as for example, his declaration that one individual's choice is the choice for all human beings.

First, according to a basic trait of the CM model (see above), not all life-meanings are subject to the person's choice, because a significant portion of these meanings is innate. Innate Meaning emerges from the conscious perception of sensory stimuli, which are represented by different mental states. This is the fruit of evolutionary development—that is, the meaning bestowed upon us automatically by nature. I find it difficult to see how a normal person would voluntarily try to eliminate or diminish Innate Meaning, such as by trying to blind oneself, destroy one's sense of hearing, or abstain completely from sex. The opposite is true; after a person goes through a severe physical or mental crisis during which Innate Meaning is damaged, then returns to normal life, that person's appreciation for this meaning increases immensely.

Even Ordinary and Extreme Meanings are not fundamentally the private creation of each person. These meanings are created by a community of human beings (tribal leaders, the nation) and transmitted to individuals, who learn them and relate to them as their lifeway. Even this process of learning

and internalization, which begins at birth, is not completely given over to individuals' free choice. In order to make a choice rationally, individuals must base their choice on prior knowledge that was learned and internalized.

I have suggested thus far that children first acquire various life-meanings as an infrastructure that shapes their social, emotional, and cognitive character, that is, their personality. However, Acquired Meanings are not always consistent with individuals' perception of reality, or people may have difficulty in realizing these meanings. This results in a contradiction between individuals and the various meanings. Only following awareness of this contradiction, may individuals criticize certain life-meanings, try to change them, or even rebel against them. This happens, for example, when a religious person becomes secular and vice versa, or when a person moves away from a particular political or social ideology.

In summary, although the CM model in no way negates the importance of individuals in shaping their own life-meaning, the model drastically lowers the contribution of their free will in shaping life-meanings. The model attributes this contribution to automatic processes that deal with sensory stimuli (Innate Meaning), as well as to society, which transmits life-meanings from birth, so that its members can become well-integrated into the social fabric (Acquired Meaning).

OBJECTIVE APPROACH

According to this approach, a meaningful life is related to natural states and traits that have objective value, independent of the subjective assessment or desires of the individual. The significant, unsolved problem with this approach is the delineation of situations, actions, and traits that have objective (positive) values. To illustrate this, we will look at the following example, which opposes the objective approach to the subjective one, in which objectivity is determined on the basis of general agreement. We will compare the (normative) life of Pensioner A with the life of Chemist B. Pensioner A lives with his wife of many years. They have a pleasant, peaceful life. He was once a clerk at the bank branch in his neighborhood, and now he lives on a reasonable pension. They have two children who migrated to other countries and who occasionally call their parents to say that everything is fine and to hear that everything is fine. It may therefore be suggested that to many people, this couple seems to be living a fairly happy life, but one devoid of meaning. Despite the fact that they played their part in the evolutionary continuation of the human race, and did not in any way harm the society to which they belong, it cannot be said that they contributed anything to society, or to art, industry, science, or civic management. If they are asked if they think their

lives are meaningful, they will say without hesitation: Certainly, it is good and pleasant for us now, and this has been the situation for many years.

In contrast, Chemist B is an aging bachelor who works as a director of research laboratories at a large pharmaceutical company. Dozens of patents are registered in his name for medical discoveries that have made major contributions to the treatment of many diseases. He has received awards and medals of excellence for his great contribution to the curing of diseases and the well-being of thousands of patients. It can therefore be said that, in the eyes of many, the life of Chemist B is of great significance, even though the man does not live a happy life. He is lonely, without a family or social life. He is entirely devoted to his work, which is of immense importance. If B is asked if his life is meaningful, he would say emphatically: No. My work is a job, a livelihood, but my life is worthless and miserable, without liveliness.

What emerges from this example is that the subjective assessment of the individual (positive in the eyes of A and negative in the eyes of B) is not always consistent with the generally accepted assessment (A has no life-meaning and B has great life-meaning). It can, of course, be argued that the general assessment of the meaningful contribution to medicine is, at its core, also a subjective assessment, because everyone understands that the discoveries made by B have saved our own lives and the lives of many other people. If so, the following question can be raised: Does, in the end, the general (universal-objective) value not depend on individual subjectivity?

Following are two examples to illustrate the implications of this question. The first example pertains to a kingdom, an entity with great positive value in the eyes of all. However, this was not the view of Richard III in Shakespeare's play. Surrounded by his enemies, Richard shouted as he fell from his fleeing horse: "A horse, a horse! My kingdom for a horse!." A second example is a chicken pecking seeds in the yard, and whose beak hits a diamond. "Ahh," the chicken thinks, "This yard is full of stones that may not only break my beak but also ruin my stomach and intestines. I really have to be careful here." What is the answer to the above question of subjectivity? I have decided to leave this question open, because it seems to me that these two points of view, the general and the individual, are intertwined and woven together.

The CM model offers a unique way of defining, in an objective way, various situations and stimuli as factors that impart life-meaning. This is what I have described as Innate Meaning. To the best of my knowledge, this type of cognitive-sensory experiences has not yet been addressed in the relevant literature. At the same time, this model suggests that Ordinary and Extreme Meanings are the fruit of the intellectual-emotional efforts of human culture. This means that they are dependent on a specific way of life in a certain time period and geographical area (see the features of the CM model discussed above: lifeway, general template, and life-bubble). It is possible, therefore,

to perceive the CM model not as based on the subjective approach alone, nor on the objective approach alone, but rather to ground it in both approaches together. This brings us to the hybrid approach to life-meaning.

HYBRID APPROACH

The relevant literature discusses a number of theoretical propositions based on an approach that merges a subjective and objective conception of life-meaning (e.g., Messerly 2012; Metz 2013; Seachris 2019). Since this is not the place to critically review all the relevant theories on the subject, I focus on the work of Wolf (1997), who summarizes her primary idea in this way: "Roughly, I would say that meaningful lives are lives of active engagement in projects of worth" (ibid, 209). She goes on to state that the active engagement with a worthy, valuable project takes place in a meeting between the attraction of subjectivity and objectivity:

> It occurs where subjective attraction meets objective attractiveness. To acknowledge that an activity or a project is worthwhile, however, is to acknowledge, that there is a reason for doing it . . . A reason for writing a book of free will is to stimulate thought in a fruitful direction. A reason to plant bulbs and weed the garden is to maintain a place of natural beauty. A reason to sew a groundhog costume for an eight-year-old girl is to make her happy. (ibid, 224–225)

The problem, as Wolf writes, is that she has no theory by which to define objective value. Nevertheless, she offers a number of examples that can intuitively be divided clearly between (a) meaningful activities and (b) meaningless activities. Among (a) she enumerates: intellectual achievements, relationships with relatives and friends, aesthetic creation, cultivation of personal virtues, and management of religious life. Among (b) she enumerates: solving crossword puzzles, playing computer games, watching sitcom comedies, playing games such as electronic table games (pinball, flipper), and jumping rope.

A comparison between Wolf's hybrid approach and the CM model is based on the following three comments.

First, Wolf bases her conception of life-meaning on two components: the motivation of the individual and the objective value of the activity itself. The CM model proposes that while Innate Meaning is automatically given to all people (and higher animals) who are in a state of consciousness, Acquired Meaning is determined primarily by the society to which individuals belong.

Second, while the concept of "objective value" is intuitively delineated by Wolf, the CM model proposes to anchor the value of life-meaning in

an innate process, alongside the process of acquiring the specific lifestyles offered by society. The justification for creating different rules of behavior, norms, and values is determined by society according to its various and multiple needs: economic, social, political, and military (where society protects the life-meanings that form the basis for its existence and prosperity, through reward and punishment).

Are these justifications sufficient? Is it not possible to see them and the lifeways offered by society as illusions whose purpose is, among other things, to facilitate a small and elite social stratum controlling all other people? For example, one can see a religion or social-political ideology as nothing more than a systematic development of illusions that allow the ruling class to more easily exercise control over believers and exploit them. Thus, for instance, one can understand the tendency of kings in the distant past to associate themselves with religion. Kings would spread among the masses the illusion that they had become gods. Or, less blatantly, they would receive the blessing of a supreme clergyman, who would proclaim that the king was crowned by the grace of God. I am not interested in answering these questions here, because they may take us beyond the boundaries of the present discussion, and therefore I will leave them as open questions.

Third, Wolf discusses the question of the choice between a meaningful life and a meaningless life. Although she offers no proof to support her argument on the matter, she states: "At the same time, the claim that a meaningful life is preferable (and not just brutely preferred) to a meaningless one may seem so nearly self-evident as to require no proof" (ibid, 222).

The CM model confirms the observation that the vast majority of human beings lead meaningful lives, for the following reasons. First, Innate Meaning is given to people in an automatic way. Second, Acquired Meaning is transmitted to and internalized by individuals from the moment of their birth. In fact, the specific tendencies of individuals are reflected in the choices they make among the various life-meanings offered by the society to which they belong (e.g., choosing between work and career pathways appropriate to the individual's inclinations and the market supply and demand at a given time).

Here, the following issue should be added and emphasized. The choice between (a) a meaningful life and (b) a meaningless life, from the point of view of the subjective approach (and, largely, according to Wolf's approach, which merges subjectivity with objectivity), seems paradoxical. Why? Because if the individual chooses a meaningless life (b), it follows from the subjective approach that (b) will automatically become a meaningful way of life, because the individual chose (b) out of free will, and therefore this way of life is desirable and meaningful to that person. In other words, the free choice of (b) makes it meaningful in the eyes of the one making the choice,

even if in the eyes of everyone else the value of (b) is perceived as extremely negative.

This paradox does not exist for the CM model for the following reasons. First, individuals have Innate Meaning from birth. Second, with regard to Acquired Meaning, society will refrain from offering individuals a destructive way of life for obvious reasons. Namely, the leaders of a society will naturally offer lifeways that will contribute to its own survival and prosperity. (Here I have to qualify this answer because of a number of historical cases, such as the Nazis, indicate that a society may offer a completely destructive life-meaning and lifeway, and force the people to follow it.)

NIHILISTIC APPROACH

The source of the nihilistic approach is in the loss of faith in God. If there is no God, then all the rules of morality, social norms, and social structure founded on this belief collapse and social chaos dominates (e.g., Metz 2013; Seachris 2019). There are other approaches that link nihilism not to a lack of religious belief, but rather to the fact that the universe is immense and vast and therefore, in comparison, all human actions are nothing but a null and meaningless particle, as in the approach of Nagel (1971, 1987) (see discussion in previous chapters.) Since I am an atheist with a fundamental love of life, I am not going to discuss the various nihilistic conceptions—because I reject them completely.

Moreover, the CM model, which explains the various ways in which human life is anchored in life-meanings, is inconsistent with the nihilistic approach. On the one hand, the CM model suggests that belief in God, as a meaningful way of life, is one of the Extreme Meanings developed by society. That is, religion is one of the means by which society directs people and organizes life most effectively. On the other hand, it is difficult to understand how religious belief has evolved, given the empirical observation that human life is limited to a life-bubble. This bubble, which does not affect other life-bubbles, and is not affected by other bubbles that do not overlap it in one way or another (physically or through the storage of information), negates the belief about the effects of events outside the life-bubble, such as eternal life or an afterlife. (Here I refrain from discussing the possibility of having a life-bubble not only for an individual but also for groups of various sizes, such as a tribe, nation, or civilization. It seems to me that expanding the concept of the individual life-bubble to include groups is also limited in time and space. While this makes it possible to significantly expand the defining concepts of the life-bubble in terms of the length of time and the size of the spatial domain, nevertheless, this expansion is not infinite.)

The following table 8.1 summarizes the four approaches to life-meaning and their relationship to the CM model.

Table 8.1 Four Approaches to Life-Meaning and Their Relationship to the CM Model

Subjective approach: life-meaning and lifeway are individuals' personal choice

Objective approach: life-meaning is a natural feature of the world, independent of individuals' will or perspective

Hybrid approach: life-meaning is based on both of the above two approaches

Nihilistic approach: life has no meaning because belief in God has collapsed, the world is vast and infinite, and death is inevitable

The CM model can be perceived as a hybrid approach because it has an objective, universal component, Innate Meaning, alongside a subjective, social-personal component, Acquired Meaning (Ordinary, Extreme).

CONSIDERING LIFE-MEANING THAT IS NOT BASED ON THE INFRASTRUCTURE OF RELIGION

The CM model may offer an explanation for behaviors related to the concept of life-meaning without relying on religious belief. This model removes from religious faith any treatment of the issue of life-meaning, and instead places this in the realm of innate processes and acquired processes transmitted by the society to which the individual belongs. (Note that Extreme Meaning can include religion.) However, as we will now see, there are a number of other approaches that propose lifeways and life-meanings that are not rooted in religious belief and originate in an atheistic point of view. I will summarize these briefly. All these proposals may be included under the framework of Acquired Meaning, as explained in the CM model.

Before I discuss these alternative suggestions, however, I feel compelled to carefully formulate a thought that began to run through my head as I wrote this book. The following question occurred to me: Apart from Innate Meaning, is it not possible that a significant portion of Acquired Meanings (Ordinary, Extreme) only exist by virtue of illusions that society (and individuals, according to their inclinations) develops and cultivates so that people can live with a reasonable degree of satisfaction and pleasure, and not feel afraid of the world into which they were born?

This is a possibility which I think contains a great deal of truth, from an historical perspective. For example, looking back with an assessment that is objective (to the extent possible) at various sinister political regimes and ideologies in Western culture, religious beliefs, religious or ideological sects, and the like, it seems to me that humans lived (and probably still live today) in an illusory bubble that allows them to follow a path that supposedly leads to the realization

of a certain ideal goal, but they are unfortunately deceived. Assuming that indeed some Acquired Meanings are illusions, I ask what this means.

The answer of the CM model is that Innate Meaning offers a person protection against the anxieties that the world may evoke. Further, while some Acquired Meanings are illusory, two things can be said in response to this. First, the fact that some of these meanings turn out to be illusions, like bad dreams that fade with the morning light, suggests that humans may understand, in various ways, that they live within a terrible illusion, and therefore make a supreme effort to tear away this illusion and look for new lifeways, as discussed in previous chapters. Second, although some Acquired Meanings are illusions (and terrible ones, as it may turn out in retrospect) people have developed spectacular cultures within such illusions, and have promoted, in one way or another, attempt to understand the world. For example, despite the exploitative royal regime of the Pharaohs, modern people still stand in amazement at their works of art, pyramids, sphinxes, hieroglyphic writing, and so on. The same can be said about the terracotta soldiers in China, and the artistic heritage of the Greek and Roman empires. Even the Middle Ages yielded works of art (literature, music, etc.) that have had a wonderful influence which lasts to this day. While it is highly possible that Acquired Meanings are illusions, this should not be assessed using the criterion of truth/falsehood, but rather of efficiency/inefficiency in terms of the realization of goals. When people realize that a certain Acquired Meaning ceases to fulfill the purpose for which it was created, it may be replaced with a new Acquired Meaning.

Now that I have discussed the possibility that some Acquired Meanings are only illusions, and have emphasized the way the CM model treats this, I will briefly discuss a number of specific options for realizing Acquired Meanings that are not anchored in religious belief (below is only a partial list, for illustration):

A. Political ideology: This refers to major socio-political movements such as communism, fascism, and democracy. Belief in a political ideology includes the admiration of its rulers, such as Stalin, Mussolini, Hitler, Roosevelt, Churchill, de Gaulle, Ben-Gurion, and others.

B. Faith in science: Science may be viewed as a substitute for religion, that is, a belief may be created that scientific advancement and discoveries may bring salvation, comfort, and a good life. This includes admiration of scientists, Newton, Darwin, Einstein, and others.

C. The individual and family: These refer to the individuals' concentration on their own welfare and that of their family members.

D. Exclusive focus on the self: this is a reference to a primal idea that one should only be for oneself, that life is short and limited, and therefore one should pursue the pleasures of life until its end.

E. Dedication of life to one goal: The intention is that individuals, the group, and society dedicate themselves to one great goal that is important to all, such as social, scientific, industrial, cultural development, and so on for the survival and prosperity of society.

Next, I will discuss in detail two important topics related to life-meaning: (a) the attempt to explain the world and humans using the knowledge accumulated through the natural sciences (physics, chemistry, cosmology, biology, etc.), and (b) the attempt to discuss the concept of life-meaning from an evolutionary point of view alone. Before that, however, I must briefly discuss the following question, which I hinted at above: On what basis can society and individuals be sure that their chosen life-meaning is indeed the most appropriate? I must first reiterate that life-meaning and the way people conduct their life cannot be judged by criteria of true/false. It is impossible to say that way of life A is appropriate because it meets the criterion of truth, and way of life B is inappropriate simply because according to the criteria of true/false, this way is judged to be false. What can be tested is whether an Acquired Meaning or lifeway proposed by society succeeds in realizing the goals for which it was created. That is, the question should be whether this way is perceived as effective/ineffective or beneficial/harmful to those following it.

For example, the individual (or the social community) is able to assess whether, in practice, the realization of values and life-meaning is successful and to what extent. Is it possible to improve the lifeway and make it more efficient? Does a certain way of life contradict other life-meanings? Let us consider, as an example, a situation in which the lifeway required by the religion of a certain group of people is in conflict with the lifeways of the secular population. In this case, it is not possible to judge which way of life (religious or secular) is true and which is false. It is only possible to examine how effective societal rules can be constructed so that the differences between the two groups do not intensify, but rather are moderated.

Life-Meaning According to the Natural Sciences

As I explained at the beginning of the book, my worldview is atheistic. For me, belief in any religion, Jewish, Christian, or Muslim, was nullified as a result of the horrors of the Holocaust. I do not feel any need to logically justify my atheism, beyond what I have said so far regarding the horrors of the Holocaust. Nevertheless, I must address a number of approaches that attempt to base life-meaning only on scientific and atheistic foundations (see Carroll 2016; Messerly 2012). In his book *The Big Picture*, Carroll reviews the scientific developments of the last decades. On this basis, he builds his worldview,

which is completely materialistic. That is, his goal is to show that everything can be explained in a material way, and in accordance with accepted theories of the physical sciences. (Carroll is a theoretical physicist specializing in quantum theory, gravity and cosmology. His current book won the Royal Society Winton Prize for Science Books.)

In Carroll's opinion, the world and human beings have no absolute purpose, such as the purpose suggested by religious people who believe, according to their faith, that God created and runs the world. Humans are physical entities, so any views according to which life has meaning or there is (spiritual) life after death are inconsistent with scientific knowledge. Like Sartre, Carroll suggests that meaning lies within the person, not outside, in the world or in God. As Carroll (2016, 11) writes: "Purpose and meaning of life arise through fundamentally human acts of creation, rather than being derived from anything outside ourselves." To explain the various phenomena in the world, there is no need to believe in a creator, because science provides excellent and completely satisfactory explanations. For example, Carroll suggests that the universe was created as a result of quantum oscillations in space, and that consciousness is a product of the brain, which is made up of atoms that behave according to physical theories. However, Carroll admits that we still do not understand how the universe began, how life began, or how consciousness arose or what is its source. He writes: "As with the origin of life and the origin of the universe, we can't claim to have a full understanding of the nature of consciousness. The study of how we think and feel, not to mention how to think about who we are, is in its relative infancy" (ibid., 349).

It is specifically on these issues and problems, for which Carroll admits that science has no answers (along with other questions in evolution and cosmology, such as the concept of dark matter, which addresses gravity and the amount of matter in space, or dark energy, which addresses space acceleration) that Hartnett (2017a) attacks Carroll's book, *The Big Picture*. Hartnett's purpose is to show that the big picture can be entirely explained through the Christian faith. (Hartnett is a physicist, expert in cosmology, and a believer in the Christian religion and creationism.) According to Hartnett, if science (the painter of the big picture according to Carroll) has no answers to the fundamental questions related to the creation of the world (the Big Bang Theory), the beginning of life, evolution, and consciousness, and if all Carroll's book has to offer is speculation, stories, and guesswork without any empirical foundation, then the book failed in its aim of giving an answer, explanation, and big picture of the basic questions and the meaning of life. Moreover, as a person who believes in the Christian religion and creationism, Hartnett criticizes Carroll's failure to relate to the figure of Jesus Christ, what he represents, and his enormous influence (a detailed review and critique of Carroll can be found in Hartnett, 2017b).

As can be understood from what I have said so far, I am not interested in discussing the scientific-religious debate between these two physicists, one who is an atheist and the other a faithful Christian, for the following reasons. (Nevertheless, I cannot avoid this somewhat naive remark: it seems to me that Hartnett's critique of Carroll's position can be easily directed against belief in God, since there is no logical or empirical proof of God's existence, which is based on faith alone. Moreover, it is possible to raise this question: If God is beyond human perception and understanding, as many people claim, then how do they allow themselves to talk about the attributes of God, or even to claim that God is beyond human understanding?)

First, I am not a professional physicist and my knowledge of physics is very basic. Some of the knowledge that Carroll writes about in his book was familiar to me from other sources, and some was new information that I was happy to learn. I have no doubt that my level of knowledge of physics is insufficient to enter into the interesting debate I have briefly reviewed here.

Second, I am not interested in discussing these issues rationally, because as I remarked earlier, my atheism was not born out of a rational conviction in the non-existence of God, but rather from emotional shock at of the horrors of the Holocaust. To tell the truth, I have so far found no rational or empirical justification that has convinced me either for or against the existence of God. In fact, I am convinced that this question cannot be rationally resolved, simply because the basis of religious persuasion is faith itself. Rather, I state that my atheism is personal and emotional and is based on foundations which, to my great sorrow, are real: the abomination and terror of the Holocaust, which in fact did occur in Europe. I reiterate that I identify with the values held by most secular people who accept the scientific approach: rationality, the rejection of miracles, skepticism, a pluralistic viewpoint, placing central importance on the study of the meaning of human life, and equality among all human beings. These are values that, in some cases, are inconsistent with the religious approach. However, to be honest, I must point out that I know some scientists who are religious. To my understanding, these people resolve the theoretical conflict between the religious world and the world of science in two possible ways. Some attribute the discoveries of science to God as one who created and runs the world. In this way, science is perceived as offering a successful description of the actions of the creator (despite the classic saying that the ways of God are hidden). Others live in two different and separate worlds, and have no difficulty in moving between these worlds, even multiple times on the same day.

Third, I see science as a rational method of understanding nature. The knowledge produced by this method is provisional and may change as a result of further scientific research. I have no problem in continuing to live my life in a world with this uncertainty. That is, I live my life during certain

intervals in which knowledge remains more or less constant, until the next time interval, in which previous knowledge is replaced or greatly changed. I have learned to live with these changes. Moreover, I am curious to know what scientific research has discovered: the new and interesting findings. In this respect, I have not replaced religious faith with a faith in science; simply because religious faith is based on absolute and permanent answers and, in my view, science will never meet a requirement for permanent and perfect knowledge. As stated, by its very nature, science is based on a methodology that has the symbol of skepticism engraved on its banner.

Despite all this, I feel that I ought to explain, to the best of my ability, how it is possible for an atheist like me to feel a sense of belonging and loyalty to Israel and the Jewish people (aside from the solution that a scientist can live simultaneously with science and religion). While an American can feel a sense of belonging and loyalty to the American nation, whether his religion is Christianity, Judaism, Islam, or Buddhism (or if he is an atheist), the Jewish people define themselves according to their religion, which states that they are God's "chosen people." Is it possible, then, for a person to belong to and be faithful to the Jewish people, even though he does not believe in God? I believe the answer is affirmative, for the following reasons, which are grounded in the fact that the definition of the Jewish-Israeli people is multidimensional, and in my opinion, does not stem from one fundamental and absolute factor of belief in the God of the Jews and observance of religious precepts. (Here I must reiterate that my answer is completely personal and is not anchored in any of the various factions of Judaism that constantly quarrel among themselves.) I identify, feel, consider myself and am considered by others to be a member of the Jewish-Israeli people, even though I am an atheist, for the following reasons.

First, I am the son of a Jewish mother and father, so I understand that for this reason I am considered by others and consider myself to belong to the Jewish people. Second, I was born in Israel, my mother tongue is Hebrew, and I received an education that connects me to the Jewish people and its history. I am an Israeli citizen and served in the Israeli army, both as a regular soldier and as a soldier in the reserves. I established a family and a career in Israel. Third, I developed a strong sense of identification with and belonging to the Jewish people, in Israel and elsewhere in the world, despite disagreements between my atheistic approach and the religious worldview in all its forms. Because of this deep identification, the atrocities of the Holocaust erased from my heart all belief in the Jewish God or in any other religious deity. Finally, I am aware that atheism stands in contrast to the particular conception of Judaism according to which a Jew is considered as such because of a religious belief in Judaism. Without this belief, the perception of being a member of the Jewish people living in Israel is not fundamentally different

from that of the American people, whose religion does not determine their affiliation with the people residing in the United States.

Life-Meaning and Evolution

As I mentioned in previous chapters, the CM model is based, among other things, on the idea that certain processes have led to the evolution of consciousness in humans (and higher animals). Consciousness is a necessary condition for conferring various meanings (Innate and Acquired) onto representations that appear in one's mind. To expand and substantiate this idea to some extent, I propose the following argument.

(A) The development of all humans and animals can be explained by evolutionary processes.
(B) Every human possesses consciousness, which endows understanding and life-meanings.
(C) The plausible conclusion that emerges from (A) and (B) is that consciousness, which bestows understanding and life-meaning, is a product of evolutionary processes.

The idea that evolutionary processes underlie life-meaning is familiar to many researchers. For example, Ruse (2019, 169) suggests that while life-meaning is created by individuals, this meaning corresponds to the evolved nature of humans. He writes: "I can give you a good Darwinian account of meaning in terms of our evolved human nature."

Similarly, Messerly (2012, 297) discusses the connection between evolution and life-meaning: "Meaning has emerged in the evolutionary process." In his book, Messerly (2012) addresses life-meaning from many points of view, among which is the possibility of the evolution of fully meaningful cosmos, as he writes: ". . . we ask if the idea of evolution supports the claim that life is meaningful, or becoming meaningful, or is becoming increasingly meaningful" (ibid, 270). The discussion in Messerly's book summarizes the views of scholars who believe that evolution leads towards ever-greater meaning, alongside a summary of the views of a number of scholars who reject this possibility. As Messerly writes: ". . . a study of cosmic evolution supports the claim that life has become increasingly meaningful, a claim buttressed primarily by the emergence of beings with conscious purposes and meanings" (ibid, 296).

Later he raises the following question: Does evolution carry positive developments on its wings? Observation of the past indicates that evolution also creates difficult and painful occurrences and events such as wars, genocide, slavery, hatred, despair, and suicide. In the end, the discussion leads him to

the following conclusion: "We can say that there has been some progress in evolution and that meaning has emerged in the process, but we cannot say these trends will continue or that they were good. . . . We are moving, but we might be moving toward our own extinction, toward universal death, or toward eternal hell" (ibid, 300).

These gloomy descriptions of the past and the possible future re-aroused in me the following question: Can the CM model proposed in this book deal with the horrors of the World War II? This question had occurred to me while I was reading Roberts' (2011) excellent history book *The Storm of War*. How can one explain the cruel, horrific things the Nazis did to the armies and occupied peoples of Europe, and the horrific acts done by the Japanese who conquered East Asia? At first, I thought this could be explained (narrowly, I feel) by addressing the Extreme Meaning adopted by the Germans and Japanese, according to which they acted. However, I subsequently read the seventh chapter in Roberts' book on the terrible and monstrous extermination of the Jews in Europe. It was clear to me that such horrible events say something profound but devilish about humanity itself. (And here I must say, with all sincerity, that the writing of this passage is not devoid of the difficult emotions that were aroused in me by Roberts' horrifying descriptions. After all, my father's entire family was annihilated in the Warsaw Ghetto!)

At first, I thought that an Extreme Meaning might explain the devilish madness that took place at that time. But what I read was so emotionally painful and terrible to me, that I concluded that even Extreme Meaning is too weak a concept to explain the horrors that took place. There is something despicable, reviled, cruel, and evil in the essence of humanity itself, and I suddenly felt ashamed that I belong to this species. Having written this passage, as they say, with the blood of my heart, let us return to a more academic discussion.

In light of what has been said so far about evolution and life-meaning, the following question arises: What predictions about the future can the CM model offer on this matter? My answer is that this model is not a theory for predicting the future—it is not a futuristic model. It is not able to envision what will happen in such and such number of years. For example, in 250 years, will humans find greater life-meaning? Or will everyone realize that life is meaningless and subject to such massive and ongoing suffering that even Innate Meaning cannot provide enough comfort to continue living? The CM model is unable to answer such questions because, as a theoretical-empirical (i.e., scientific) structure, the model is only able to offer an explanation for certain events given a specified actual situation. It could only offer an explanation for future events if the model is applied to an accurate description of specific, real-life conditions (the independent variable) that are completely relevant to the model's concepts.

In other words, a behavior can be explained or predicted when the following relationship occurs: behavior is a function of the theory (model) and the actual situation, that is, Behavior = f(Theory, Actual Situation) (e.g., Rakover 2018). Even if we assume, for the sake of argument, that the CM model may offer predictions for the future, this model will not be able to offer a prediction if there are no precise details about the actual future situation to which the CM model is being applied. Therefore, the question arises: How will the theory succeed in offering a prediction if it is not possible to know what the actual situation will be in the future? Will our theory succeed in predicting the actual future situation? The answer is: of course not! Why? Because we don't know the future actual situation, on which to implement the theory. Hence, we cannot predict future behavior if we don't know exactly what will be the situation in which that behavior will occur.

It seems to me that the logical conclusion that emerges is that this answer presents an infinite regression, from which there is no way out. Therefore, there is no possibility of predicting historical developments. In other words, a theory is capable of predicting behavior given an actual future situation A (the independent variable). But what happens if the future situation A is unknown? Can we use a theory to predict situation A? The answer is no. We cannot predict A if we do not know what the real situation B is, which we will use to predict A and so on to infinity. (All this assumes, of course, that the theory is able to predict such situations, in addition to predicting behaviors.)

To illustrate this point, we will consider the following hypothetical example, "the prediction of Aurelius Marcellus." Let us suppose that after Julius Caesar crossed the Rubicon, established his rule in Rome, and the political situation calmed down, some Roman intellectuals gathered at the house of Marcus Tullius Cicero, the famous consul, lawyer, orator, and philosopher, to drink, eat, and discuss a new idea of veteran senator Aurelius Marcellus, who was about to announce that he had discovered the secret of the meaning of life! After eating, drinking, gossiping about Caesar, Pompey, Antonius, and a number of married women whose names cannot be mentioned here for obvious reasons, Cicero addressed those present and said, "Dear Marcellus, we are all eager to hear of your great new discovery. What is the meaning of life?" Cicero paused to make an impression, sipped a little wine, and continued, "Perhaps you will begin the lecture on your discovery with the answer to the most basic question imaginable: What do you think will be the meaning of human life in, say, in two thousand years? What do you say, dear Marcellus?"

Aurelius Marcellus sank into deep contemplation and finally said, "My esteemed friends, given the very probable assumption that Rome will indeed maintain absolute rule in all the provinces of Gaul and Britain, our Roman culture will be accepted by all the barbarians living in these provinces. Therefore, I would say that for all those who live in Rome, Italy, and the

provinces of Gaul and Britain, their life-meaning will be anchored in the foundations of our culture, the culture of the Republic of Rome, under the supervision of the immortal Jupiter." He raised his glass of drink and everyone toasted this answer, of which they greatly approved. Only Cicero asked in a half-joking tone, "And what will be the life-meaning outside the provinces of Rome, in the rest of the world?" And Marcellus immediately replied, "The same thing."

It is clear from this hypothetical example that Marcellus' prediction of the meaning of life was completely wrong! The future situation described by Marcellus has nothing to do with the actual historical situation. The period to which Cicero referred, two thousand years after his time, coincides with World War II. Moreover, Marcellus, at the banquet at Cicero's house, could not possibly know about the events that would take place in Rome and change the face of history, such as the civil war between Caesar and Pompey, the murders of Caesar, Pompey, and Cicero, the destruction of the Roman Empire, the Middle Ages, and World War I and II. One could suggest, of course, that Marcellus' theory of the meaning of life was simply wrong— maybe yes, maybe no, he did not tell me anything about it. But this is not the point of interest. What matters is the following: we do not know what the actual situation will be in the future, and therefore any prediction about future human behavior is useless. In this respect, I completely agree with the thesis of Karl Popper (1957/2002) which he explained in his book *The Poverty of Historicism*. The basic idea behind this book is that it is impossible to make any prediction about the future based on a theory that attempts to predict historical developments. Popper does not argue that it is impossible to predict a certain social occurrence under certain conditions, such as predictions that stem from theories in social psychology or behavioral economics. His argument is against a futuristic theory that attempts to predict a historical development, a prediction about the future that is similar to the one that Aurelius Marcellus offered: what will life-meaning be in two thousand years?

I am not going to summarize the many and interesting arguments that Popper offers in this book, but will focus on one main argument. It may be reasonably assumed that historical developments are substantially affected by the accumulation of knowledge. Further, we may equally reasonably assume that it is impossible to know how human knowledge will develop because, among other things, scientific knowledge is provisional and unexpected. This leads to the conclusion that it is impossible to predict historical developments.

We assume that it is impossible to know what the actual conditions will be in the future. Additionally, no theory is perfect. In fact, we can only apply a theory that is understandable to us and defined within certain boundaries, within a world that has infinite influences and interactions. This situation inevitably means that any theory will be incomplete and will eventually be

disproven. Therefore, it is clear that any attempt to predict historical developments is doomed to failure from the start. However, it is worth reiterating that a theory may be capable of predicting certain future events under well-defined conditions, even if it is an incomplete theory. For example, the Newtonian theory makes successful predictions, when limited to terrestrial speeds.

Several conclusions emerge from this discussion. First, the attempt to perceive the theory of evolution as capable of predicting historical developments, for example, a prediction that the world will evolve towards a broader and better concept of life-meaning, seems to me an inevitably unsuccessful endeavor. As I understand this scientific theory, I do not think its purpose is to predict the future. If, for example, development is dictated by the interaction between the environment (physical, social, etc.) and living creatures, then it seems impossible to predict how a creature will develop, when there is no possibility of knowing what its living environment will be like in the future.

Second, the CM model, as described in this book, does not intend to predict the future or what life-meanings will be in two thousand years (to borrow the number from Cicero). Even if we accept that Innate Meaning is evoked by the awareness of sensory representations as MSs in humans (and higher animals), it is still impossible to be sure of the stability of this mechanism. Completely unexpected processes can occur, such as major climate changes or significant mutations, which may alter cognitive mechanisms and processes that confer meanings. Even if we assume, with high probability, that Innate Meaning will continue to exist for thousands of years because it is anchored in robust and stable genetic processes, this is not the case with Acquired Meaning. By its very nature, this type of meaning is culture-dependent. Just as the prediction of Aurelius Marcellus was fundamentally flawed, it is highly likely that any predictions regarding what life-meanings will be in two thousand years will also be fundamentally flawed.

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