ב"ה

ישיבת כרם ביבנה
YESHIVAT KEREM B'YAVNEH
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In an era inundated with perpetual distractions and an overwhelming influx of information, "Mastering the Mind" emerges as a beacon of guidance for those seeking to navigate the complexities of our modern world while steadfastly pursuing Limmud Hatorah.

Saul Clarke, an alumnus of the Yeshiva and a committed student of Torah himself, in a commendable effort, has compiled a treasure trove of creative strategies, life hacks and precise systems, driven by words of Chazal and augmented by scientific knowledge, designed to enhance one's understanding, concentration, mastery and retention of Torah wisdom. In addressing the multifaceted challenges that learners face, this work not only illuminates the path to remembering and absorbing more Torah, but also equips its readers with the means to triumph over the ceaseless barrage of distractions that many of us face.

This book stands as a timely and indispensable guide. I wholeheartedly endorse this work and express my hope that it will serve as a source of inspiration and practical assistance to all those committed to the noble endeavor of Torah study.

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In interpreting the verse "Veshinantam Levanecha" (literally you shall teach your children), Chazal tell us that Veshinantam connotes sharpness and clarity, that Divrei Torah must be clear and definite in one's mind. Thus, there is not only a mitzva to learn Torah but to know Torah. Unfortunately, even among people who learn Torah every day and even among people who attended Yeshivos for many years, many find it difficult to remember their learning. Failure to retain Torah knowledge saps their enthusiasm and is in fact a major reason why people stop learning.

While the ability to retain learning is a gift from Hashem and Tefilla for that Divine assistance is indispensable, like everything else, we are obligated to do our Hishtadlus to identify the causes of our struggles and how we can best address them. Saul Clarke, a professional who takes his Torah learning very seriously, has made a careful study of what causes forgetfulness in learning and what steps we can take to overcome this. He assembles many Ma'amarei Chazal, provides practical suggestions from psychology and memory studies and even provides actual examples of how his system can be applied. This is a very useful book in a critically-important area.

We owe a debt of gratitude to Mr. Clarke for his Zikui Harabbim. May this work help Yidden retain the Torah they have learned which in turn will encourage them to learn even more.

With Admiration and Bracha,
Yitzchak A. Breitowitz
Rav, Kehillat Ohr Somayach

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Chapter 1

HOW DOES MEMORY WORK?

> *All of our memories are bound together in a web of associations. This is not a metaphor but a reflection of the brain's physical structure. The three-pound mass balanced atop our spines is made up of somewhere in the neighborhood of 100 billion neurons, each of which can make upwards of five to ten thousand synaptic connections with other neurons. A memory, at the most fundamental physiological level, is a pattern of connections between those neurons. Every sensation that we remember, every thought that we think, transforms our brains by altering the connections within that vast network. By the time you get to the end of this sentence, your brain will have physically changed.*
>
> *Joshua Foer, Moonwalking with Einstein*[1]

Foer gives us a fascinating description of the great majesty and mystery of the creation of man. He goes on to point out that there is still so much we don't know about the human brain. We've never actually seen a memory. Even in the twenty-first century, our view of the brain is very much like viewing a city from the sky. We can see patterns and structures, where people live, where the roads and traffic are concentrated, what the airport and city centers look like. But we can't tell what an individual person does for a living or what he eats for breakfast. The deeper secrets and the language of the brain are still a profound mystery.

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1 J. Foer, *Moonwalking with Einstein: The Art and Science of Remembering Everything* (New York: Penguin, 2012).

Despite the ongoing research and exploration of the vastness of our brains that we've not yet discovered, there is plenty that science has uncovered about the mechanisms involved in learning and, in particular, forming memories, which I will attempt to summarize here.

Memory formation is made up of three key steps: encoding, storage, and retrieval. Encoding is the process of learning the information. It's a biological phenomenon, rooted in the senses, that begins with perception.[2] Consider, for example, the memory of your experience in a place you'd never been before. All of your senses would have been engaged—your visual system would have registered the physical features, the colors, and the shapes of the experience. Your auditory system would have picked up on the sounds. Perhaps you even felt the touch sensation of your surroundings. The registration of information during perception occurs in the brief sensory stage, which usually lasts only a fraction of a second. It's your sensory memory that allows a perception such as a visual pattern, a sound, or a touch to linger for a brief moment after the stimulation is over.

Storage occurs after that first flicker. Each of these separate sensations, present during encoding, travels to the part of your brain called the hippocampus, which integrates these perceptions into one single experience, to create a short-term memory. It's here, in the hippocampus, that the sensory inputs are analyzed and it is decided what should be kept and what should be filtered out. Short-term memory has a fairly limited capacity; it can hold about seven items for no more than twenty or thirty seconds at a time. Although your short-term memory limits are quite narrow, there are ways to increase this capacity using various memory strategies, some of which I will discuss in later chapters. For example, a ten-digit number such as 8095820697 may be too much for your short-term memory to hold. But divided into chunks as in a telephone number, 809-582-0697, it may actually stay in your short-term memory long enough for you to dial the telephone.

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2 R. C. Mohs, "How Human Memory Works," January 1, 1970, https://science.howstuffworks.com/life/inside-the-mind/human-brain/human-memory2.htm.

Likewise, by repeating the number to yourself, you can keep resetting the short-term memory clock.

If you want to take it to the next stage and ensure the memory sticks around longer term, you must first be paying attention. Since we're not paying attention to everything all the time, most of what we encounter every day is simply filtered out at the short-term memory stage, and only a few stimuli pass into our conscious awareness.

Important information or what's left from the filtering process is then gradually transferred from short-term memory into long-term memory. The more the information is repeated or used, the more likely it is to eventually end up in long-term memory, or to be "retained." Unlike sensory and short-term memory, which are limited and decay rapidly, long-term memory can store unlimited amounts of information indefinitely.

Retrieval is the final process of memory formation and is the way individuals access stored information. Due to their differences, information stored in short-term memory and long-term memory are retrieved differently. While short-term retrieval typically works in the order in which it is stored (for example, a sequential list of numbers), long-term retrieval works through association (for example, remembering where you parked your car by returning to the entrance through which you accessed a shopping mall).

Although a memory begins with perception, it is encoded and stored using the language of electricity and chemicals. Nerve cells connect with other cells at a point called a synapse. All the action in your brain occurs at these synapses, where electrical pulses carrying messages leap across gaps between cells.

The electrical firing of a pulse across the gap triggers the release of chemical messengers called neurotransmitters. These neurotransmitters diffuse across the spaces between cells, attaching themselves to neighboring cells. Each brain cell can form thousands of links like this, giving a typical brain about 100 trillion synapses.

As you learn and experience the world, and changes occur at the synapses, more connections in your brain are created. These changes are

reinforced with use so that as you learn and practice new information, intricate circuits of knowledge and memory are built in the brain. If you rehearse a piece of music over and over, for example, the repeated firing of certain cells in a certain order in your brain makes it easier to repeat this firing later on. The result: you get better at playing the music. You can play it faster, with fewer mistakes. Practice it long enough and you will play it perfectly. Yet if you stop practicing for several weeks and then try to play the piece, you may notice that the result is no longer perfect. Your brain has already begun to forget what you once knew so well.

People tend to more easily store material on subjects they already know something about, since the information has more meaning to them and can be mentally connected to related information that is already stored in their long-term memory. That's why someone who has an average memory may be able to remember a greater depth of information about one particular subject.

When you want to recall something that's already been stored previously, you have to go through a process where you retrieve the information from storage on an unconscious level, bringing it into your conscious mind at will. If you're struggling to remember something, it may be that you didn't encode it very effectively because you were distracted while the encoding should have taken place. If you've "forgotten" where you put your wallet, for example, you may not have really forgotten at all. Instead, the location of your wallet may never have gotten into your memory in the first place. Or, for example, you would probably say that you know what your credit card looks like, but most of the times you saw it, you never really encoded its appearance. So if you were asked to describe it in detail, you probably couldn't.

Distractions that occur while you're trying to remember something can really get in the way of encoding memories. If you're trying to read a business report in the middle of a busy airport, you may think you're remembering what you read, but you may not have effectively saved it in your memory.

Another reason why you may forget is because you're simply having trouble retrieving the memory. If you've ever tried to remember

something one time and couldn't, but then later you remembered that same item, it could be that there was a mismatch between retrieval cues and the encoding of the information you were searching for.

Now that we know how memory works, we will discuss why it's so important in human terms, and more importantly, in the Torah's view, to try to keep hold of particular memories.

Chapter 2

WHY DOES IT MATTER?

The Mishnah in *Pirkei Avos* says in the name of Rabbi Meir: "Whoever forgets any of the Torah he has learned deserves the death penalty."[1] Rabbi Meir cites a *pasuk* in *Parashas Va'eschanan* that warns against forgetting that which our eyes saw at Har Sinai.[2] Since the phrase "*U'shemor nafshecha me'od*—You should carefully guard your soul," appears in this context, Rabbi Meir infers that the death penalty applies to the comparable scenario of forgetting our learning.

Variants of this Mishnah appear in the Gemara, too, in some instances with similar terminology, and in others, with more moderate language.[3] The Gemara in *Menachos*, for instance, states that forgetting Torah is a violation of an *issur min haTorah*,[4] based on the same teaching and *pasuk* that Rabbi Meir quotes. Rav Nachman even posits that one would be liable for three separate *issurim* because of the words "*hishamer*," "*u'shemor*," and "*pen*" that appear in the *pesukim*. The Gemara then goes on to cite Rabbi Yochanan and Rabbi Eliezer, who equate the forty days of the delivery of Torah to the forty days of the early development of a fetus. If someone preserves his Torah knowledge, his soul will be conserved, and if not, his soul will not be protected. The Gemara concludes its discussion with the following statement:

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1 *Pirkei Avos* 3:10.

2 *Devarim* 4:9.

3 M. Taragin, "Pirkei Avot Chapter 3: Mishna 10—Rabbi Meir on Forgetting Torah," ToratHarEtzion, January 23, 2016, https://www.etzion.org.il/en/philosophy/issues-jewish-thought/issues-mussar-and-faith/pirkei-avot-chapter-3-mishna-10-rabbi-meir.

4 *Menachos* 99b.

> *The yeshiva of Rabbi Yishmael taught: This is comparable to a person who handed a sparrow to his slave and said to him, "Are you under the impression that if you lose it, I will take from you an issar [a small coin], corresponding to the value of the bird? It is not so; I will take your soul from you as punishment [I will kill you]."*

In another Gemara, Rabbi Yehoshua compares forgetting Torah to the burying of children, while Rabbi Yehoshua ben Korchah likens one who doesn't review his learning to someone who plants but doesn't harvest.[5]

An even more stark example of the consequences of forgetting Torah is in the *Yerushalmi* that discusses the *ben sorer u'moreh*, the rebellious son. The Gemara says as follows:

> *"The rebellious son," etc. The Holy One, blessed be He, saw that this one in the end will waste his father's and his mother's properties, will sit at road junctions, rob people and kill them, and in the end will forget all he has learned. Therefore, the Torah said, he should die innocent rather than die guilty, for death of sinners is an enjoyment for them and an enjoyment for the world, but concerning the righteous, it is bad for them and bad for the world.*[6]

In discussing the fate of the rebellious son's behavior, his ultimate downfall is that he will forget his learning. The assumption seems to be that by repeating his bad habits and engulfing himself in a cycle of misconduct, the final outcome of his bad behavior is that he will forget his Torah. The *P'nei Moshe*, in his commentary on the *Yerushalmi*, actually flips it around and suggests the Gemara means that as a result of forgetting his learning, there is potential for chaotic behavior afterward. Be that as it may, this Gemara and the others we've brought clearly express that to forget one's learning is a serious flaw with potentially dire, even fatal consequences.[7]

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5 *Sanhedrin* 99a.

6 *Yerushalmi*, *Sanhedrin*, 8:7.

7 See also *Yoma* 38b; *Sanhedrin* 106b; *Midrash Mishlei* 10.

Interestingly, both the Mishnah in *Avos* and the Gemara in *Menachos* attempt to narrow the definition and application of the prohibition in terms of the exact boundary of acceptable forms of forgetting and the exact point at which one is deserving of death. The case of *oness*, unforeseen circumstances, such as illness, is discussed and is assumed to not be included in the *issur*. The Gemara goes even further and suggests that one who forgot his learning due to being overwhelmed by the sheer volume he has taken in would also not be accountable, leaving the *issur* to be specifically targeted at one who deliberately seeks to forget the Torah.[8]

Whether or not this Gemara perfectly aligns with the Mishnah in *Avos* is a discussion in *Tosafos* and the *Maharsha*.[9] It is also unclear from the Gemara as to the application of this *din* today,[10] and whether things have changed since the advent of the written form of the *Torah She'baal Peh*.[11]

At any rate, the harsh tones invoked by the Gemaras above, even taking into account the narrow definition that we conclude with in *Menachos*, still need further exploration. How exactly do we characterize this *issur*? Put a different way, what is the nature of this moral failing that is deserving of this jarring description of the Mishnah and Gemaras we quoted? What is really so bad about forgetting Torah that it's associated with the drastic punishment related by Rabbi Meir? Or as Rabbi Norman Lamm[12] asks in an article he wrote titled "Remember to Forget":

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8 See *Sefer Hazikaron* (Rav Chaim Kanievsky) in *Siach Hasadeh*, part 2, introduction; *Yerei'im* 359 (28 in old editions); *Shitah Mekubetzes*, *Menachos* 99b; *Iyun Yaakov*, *Menachos* 99b; Rabbeinu Yonah, *Avos* 3:8; *Shulchan Aruch*, *Yoreh Deah* 246:3 with *Biur HaGra*.

9 See also *Yoma* 38b.

10 A. Zakutinsky, "Forgetting the Torah (Part 1)," https://outorah.org/p/27272/.

11 See *Shulchan Aruch Harav*, *Talmud Torah* 2:4, who says that the prohibition applies even today and one who neglects to review his learning deliberately transgresses the Biblical *issur*. The *Shulchan Aruch Harav* went so far as to propose a new curriculum for boys to review everything they knew each day before moving on to the next topic; advancing to new areas of Torah before mastering and consolidating the previously acquired knowledge was neglecting this principle. In response, Rav Chaim of Volozhin, quoted in the *sefer Maaseh Rav* (*siman* 53), claims that the prohibition of forgetting Torah only applied in an era prior to the *Torah She'baal Peh* being written down and canonized. In today's world, however, in which all Torah has been committed to writing, the prohibition doesn't exist.

12 N. Lamm, "Purim: Reflections on the Jewish Holidays," in *Festivals of Faith: Reflections on*

> *After all, everyone forgets. Forgetting is natural—it is part of our psychological and physiological selves; it is not a volitional or deliberate act by definition. How then can the Torah consider it a sin if we forget?*

The question is further compounded when we look at modern neuroscience and the science of forgetting. For most of history, the fact that we've been wired in a way that our memories of almost all experiences and knowledge fade over time, known in the academic world as the "curve of forgetting," was seen as a bug, not a feature of human biology. The brain's job was to gather and store information, and the inability to retain and retrieve those memories was a failure of some neurological or psychological form. Consensus on this point, though, has shifted in recent decades, and forgetting is now seen as a feature with substantial benefits to our brain and body functioning. Scott A. Small, a professor of neurology and psychiatry at Columbia University and author of the 2021 book *Forgetting: Benefits of Not Remembering*, sums it up when he says, "The fundamental insight—the eureka, I think—of the new science of forgetting—is that our neurons are endowed with a completely separate set of mechanisms…that are dedicated to active forgetting."[13] Oliver Hardt, an assistant professor of psychology at McGill University, describes forgetting as "one of the most fundamental aspects of a memory system." Without forgetting, the benefits of a strong memory would become redundant. In the course of a single day, the brain registers hundreds of thousands of bits of information, some of it relevant and much of it utterly inconsequential—the way your socks felt when you pulled them on your feet, the color of the bus that drove past as you were daydreaming in traffic. As Hardt says:

> *You would have an endless amount of useless stuff accumulating there constantly…each time you want to think about*

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the Jewish Holidays, eds. D. Shatz and S. Posner (New York: Yeshiva University Press, 2011), pp. 200–203, https://oupress.org/excerpts/purim-remember-forget/.

13 S.A. Small, *Forgetting: The Benefits of Not Remembering* (New York: Crown, 2021).

> *something—something key to your survival, such as the location of food or the signs of an approaching predator—all of these memories would pop up that are completely meaningless and that make it hard for you to actually do the job of predicting what is next.*[14]

It's almost as if our memories weren't built for the world of information and the printed text. From a biological perspective, we never needed to remember facts and figures or the names of all the people at a *kiddush*. We remembered the things that mattered for survival—the route home and where food was. Our brains naturally focused on those things, with a tendency to let go of nearly everything else.

The Jorge Luis Borges short story "Funes the Memorious,"[15] is a perfect illustration of the role of forgetting in helping us to navigate the world. An injury sustained in a riding accident leaves the title character with a chronic inability to forget anything at all. Funes learns multiple languages with ease and can cite long strings of historical facts. But he's miserable. Funes can't let go of anything. He looks at a landscape and registers every leaf on the vines, every hair in a pony's mane. He's swamped by minute changes of age and expression each time he looks at another person's face. Memories don't comfort him; they overwhelm him. "My memory, sir, is like a garbage heap," he tells the narrator. Forgetting serves us well. It tunes out useless information so we can focus on the relevant things. Without it, neither anger at a slight nor the pain of grief fades. Memories build us, and forgetting chisels away the excess, shaping the way we make sense of ourselves and our world.

What seems to be apparent is that the concept of forgetting is actually an important and positive aspect of our brains. And it's not just the world of science that frames it like this. *Koheles Rabbah* describes how forgetting Torah is actually a blessing in disguise: "Rabbi Yitzchak says: It

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14 J.L. Borges, "Funes the Memorious," in *Avon Book of Modern Writing No. 2*, eds. W.H. Phillips and P. Rahv (New York: Avon Publications, 1954), pp. 260–68.

15 C. Purtill, "The New Science of Forgetting," *Time*, April 28, 2022, https://time.com/6171190/new-science-of-forgetting/.