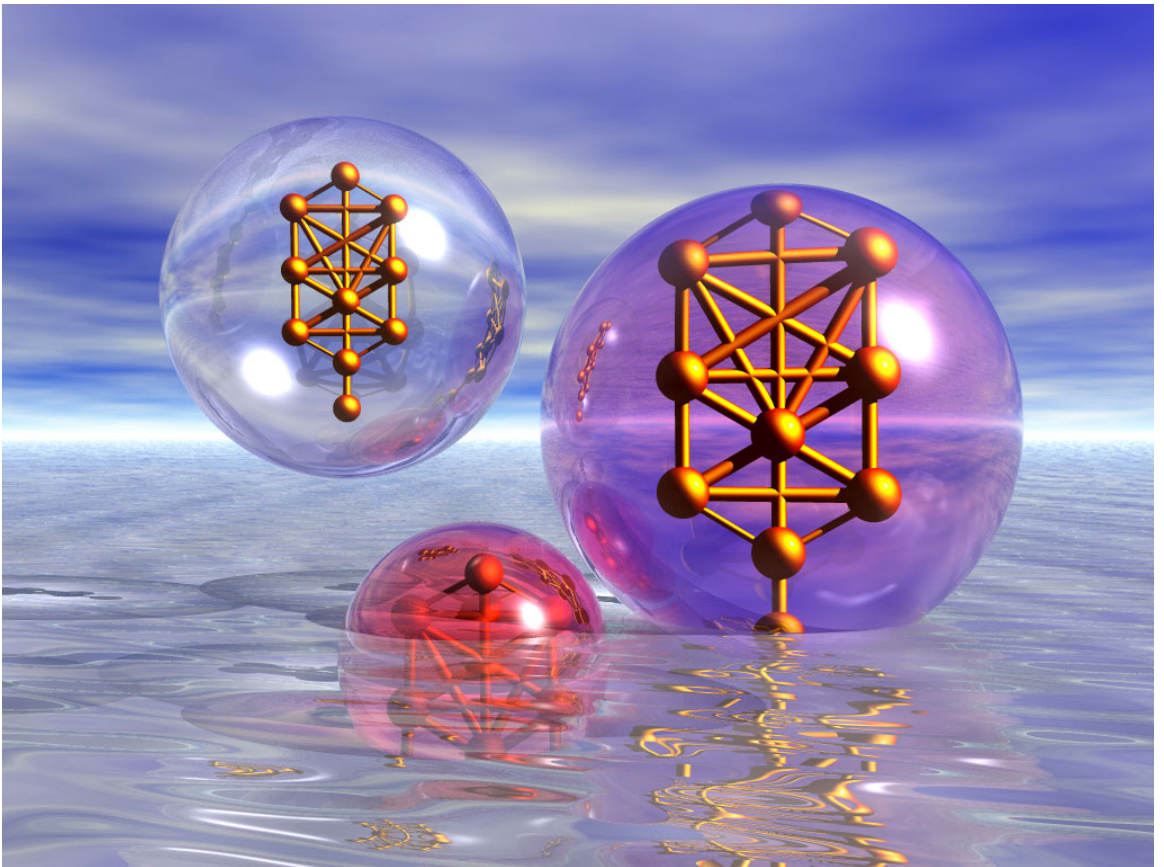


THE UNREALITY OF REALITY



**Doc Benton's Safe Guide to Traveling
Through the Multiverse**

DEDICATED TO

יושפה חוון



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Prologue

PROLOGUE

My name is Christopher Paul Benton, or Doc Benton as many call me today, and I've led an unconventional life. I'm of mixed Jewish/Native American heritage on my mother's side, I attended a synagogue in San Antonio when I was little, and I returned to Judaism as an adult. Still, I'm just as comfortable in a sweat lodge as I am in a synagogue. I was once a modern and classical ballet dancer, I had a scholarship with the School of American Ballet Theater in New York, and I danced in a musical with Ginger Rogers. I also have a bachelor's degree in mathematics with a minor in psychology, and I additionally have M.S. and Ph.D. degrees in mathematics. I've worked in psychiatric hospitals, attained through contemplation ultimate states of consciousness that are rarely experienced, worked on major statistical studies for the state of Texas, served as statistics advisor for masters and doctoral students, and published papers on rabbinic literature. I've been a dancer, a mathematician, a hippie, a statistician, a psychiatric counselor, a mystic, an assistant to Native American medicine men, a kabbalist, and a student of Talmud and other rabbinic literature. I've also received journal acclaim for innovative statistical research I've participated in, and I mentored one particular student from the time of his first semester in college as a recovering heroin addict all the way to the completion of his Ph.D. degree in organic chemistry from Tulane University. Nevertheless, the neighbor's used to always tell my mother not to expect too much from me. However,

Prologue

just as Moses was a stutterer and still managed to accomplish a lot, so can each of us exceed the expectations of those around us.

This book is also unconventional. It is in many ways a compilation of everything I've learned over a lifetime from mathematics, physics, and Jewish studies, and it is additionally, at times, a love story and the tale of love for a woman that I met when I was twenty and for whom I traveled across several universes to find again when I was in my fifties. This book is also about leading a rich and creative life, and as such, it explores two ancient forms of Jewish mysticism known as the "work of the chariot" and the "work of creation." The first part of the book examines lessons from philosophy, physics, and mathematics solely for the purpose of concluding that the universe is not the way most of us conceive it to be. Instead, it is much larger and much more magical. The second part of the book shows you how to lay a good practical and theoretical foundation for the journeys to follow, and the last part of the book describes safe ways to connect with the *Life of the Worlds*, travel through the cosmos, create the life you choose, and still get to work on time. The text of this tome exposes you to many advanced ideas in math and science, and it gives you a good taste of the beauty of Biblical, rabbinic, and kabbalistic literature and how they are often analyzed. The subjects are complex, but I've done everything that I can to make them as accessible as possible. All in all, it will be a very different and

Prologue

hopefully enjoyable reading experience. And if people get with the program, then this book just might leave the world in a little bit better place. Enjoy!

-Doc Benton

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HOW TO READ THIS BOOK

If you have expertise or familiarity with Zeno's paradoxes, Einstein's theory of special relativity, quantum physics, transfinite mathematics, Biblical Hebrew, rabbinic literature, and *kabbalah*, then this book will be a piece of cake. Not a problem! Or as one of my students used to say, a piece of lettuce! In other words, nothing to it. But on the other hand, if any of these topics are new to you, then you may want to take it slowly. As I often say, the topics in this book are like fine wine, and if you guzzle them down too quickly, you just might puke. Thus, take it easy and take your time. This book won't get mad at you if you want to take it slow.

My first recommendation for going through this book is that you begin by skipping around. Enjoy an effortless random walk as you go from one page to another, and in this way you will get a feel for the contents of the book and where everything is headed. After you've made friends with the text in this way, then you can start at the beginning. However, be forewarned. The first four chapters are devoted to math and science, and perhaps these areas aren't your strong suit. If that's the case, then don't despair. Just skim over things as best you can, and when you get to one of those places where I give a summary of what we've learned so far, focus on that part and then move on. If all else fails, start with Chapter 5. Or, alternatively, just open the book at random and read a few pages of whatever appeals to you. You don't really

How to Read this Book

have to go through this book in a linear fashion from beginning to end. Reading a bit here and a bit there is just fine. There's lots of good stuff in this book about mystical journeys, creative experiences, and even how to pet dragonflies that you won't want to miss. Consequently, hang in there. All you really need is the big picture, not the little details. And as my wife says, the payoff is in the last two chapters, and it's a finale that you won't want to miss!

Part 1

THE UNREALITY OF REALITY

Doc Benton explores philosophy,
relativity, quantum mechanics, and higher
mathematics, and realizes that everyone
has been lying to him about reality.

Zeno's Paradoxes

CHAPTER 1

ZENO'S PARADOXES

Beginners

How they are provided for upon the earth, (appearing at intervals,)

How dear and dreadful they are to the earth,

How they inure to themselves as much as to any--what a paradox
appears their age,

How people respond to them, yet know them not,

How there is something relentless in their fate all times,

How all times mischoose the objects of their adulation and reward,

And how the same inexorable price must still be paid for the same
great purchase.

-Leaves of Grass, Walt Whitman

Paradox-

1. *A statement or proposition that seems contradictory or absurd, but in reality expresses a possible truth.*
2. *A statement that contradicts itself such as, "This sentence is false."*
3. *An opinion or point of view that is contrary to accepted belief.*

4. A statement or view that conflicts with expectation.

Life is full of paradoxes. We just tend to ignore them. Additionally, paradoxes can be of at least two types. The word, in general, can refer to anything unexpected, or the word can be used in the manner that mathematicians and logicians use it to refer to something that is self-contradictory. This second use is illustrated by the statement, "This sentence is false." If that statement is a true statement, then it must be false. On the other hand, if it is false that the statement is false, then it must be true. If the statement is true, then it's false, and if the statement is false, then it's true. Paradox! We can't make heads or tails of the veracity of this statement, and so we are left in a quandary as we flip-flop back and forth between the statement being true and the statement being false. This is an example of a true logical paradox, and we often express such a situation symbolically by writing something like, "**A** if and only if **not-A**." The other use of the word paradox is to refer to anything puzzling or unexpected. For example, a thousand years ago most people believed that the world was flat, and the notion of a world that was round seemed paradoxical. Today we scoff at the ignorance of those who believed that the world was flat, but when we think of time as something that flows like a river and that is the same for everyone everywhere in the universe, we are just as guilty today as people were a thousand years ago of ignoring what modern science can teach us. Einstein explained in the early 1900s how time is experienced differently within different frames of reference,

and this reality is still contrary to the view that the average person has of time passage. Again, paradox! It surrounds us if we just open our eyes and our minds.

The purpose of this chapter is to highlight some of the ways in which through science and clever thinking we can realize that the universe is not quite like we imagine it to be, and this is our first step. The first leap forward is to realize the unreality of what we call reality and that our mental models, however useful, explain only a fraction of what is really out there. The first step to changing our world is to understand that our world is not what we think it is. In order to accomplish this we have to focus on those things on the fringes in order to unravel our current world view. Paradox! Let's begin.

Parmenides, Zeno, and Infinity

Parmenides was an influential Greek philosopher who lived around 500 BCE. The writings of Plato suggest that when Socrates was a young man, he visited in Athens with Parmenides, who was then about sixty-five, and also with Parmenides' student, Zeno, who was twenty years younger than his teacher. Not much remains of the writings of Parmenides, but we do know that he believed in the unchangeable nature of reality and that all change is an illusion. A similar teaching is held by many kabbalists based upon the following verse from *Isaiah 6:3*, "*Holy, holy, holy, is the*

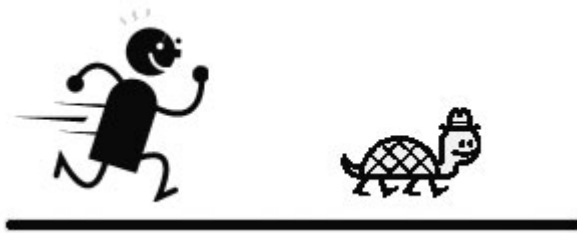
Lord of hosts; the whole earth is full of his glory.” Coupling this with *Malachi 3:6*, “*I am the Lord, I do not change,*” the logical conclusion is that God is everywhere, and God does not change. Consequently, the viewpoint of Parmenides is very compatible with traditional kabbalistic thought.

We seem to know a bit more about Parmenides’ student, Zeno, in large part due to comments made by Aristotle in his work *Physics*. As a result of Aristotle’s writings, Zeno today is famous for a series of paradoxes he posed that call into question some of the most basic assumptions we tend to make about reality. Some of his paradoxes seem to suggest that the assumption that space is a continuum that can be infinitely divided will invariably lead to a contradiction while other paradoxes appear to be aimed at showing that the assumption that space is composed of discrete locations will also lead to contradiction. In this way, Zeno tries to show that our usual view of reality is false regardless of which of the two assumptions we make.

Probably Zeno’s most famous paradox is that of *Achilles and the tortoise*. In this paradox, a race is to take place between Achilles and a tortoise. Since Achilles is obviously faster than the tortoise, he lets the tortoise start ahead of him. And then the race begins. Achilles soon arrives at the point where the tortoise started, but the tortoise, of course, has moved slightly further down the track. When Achilles arrives at that location, the tortoise has again moved further down the road. And so on and

Zeno's Paradoxes

so on. Consequently, how can Achilles ever catch up with the tortoise if every time he gets to a place where the tortoise has been, the tortoise has already moved on? As Aristotle wrote in his *Physics*, “*In a race, the quickest runner can never overtake the slowest, since the pursuer must first reach the point whence the pursued started, so that the slower must always hold a lead.*”



By the time Achilles reaches the point where the tortoise is now, the tortoise will have moved on.

A related paradox of Zeno's is called *the dichotomy*. To understand this paradox, suppose you are trying to walk across a room. Before you can arrive at the other side, you must first arrive at the halfway point. But before you arrive at the halfway point, you have to arrive at the quarter point. And before that, the eighth point, and before that the sixteenth point, and so on and so on. As Aristotle wrote in *Physics*, “*You cannot even start. That which is locomotion must arrive at the half-way state before it arrives at the goal.*”

Zeno's Paradoxes



Every step you take requires that you pass an infinite number of points.

Now many of you may be looking at the paradoxes of Zeno above and saying to yourselves, “What’s the problem?” After all, we all know that Achilles will eventually catch up with the tortoise and that we can walk across a room, so why have people puzzled over these situations for two millennia? Well, the problem and the reason people have pondered these puzzles for so long, is that they force us to confront infinity. For example, suppose we are walking across a room and we are looking to the right until we get halfway across. We then look to the left as we go half of the remaining distance (a quarter of the way across the room), and then we look to the right as we traverse the next half of what remains, and so on and so on. Now, once we get to the other side of the room, which way are we looking? Since there is no final point in this infinite sequence of looking right or left, there’s no way to determine the direction we will be facing at the conclusion. That’s the problem. In *Achilles and the tortoise*, Achilles completes an infinite sequence of events by the time he catches up with the tortoise, and in *the dichotomy*, each step we take requires

Zeno's Paradoxes

that we complete a journey of an infinite number of points, and each of these situations can lead to a logical conundrum. Aristotle tried to solve this problem by making a distinction between *potential infinities* and *actual* or *completed infinities*. For example, according to Aristotle, the counting numbers (one, two, three, four, etc.) are a *potential infinity* because we can continue the count as long as we like, but they are not an *actual infinity* since we can never complete the count. As Aristotle wrote in his *Physics*, “When we speak of the potential existence of a statue we mean that there will be an actual statue. It is not so with the infinite. There will not be an actual infinite.”

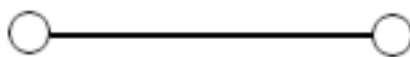


To cross a room you must complete an infinity by passing an infinite number of halfway points.

Nonetheless, if we assume that space (or time) is infinitely divisible, then every step we take (or every second that passes) seems to result in us completing an infinity. This is the mystery that Zeno wishes us to confront.

Zeno's Paradoxes

When I was a young student in graduate school in mathematics, I devised my own paradox regarding infinity. My original motivation, though, was with regard to what in mathematics we call “open intervals.” For example, an interval from a point a to a point b is called an “open interval” if the endpoints a and b do not belong to the interval, and it is called a “closed interval” if the endpoints a and b do belong to the interval. Thus, the interval of numbers described by saying $0 < x < 1$ is an open interval while the interval $0 \leq x \leq 1$ is closed. Also, if we take the closed interval from 0 to 1 and break it in half so that the number $1/2$ belongs to the first interval and not the second, then our first interval can be described as the numbers x such that $0 \leq x \leq 1/2$, and the second interval can be written as $1/2 < x \leq 1$. The first interval is closed since it contains both of its endpoints while the second interval is called half-open (or half-closed) since it contains only one of its endpoints.



An open interval doesn't contain its endpoints.



A closed interval contains both its endpoints.



A half-open interval contains one endpoint, but not the other.

Zeno's Paradoxes

This situation of having intervals that either contain or don't contain both endpoints is very common in mathematics, but during graduate school it began to bother me. For example, when I break a mathematical interval such as the one above in half, then only one of the subintervals contains two endpoints while the other subinterval is half-open. However, when I break a pencil in two, both of the pieces contain endpoints at each end. In fact, nothing like an open interval ever seems to exist in nature. Every time I break something in nature, the pieces always seem to have well-defined boundaries.



A broken pencil, a broken egg, a broken heart. Every piece has a boundary!

This is the way nature behaves, but that is not the way our mathematical models of the world behave. Because we use models for time and space that assume that every interval is infinitely divisible, we experience things such as open intervals in the mathematical world which don't really reflect what we usually observe in the universe. Reality, however, would be quite strange if it did behave as our mathematical models do. For example, in mathematics any solid that doesn't contain its boundary points would be deemed an open set. Such objects are perfectly

definable in mathematics, but when do we ever see anything in nature without a boundary? In fact, if something didn't have a boundary, how would we ever see it? What we see is always the first layer of what exists to an object. If there is no boundary or first layer, then there is nothing to see.

Now consider the following. Imagine the open interval from 0 to 1 on a number line colored green and the rest of the number line colored black. Next, imagine a small train starting at the number 2 and heading toward 1 on the number line. At the front of this small, old time train is a cowcatcher, and on the very tip of the cowcatcher there is placed what I call "an ideal green detector." In this thought experiment, the ideal green detector will detect without fail any green point that lies underneath, and as soon as it detects a green point the train stops. Now consider what happens when the ideal green detector is directly over the number 1. The train shouldn't stop, yet, since it has not detected a green point. But on the other hand, over what point could the train come to a stop? It shouldn't stop over the point at 0.9 because that is not the first green point the cowcatcher will cross. Likewise, it shouldn't stop at 0.99 because that, too, is not the first point the ideal green detector on the cowcatcher should come to. In fact, since there is no first green point in this colored, open interval from 0 to 1, we have a problem. It seems that the train must become immobile at the point 1 even though it has yet to encounter a point colored green. A

Zeno's Paradoxes

seemingly invisible force keeps it from going further if the green detector is indeed flawless.



There is no “first” green point for the train. If it stops over any green point, then it’s already passed an infinite number of other green points. What a paradox!

Even though this paradox was original to me, it turns out that there is nothing new under the sun. An older version of this paradox due to José Benardete is as follows. Imagine that you want to cross a room, but halfway across there is a powerful demigod that will stop you when you reach him. Now imagine that there is yet another powerful demigod a fourth of the way across the room that will also stop your progress. And now just continue this process of imagining barriers of powerful demigods in front of you. One sits an eighth of the way across the room, one a sixteenth of the way, and so on and so forth. Now ask yourself if it is possible to take even a single step. To make any progress at all you have to pass by an infinite number of powerful demigods each one of which is capable of stopping you. Consequently, you can’t even begin to move forward. And yet, until you do, there is

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nothing to stop you. This is the paradox that results from assuming that space is infinitely divisible.

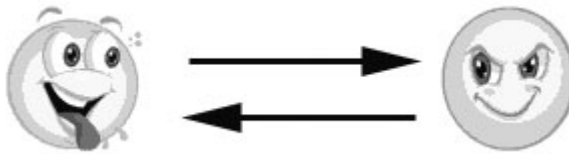


To reach the main halfway point, you have to first pass an infinite number of intermediate halfway points and an infinite number of demigods.

The final paradox of Zeno that we want to consider is called the *stadium*. This paradox appears to be aimed at showing that the assumption that space and time are composed of discrete quantities also leads to a contradiction. What follows is a modified, updated version of the original paradox. To begin, suppose that, instead of space and time being infinitely divisible, there is a smallest unit of space and a smallest unit of time. In this case, there would also be a maximum velocity that anything could travel without being in two places at once. The maximum velocity would be one unit of space per unit of time. Now suppose we have two particles in space, particle A and particle B, traveling toward each other at maximum velocity. Suppose also, that from our perspective, when we first notice the particles, they are two units of distance apart. Then since they are traveling toward each other at maximum velocity, they will meet each other after a single moment of time.

Zeno's Paradoxes

However, suppose particle A sees itself as standing still and particle B moving toward it, not unlike the way in which we daily experience the earth as fixed in location and everything else orbiting around us. Under this scenario, from particle A's perspective, particle B will traverse the two units of distance in a single unit of time. This contradicts our assumption that nothing can travel faster than one unit of distance in one unit of time, and, once again, something is rotten in reality land.



Are the particles flying toward each other at maximum velocity, or is one particle stationary while the other is going twice the allowed velocity?

The bottom line is that regardless of whether one thinks of space and time as infinitely divisible or only finitely divisible, our models for reality are still naïve. This is where science must come in to provide us with more sophisticated models that also fit experimental reality. However, even the best efforts of science still do not at this point solve all the mysteries. Nonetheless, one of the greatest intellectual efforts of mankind is certainly Einstein's theory of relativity. In the next chapter we'll take a look at Einstein's Theory of Special Relativity, and we'll establish the main results

Zeno's Paradoxes

through a series of eight thought experiments and conceptual arguments. No algebra required!

CHAPTER 2

EINSTEIN'S THEORY OF SPECIAL RELATIVITY MADE RELATIVELY SIMPLE

One of the greatest achievements of all time is Einstein's Theory of Special Relativity. Using nothing more complicated than basic algebra, he showed that if the speed of light in a vacuum is the same for all observers regardless of their frame of reference, then time and space have to bend in order for everything else to work out properly. Below, we go through a series of thought experiments that develop the main conclusions of special relativity. Also, for those of you who may not be so fond of algebra, we have presented our synopsis in a visual format with no math required. Enjoy!

Young Einstein

Albert Einstein was born in 1879 and died in 1955. He didn't start talking until he was three, and at age nine he still didn't talk very well. Everyone thought he was retarded. However, he got smarter.

The Ether

In 1820, Thomas Young performed an experiment that indicated that light is composed of waves. However, common sense told the physicists of that day that every wave needs some sort of medium to wave through. For example, ocean waves wave through water, and sound waves wave through air (as well as water and other materials). Thus, physicists believed that light waves also needed some medium to wave through. They called this medium the **ether**.

In 1831 two American scientists, Michelson and Morley, set up an experiment to detect the ether. The idea behind their experiment was that as the earth moves through space it would at times be moving with the ether and at other times against the ether. Suppose the earth were moving against the ether. Then the situation would be analogous to moving upstream in a boat. In that case, anything you threw downstream would move away from you faster than something that you threw upstream. Thus, physicists reasoned that as the earth moved through the ether, the speed at which light moved in one direction would be different from the speed of light in another direction. The experiment of Michelson and Morley was designed to detect this difference in speed, and thus, confirm the existence of the ether. However, when performed, the Michelson-Morley experiment detected no variation in the speed of light. As a result, scientists gradually discarded the idea of the ether (since it couldn't

be detected), and they began to accept the idea that the speed of light is the same in all directions.

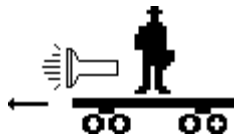
Thus, Einstein began his theory of special relativity with two assumptions:

1. The Principle of Relativity: One cannot tell by any experiment whether one is at rest or moving uniformly (that is, moving in a straight line with constant velocity). In other words, **there is no such thing as absolute rest**. All motion or rest is only in relation to other observed objects (i.e. I can consider myself not to be moving with respect to the earth while at the same time I am moving very rapidly with respect to the sun).

2. The Constancy of the Speed of Light: The speed of light in a vacuum has the same value c with respect to any observer either at rest or moving uniformly ($c = 186,282.397$ miles per second).

What Einstein then discovered was that in order for all observers to measure the same velocity for a beam of light, time would have to "flow" differently for different observers, and space would sometimes have to contract.

Experiment 1: Mrs. Einstein is standing in a field and Mr. Einstein is riding on a railroad car that is moving with velocity v . Mr. Einstein shines a flashlight in the direction in which he is moving.



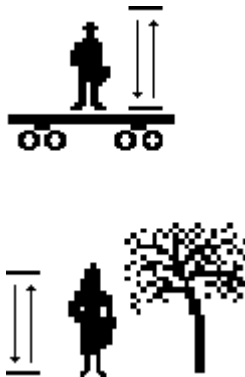
Question: What happens?

Answer: Because of the principle of the constancy of the speed of light, each observer will measure the light beam from the flashlight as traveling at the same speed. This may be contrary to what you expected as you might have thought that the observer in the field would have seen the beam moving at (the speed of light) + (the speed of the train). Nevertheless, this is not what is observed in practice. What actually occurs in the real world is that no one ever measures light moving faster or slower than $c \approx 186,000$ miles per second (in a vacuum).

Experiment 2: Mrs. Einstein is standing in a field. Next to her is a light clock. That is, two mirrors that are reflecting a beam of light back and forth, and the journey from one mirror to the other and back again counts as one tick of the clock. Also, Mrs. Einstein is wearing a watch that is synchronized with her light clock.

Einstein's Theory of Special Relativity made Relatively Simple

Standing on a railroad car is Mr. Einstein. He also has a light clock, and his clock is synchronized with Mrs. Einstein's and his own wristwatch. The railroad car is not moving.

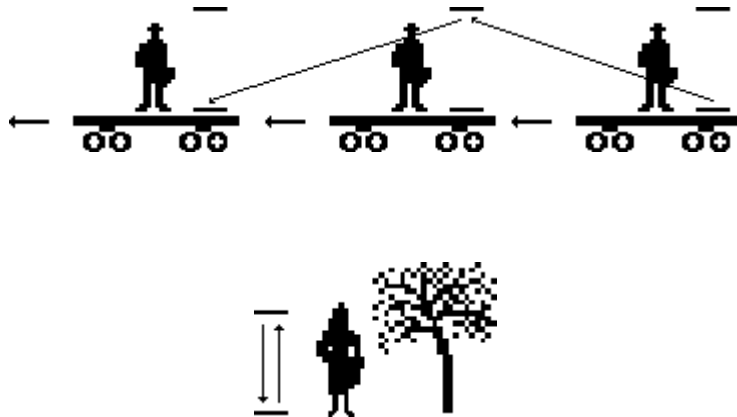


Question: What happens?

Answer: Nothing unusual happens. Mr. Einstein's watch and clock stay perfectly synchronized with Mrs. Einstein's.

Experiment 3: We now have the same set up except that the railroad car is now moving to the left with a velocity v .

Einstein's Theory of Special Relativity made Relatively Simple



Question: What happens?

Answer: From Mr. Einstein's perspective, the beam of light keeps going up and down between the mirrors, but from Mrs. Einstein's perspective, the light now has to travel a diagonal path from one mirror to the other. Since Mrs. Einstein still measures the speed of light as c , she is now going to observe Mr. Einstein's light clock as ticking slower than hers since the light now has a longer distance to travel. However, since Mr. Einstein still experiences his watch as being synchronized with his clock, Mrs. Einstein will see his watch slow down along with his clock!

Conclusion: If someone moves in a straight line with velocity v with respect to you, then you will observe time passing more slowly for them.

Experiment 4: Super Einstein is flying through space with his twin brother, Murray, who is 186,000 miles behind him. Every time he (Super Einstein) wants to make an

Einstein's Theory of Special Relativity made Relatively Simple

acceleration of 10 mph, he uses a flashlight to signal his brother so that they will accelerate together and stay the same distance apart.



From Einstein's perspective, he and his brother are 186,000 miles apart, and by letting 1 second pass on his clock before accelerating, he allows the light to reach his brother right at the moment of acceleration. As a result, from Einstein's point of view he and his brother accelerate together and remain a constant 186,000 miles apart. This is what Einstein sees, but if we are standing still with respect to Einstein and his brother, then what will we see?

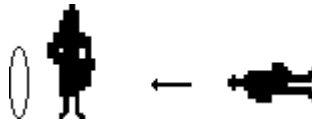
Answer: From our perspective, two things happen. First, we say that the beam of light has less than 186,000 miles to travel since his brother is traveling toward it. Second, we are going to see Einstein's clock as running slow. Thus, for two reasons we are going to see Einstein's brother get the signal to accelerate before a full second has passed on Einstein's clock and he begins his own acceleration. Hence, the distance

Einstein's Theory of Special Relativity made Relatively Simple

between Einstein and his brother gets shorter. However, if we stop our analysis at this point, then we are going to wind up with a contradiction, because if Einstein and his brother keep accelerating, and if we keep seeing his brother accelerate first, then eventually distance between them will become so small that Murray will run into Einstein. However, from Einstein's perspective, he and his brother stay a constant 186,000 miles apart! How can we resolve this seeming contradiction? Only by making a very bizarre assumption. In order to keep Murray from running into his brother the shortening of the distance between Einstein and his brother must be compensated for by a contraction of length in a direction parallel to the direction in which Einstein and his brother are moving! In other words, from our point of view, Einstein and his brother are getting shorter so that some distance always remains between them in spite of their accelerations.

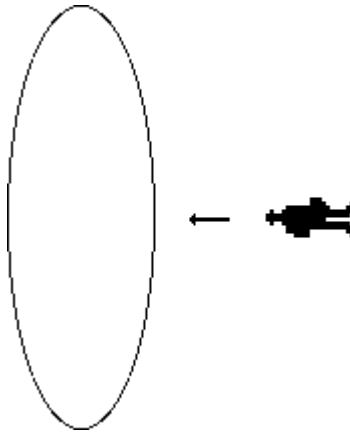


Experiment 5: Einstein's wife wants him to jump through hoops, but he wonders if anything strange will happen with regard to lengths that are perpendicular to his direction of motion.



Conclusion: Let us suppose that when an object moves that there is a contraction of length in the direction that is perpendicular to its line of motion. Then the diagrams below will show that this assumption leads to a contradiction.

By this assumption, if the hoop considers itself as standing still, then Einstein shrinks in the direction perpendicular to his motion and has no trouble going through the hoop.



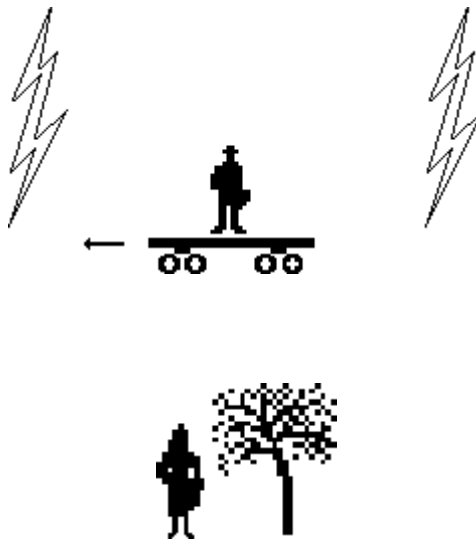
On the other hand, if Einstein considers himself as standing still and the hoop as moving toward him, then by our assumption he would see the hoop contract, and conceivably, he might then be unable to pass through the hoop.



This is a contradiction, though, since we can't have Einstein both passing through and not passing through the hoop. The assumption that leads to this contradiction is that lengths perpendicular to our line of motion will contract. An assumption that these lengths would expand leads to a similar contradiction. Thus, we can only conclude that there will be no change at all in lengths that are perpendicular to our line of

motion. The only lengths that change are those that are parallel to our line of motion, as we showed in the previous experiment.

Experiment 6: Mrs. Einstein is standing in a field and she sees two simultaneous flashes of lightning. Mr. Einstein is on a railroad car moving to the left with velocity v .

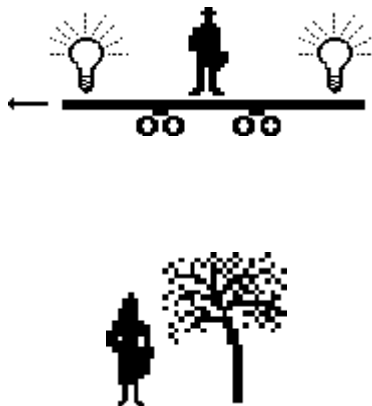


Question: What will Mr. Einstein see?

Answer: Mr. Einstein will see the light flash on the left first since he is moving toward that light and away from the flash on the right. Thus, he will not agree that the flashes of light occurred at the same time. In fact, from his perspective, Mrs. Einstein

is the one that is moving, and he will say that it is only because of her movement that she happened to perceive both flashes of light as happening simultaneously.

Experiment 7: Mr. Einstein is on a railroad car moving to the left with velocity v , and on his car are two light bulbs that, from his perspective, come on simultaneously. To confirm this, he could also rig some sort of detector that would go off only if both beams of light arrive at his position simultaneously.

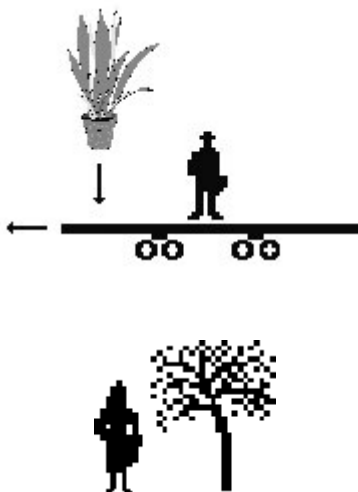


Question: What will Mrs. Einstein see?

Answer: She will agree that both beams of light reach Mr. Einstein at the same time. However, since from her point of view the light on the right has greater distance to travel, she will see the light on the right come on first!

Conclusion: From the above experiments we see that events which may be simultaneous for one observer can happen in a different sequence for another observer. This leads us to the startling conclusion that there is no such thing as a universal "now" for which everyone will agree on what happens "now". That is, I can see two events as happening "now" while another observer will see one event happening "now" with the other event yet to occur!

Experiment 8: Mr. Einstein drops his wife's favorite potted plant while traveling at a high velocity. It shatters. Meanwhile, his wife is standing in the field watching.



Question: What will they each observe?

Answer: They both agree that the pot shatters when it hits the surface and that Mr. Einstein is in BIG trouble. However, from Mrs. Einstein's point of view, Mr. Einstein's time slows down and she sees the plant fall in slow motion. This raises the question of why the pot shatters if it seems to gently float to the surface of Mr. Einstein's railroad car. The answer has to do with momentum. Momentum is the amount of "punch" something has. Physicists define momentum as the product of mass and velocity ($momentum = mass \times velocity$). For instance, a car hitting you at 1 mph will do a lot more damage than a feather hitting you at 1 mph because it has more "punch". This extra punch or momentum is a consequence of the car's greater mass. Likewise, if both Mr. and Mrs. Einstein agree that the dropped pot shatters, then this is because the momentum of the pot has remained unchanged. However, since Mrs. Einstein sees the pot falling with less velocity, this also means that **its mass must have increased** in order for momentum to be conserved.

Conclusion: When an object goes fast with respect to us, not only do we see its clocks slow down and its length shorten, we also see an increase in its mass!

An Obvious Objection

Objection: He says my clock slows down and that my distances shrink when I know that it is really his time and space that are changing.

Answer: Actually, there is no contradiction to each of us observing the other's clocks and distances changing. There would only be a contradiction if both of us were making our measurements from the same frame of reference and then arrived at different results. However, in order to be in the same frame of reference, one of us would have to alter his motion in order to bring it in line with the other person's. When this happens, extra forces are brought into play and that person is no longer moving with a constant velocity with respect to us. This destroys the symmetry of the situation, and results in one of us definitely having a slower clock.

Experimental Verification: Several relativistic effects have been confirmed experimentally. For example, highly accurate atomic clocks have been synchronized with one another and then one has been flown at high speeds in a jet for a sufficient length of time, and when compared with each other again, less time is found to have passed on the clock that was moving at high speeds. It has also been observed that atomic particles decay more slowly when moving at high speeds as predicted by relativity. In addition, many other experiments have been performed over the years that provide ample verification of the predictions of relativity.

Final Conclusions

If light didn't travel at the same speed in a vacuum for all observers in all frames of reference, then some pretty weird things might happen. For example, if a galaxy was

receding from us at a rate near that of the speed of light, then a beam of light from that galaxy might cross our path at a pace that is only a fraction of one mile per hour (speed of light minus the speed at which the galaxy is receding). Now to see a beam of light slowly making its way, for example, from one side of a room to the other would be really strange! To keep something like that from happening, light has to travel at a constant velocity for everyone, and space and time have to bend to compensate for this feature. Consequently, space and time are still stranger than we imagine, and our usual ideas of space and time are just as inaccurate as the belief that people once had that the earth is flat. In actuality, space and time don't exist independently from one another, and since different observers can see events occurring in different time sequences, this suggests that there is no universally fixed time sequence existing separately from the observer and, hence, that all of space-time exists simultaneously. Much of the confusion that most people have in thinking about space and time results from the assumption that space and time are things that exist independently of objects. However, try to imagine a universe in which no objects exist. In such a universe there would be no points of reference from which to measure the passage of time or distances in space. In such an existence, time and space would only exist as mental constructs. Thus, if we can accept that time is only a measurement that is made of the separation between parts of an observed sequence of events and that distance is only a measurement of the separation between events that are observed to occur at the same time, then it is not so surprising that observers in

Einstein's Theory of Special Relativity made Relatively Simple

different frames of reference will measure these things differently. In other words, the universe is still relatively . . . interesting!

CHAPTER 3

QUANTUM MECHANICS – SOMETIMES YOU FEEL LIKE A WAVE, SOMETIMES YOU DON'T!

As strange as relativity seemed to people at its inception, the soon to be developed theory of quantum mechanics was even stranger. Even Einstein was never too thrilled with quantum mechanics. He thought that it replaced strict causality with more capricious probability. This led to his famous dictum, “God does not play dice with the universe.” Ironically, in spite of his opposition to quantum physics, Einstein was one of its founders as a result of a paper he published in 1905 on the photoelectric effect. In this paper, Einstein showed that observed phenomena could best be explained if light was emitted as a particle or discrete packet of energy called a photon. Recall that at the beginning of the last chapter we noted that Thomas Young had performed experiments that showed conclusively that light is a wave. The photoelectric effect, however, showed just as conclusively that light is a particle. Consequently, once again we are confronted with paradox. Also, as we've previously mentioned, thousands of years ago Zeno's arguments showed that there were problems with both the assumption that reality exists along a continuum and the assumption that it is as composed of discrete, indivisible particles. If reality, i.e. time and space, is composed of discrete particles, then there should be an ultimate velocity of one unit of distance per unit of time, and Einstein's theory of special relativity

shows us the consequences of the speed of light being an ultimate velocity that is the same in all frames of reference. Quantum physics, in turn, will show us that matter sometimes acts like a discrete particle and other times like a wave that is continuous and can extend forever in all directions. It is almost as if since no one view of reality is free of contradictions, the nature of reality must flip-flop back and forth in order to be consistent with whatever situation surrounds it. This is the paradox of quantum physics.

The essential mystery of quantum physics is found in what is known as the double-slit experiment. The set up is like this. You have one sheet with two slits in it for photons from a light source to pass through. Beyond the sheet with the two slits is a wall that serves as a detector for where the photons wind up. Now let's do the following. You take the sheet with two holes in it, and you cover up one of the holes while you hold a flashlight in front of the other hole. What happens? Well, nothing happens that contradicts the assumption that a light beam is made up of little particles called photons. On the wall opposite the hole you see a big spot illuminated directly across from the hole and the light fading out as you move off to the sides away from the brightly illuminated spot. There's no problem here. Light is made up of particles, all the particles go through the same hole, and the light hits the wall on the other side with it concentrated exactly where you would expect it to be. Now suppose you cover up the first hole and shine the light through the other hole. Again there is no

problem. All the good little photons now go through the second hole, and most hit the wall directly opposite the hole just like good little particles are supposed to. It's very much like you are throwing baseballs through a hole, and on the other side of the hole is a wall that the baseballs will hit against. As expected, most of the baseballs will hit the wall close to almost directly opposite from the hole they passed through. Only a few will go far off to one side or the other.



A photon will pass through a single slit as a particle.

Now let's suppose you shine the flashlight simultaneously at both holes. What happens? Well, what happens is that the light no longer behaves like it's made up of good little particles that all have well-defined locations in space. Instead, the light behaves as if it is a wave hitting a wall with two holes in it, and on the other side of the wall two wave fronts emerge and they begin to interact with each other. The result is exactly the same as when you see two small waves colliding in a pond of water. At some points the waves add to each other and increase their size, and at other points they cancel each other out. The result is that on the other wall we see a

series of light and dark images that illustrate where the waves combined their brightness and where they cancelled each other out. If we were throwing baseballs at the two holes it would be as if the baseball suddenly turned into a wave, went through the two holes simultaneously, and then created a wave interaction on the other side that we call an interference pattern.



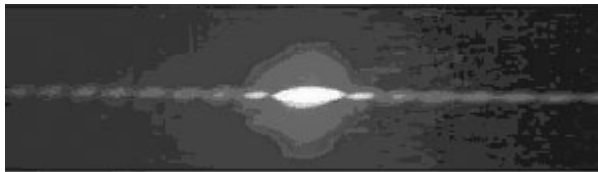
The photon goes through the double slit as a wave.

At this point we might concede that the light is acting like a wave, but if we still believe it is a particle, as other experiments seem to prove, then we might set up some detectors to determine which hole each individual photon is actually passing through. This has been done by experimental physicists, but there is one problem. As soon as detectors are set up to find which of the two holes each particle goes through, the interference pattern, the pattern of light and dark bands, disappears! In other words, when we set up an experiment to observe light as composed of particles, light starts acting like a particle. However, when we don't set up an apparatus to observe light as a particle, it acts like a wave as it passes through the two holes. We now have the uncanny ability to make light either a particle or a wave by choosing whether to set

up the particle detector or not. In other words, we are able to change reality just by choosing how we decide to observe it. Now that's powerful!



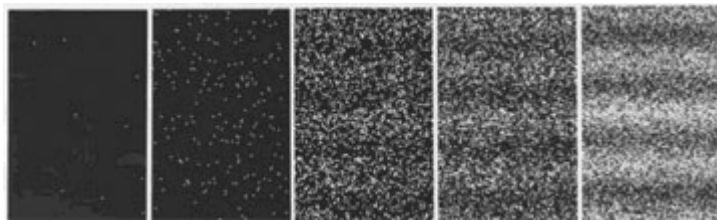
When we know which slit the photon went through, there's no interference pattern.



When we don't know which slit the photon went through, there is an interference pattern.

As physicists explored more fully the implications of the double-slit experiment, the mystery deepened further. In fact, the true nature of light as both a particle and a wave is highlighted by the following experiment. It is possible to assemble a light source that is of such low energy that only a single photon gets emitted at a time. When this has been done, a single particle of light, one at a time, leaves the emitter, and when it reaches the two slits, common sense says it should pass through either one or the other if light is only a particle. However, what happens is that even though only a single photon at a time is approaching the two slits, on the other side we still get the same interference pattern after firing several photons. In other words, each

photon leaves the emitter as a single particle, acts like a wave when it reaches the two slits, appears as a particle again when it hits the wall on the other side, and yet the same wavelike interference pattern is created after we have fired a sufficient number of photons at the two slits. However, if any sort of apparatus is set up to detect which slit a single photon goes through, we immediately lose the interference pattern. Instead, we just get light flashes concentrated at the points on the wall behind each slit. The pattern changes exactly to what we would normally expect when we throw baseballs at two holes and mark where they hit the wall on the other side. This experiment shows that light is indeed both a particle and a wave. Furthermore, the transition from wave form back to particle is what is known as the collapse of the wave function, and this is the quintessential mystery of quantum physics. How does something switch from being a nebulous, spread-out-through-space wave at one moment to a concrete particle the next? That's the mystery.



Even when only one photon at a time approaches the double slit, we still get an interference pattern.

Quantum mechanics, however, gets even spookier. For example, when the wave function collapses and we see a particle hit the wall on the other side of the two slits,

there is no telling for certain where that impact is going to occur. The best we can come up with are probabilities that there's a 90% chance it'll hit here, a 10% chance it'll hit over there, and so on. Again, that's why Einstein didn't like quantum physics and why he felt it was incomplete. He couldn't accept this type of indeterminism in the universe. Of course, as several people have pointed out, such a lack of indeterminism seems necessary for free will to exist. Otherwise, everything is like a billiard game where the future of any ball is completely dependent on where it hits the edge of the billiard table and the velocity with which it's traveling. Thank goodness the universe isn't like a predetermined billiard game! If it were, I'd probably lose every time!

A colleague of Einstein who was also disturbed by some of the conclusions of quantum mechanics was Erwin Schrödinger. He came up with a conundrum that has come to be known as "Schrödinger's cat." This paradox, by the way, is based on the commonly held assumption that the wave function doesn't collapse until we make a direct observation. The setup for Schrödinger's cat is as follows. A cat is sealed in a box along with a flask of hydrocyanic acid. Also in the box is a Geiger counter that is rigged to a device such that if it detects a radioactive event within an hour, then a hammer will fall and break the flask and the cat will die. Suppose additionally that the likelihood of this happening is 50%. Now as stated above, according to the standard interpretation of quantum mechanics known as the *Copenhagen*

interpretation, the wave function for the possible radioactive event doesn't collapse until a direct observation is made. Until then, all possibilities exist. What this means is that until you open the box and look, the cat is simultaneously alive and dead. Reality doesn't coalesce into particle form until that observation is made, and until that moment, all possibilities simultaneously coexist. The live cat and the dead cat are both there together smeared out through time and space. Spooky, isn't it!



Is Schrödinger's cat dead or alive?

Even though the *Copenhagen interpretation* of quantum physics has long been the most popular, other interpretations exist that are also consistent with the basic equations of quantum mechanics. In particular, there is the *many worlds interpretation* of physicist Hugh Everett. In this interpretation, the wave function never collapses at all. Instead, reality just keeps splitting into an infinite number of parallel worlds. In some of these worlds Schrödinger's cat is alive and in some of them the cat is dead. Which world we wind up in depends upon what we observe.

In the late nineteen seventies, John Archibald Wheeler proposed a scenario in which we could determine after the fact whether a wave function has collapsed or not. He theorized an experiment where, after particles have already passed through the two slits, you can decide whether to leave the wall on the other side up or replace the wall by detectors designed to indicate which slit each particle passed through. When the wall is left up, the usual interference pattern appears, but when the wall is replaced by the two detectors, interference disappears and one gets a clear indication of which slit each particle passed through. The catch, though, is that the particles have already passed through the slits, and it is the after the fact decision that we make that determines whether they went through as particles or as waves. Such a delayed choice appears to give us the ability to make decisions today that can cause wave functions to retroactively collapse in the past. In fact, one version of quantum mechanics known as the *transactional interpretation* assumes this very thing. The basic mathematics is interpreted in such a way that present events can be the result of the interaction of causal information from the past with additional information moving backward in time from the future.

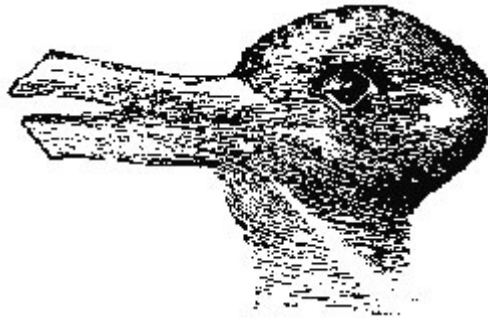
As we've said several times, Einstein did not like the implications of quantum mechanics, and in 1935 Einstein, along with his colleagues Podolsky and Rosen, published a paper titled, "Can Quantum-Mechanical Description of Physical Reality be Considered Complete?" The thought experiment outlined in this paper has come

to be known as the Einstein-Podolsky-Rosen paradox. In a nutshell, this is the argument they use. According to quantum mechanics, when two particles interact they become part of a single system. Their future is described by a single equation. This phenomenon is known as quantum entanglement. Consequently, if you know certain parameters about one particle, then you will also know the values of those parameters with respect to the other particle, no matter where in the universe that other particle is located! For example, instead of two particles, think in terms of two twins who always dress alike. If you come across one twin, then you immediately know what the other twin is wearing. However, in the quantum world, if one twin changes his shirt, then the other twin will also instantly change his, too, and this will happen even if the twins are situated on opposite sides of the universe! This is what Einstein felt was a flaw because this seemed to require that information travel faster than light, which is a violation of his own theory of special relativity. In 1964, however, John Bell derived an inequality that made it possible to see whose view of reality was correct, that of Einstein, Podolsky, and Rosen, or that of quantum mechanics. When physical experiments were done, the clear winner was quantum mechanics. Measuring characteristics on one particle does indeed give you accurate information about the entangled particle regardless of how far apart the two particles are. Furthermore, since faster-than-light transfer of information is not possible, something else must definitely be going on.



Information about one twin automatically tells you what's going on with the other twin.

In my view, since I tend to favor the *many worlds interpretation* of quantum mechanics, there's really not much of a problem. If all of these various parallel universes exist simultaneously, then when we measure a characteristic of a certain particle, we are simply also choosing that we can only be in those parallel worlds where the entangled particles have matching characteristics. In other words, every choice we make puts us in a particular universe. It's somewhat like the optical illusion below. The image below can be seen as either a duck or a rabbit. However, once our minds have made a choice, everything else has to fall into place accordingly. Thus, in all you do, choose your actions wisely. They may just affect everything else in the universe, too.



Is it a duck or a rabbit?

Over the years, several other interesting consequences of quantum physics have been noted and verified experimentally. One of these is the quantum eraser effect. In this type of experiment, particles are first created in pairs that are entangled with each other. Recall that this means that we can determine a characteristic on one particle by making a corresponding measurement on the other. For example, suppose we create twin particles, and we send the first twin through the double-slit experiment and the second twin in another direction. Suppose also that we put polarizing filters in front of each slit with the result that the particles that go through the filter in front of the first slit are, to use ordinary language, “looking up,” and the particles that go through the filter in front of the second slit leave it “looking down.” Then when the particles emerge on the other side of the two slits, we can determine exactly which slit they went through by checking to see if they are looking up or looking down, and concomitantly, as a result of knowing which path they took, the wave-like interference pattern disappears. Furthermore, if any particle is looking up or down,

then its twin has to also be looking in that direction (Recall that we are using the terms “looking up” and “looking down” merely as comfortable substitutes for the less familiar types properties that atomic particles can possess such as “spin” or “polarization.” Now, however, let’s suppose that we place a filter in front of each of the second twin particles that didn’t go through the two slits, and that the effect of this filter is to make all the particles look forward in the same direction. This instantly causes the first of each twin particle to face forward, and we lose the information about which slit each particle went through. This final filter is called a quantum eraser because it erases the information we previously generated, and it makes the objects once again interact like waves instead of particles. There is also an even more complicated version of this quantum eraser experiment called a delayed quantum eraser. In this experiment, the choice to erase or not erase the path information is made after the particles have had time to hit the wall on the other side. Nonetheless, whether or not we make this after-the-fact choice will still determine whether we can detect an interference pattern or not. Again, the results of our choices seem to reverberate in all directions throughout time.

One final quantum effect I want to mention is a very interesting one known as the quantum Zeno effect. This effect is reminiscent of a paradox of Zeno known as *the arrow*. In this paradox, Zeno notes that if you shoot an arrow into the air and if time is composed of discrete moments, then at any particular moment in time the arrow is

not moving. Consequently, how does the arrow ever move? Of course, we know from practical experience that the arrow moves (or at least appears to move), but on the quantum level this paradox takes on new life. In essence, the experiment is as follows. Suppose a measurement is made on an unstable particle to see if it has decayed or not. When you make the measurement, the corresponding wave function collapses to a particular state, and let's suppose that state is one in which the particle has not yet decayed. Now in order for the particle to change its state, it has to first go back from particle to wave form, and then when we make another measurement in order to see if the particle has decayed yet, the wave collapses again. Suppose, though, that we are able to continuously make measurements on the particle. Then this, in turn, will suppress the ability of the particle to return to its wave form, and consequently, its ability to change its status is likewise suppressed. This is another result of quantum physics that has been verified experimentally, and it gives new credence to Zeno's arrow paradox. It also shows that your mother was right. A watched pot never boils.



If the arrow is stationary at any given moment of time, does it ever really move?

Several interesting situations and anomalies associated with quantum mechanics have been highlighted above. A few others worth mentioning and briefly discussing are as follows:

- The Heisenberg Uncertainty Principle – The more that is known about the exact position of a particle, the less is known about its momentum. In other words, the more you know about where a particle is, the less you know about where its going, and the more you know about where a particle is headed, the less you know about where it is. According to quantum physics, neither a particle's position nor momentum exists independently of everything else at any given moment in time. Instead, just as when we turn a wave into a particle by making an appropriate measurement, so can we give a particle a more definite position or momentum by choosing to measure that

characteristic with precision. However, these qualities do not exist independently of our measurement of them.

- Planck Units – A consequence of quantum physics is that there exist minimal units of time, space, and mass. As a result, time, space, and mass are not infinitely divisible as our usual mathematical models assume. Instead, the smallest allowable unit of length is called the Planck length and is approximately 1.616×10^{-35} meters. The smallest allowable unit of time is called the Planck time and is approximately 5.391×10^{-44} seconds, and the smallest allowable unit of mass is called the Planck mass and is approximately 2.176×10^{-8} kilograms. It should be noted, though, that this doesn't mean that space is composed of fixed little "space" marbles of diameter equal to the Planck length all stacked right next to each other. If it were, then this would violate one of the tenets of relativity theory that there are no fixed reference points in space from which to measure one's velocity. Furthermore, recall that according to Einstein's theory of relativity different observers can measure the same object as having different lengths. Thus, I may see an object as ten Planck lengths long while you may see it as only nine Planck lengths. It's all in the eye of the beholder. Nevertheless, these notions of time, space, and mass do not exist in measures below their respective Planck units.

- Quantum tunneling – Suppose you are locked in a room where four walls, a ceiling, and a floor are between you and freedom. You are not getting out because you are on the wrong side of the wall. Or are you? Remember that in quantum mechanics, particles don't possess definite locations until we make a measurement of that property. Thus, the best we can say is that there is a high probability that your location will be determined as being inside the room, but that there is also a slight probability that you will “pop” into existence outside the room. This kind of relocation on the other side of a barrier is known as quantum tunneling, and even though it seems like an exotic concept, many things in science and technology, such as the flash memory cards that we store computer information on, work the way they do because of quantum tunneling.
- Quantum suicide/Quantum immortality – Some years ago I had the following capricious thought with regard to the *many worlds interpretation* of quantum physics. It occurred to me that if reality is always splitting into various versions of itself, then in some of those versions you will be alive and in others you will be dead. However, it is presumably only in those that you are still alive that your human awareness and identity continue. Consequently, assuming that there is always at least one version in which you are alive, then from your perspective you will live forever (since you will only experience the worlds in which you are alive). Other people will see the other realities

where you grow old, watch some really bad movies, and eventually die, but you will only witness the realities where you are still alive. I thought this idea of immortality through the *many worlds interpretation* was rather fanciful, but just this sort of immortality has been highlighted in a thought experiment known as “quantum suicide.” Suppose you’ve decided to put a bullet through your brain, but with one catch. Your gun is connected to a device that is measuring some characteristic of an atomic particle. Suppose that each time the measurement is made, there is a 50% chance it comes up with one value and a 50% chance that it has another value. Suppose also that, depending on the outcome of the measurement, the gun either fires or it doesn’t fire. In this scenario under the *many worlds interpretation* reality splits into two versions with equal probability – one where the gun fires correctly and you die, and another where the gun doesn’t fire and you live. Now in a world where the gun doesn’t fire, your life continues and you can try to fire the gun again. However, each time you try, the results will be the same. The “you” in a world where it fires dies, and the other “you” continues indefinitely in the world of the living. Better living through quantum physics!

- Brane Theory – The latest physical theories of the universe all require the existence of many, many additional dimensions in order to adequately explain how our particular world of three spatial dimensions and one temporal dimension could possibly exist. The objects that inhabit these various

dimensions are called “branes.” A 0-brane is a point, a 1-brane is a string, a 2-brane is a regular 2-dimensional membrane, and a p -brane (I like that name!) is a higher dimensional membrane that might exist in a $p+1$ dimensional space. The bottom line, though, is that the latest physical theories postulate both a multitude of dimensions and a multitude of universes. Thus, it's not just a single world that exists. It's a multiverse!

When we review the scope of the results of quantum mechanics, it's easy to see that reality is very different from the way most people conceive it. Here is a short list of some more correct ways we can view the world around us.

- In the real reality, everything has both a particle side and a wave side. As a particle, locations and boundaries tend to exist. There is separation between the particle and that which is not the particle. As a wave, on the other hand, an object doesn't exist at any definite location. Instead, it can exist anywhere along a continuum with varying probabilities. The peaks of the wave function show where the object is most likely to be found (if you make a measurement), and the valleys show where it is least likely to be. It is interesting how the wave-particle duality of nature is so reminiscent of the dichotomy between continuous and discrete that Zeno spent so much time exploring.

- Multiple parallel worlds can exist, according to the *many worlds interpretation* of quantum mechanics, and information can flow not only from past to present but also from future to present according to the *transactional interpretation*.
- All and everything may be eternally connected as a result of quantum entanglement originating with the Big Bang. Hence, our separation from other people and things may be the grandest illusion of them all.
- And finally, the *Copenhagen interpretation* of quantum physics seems to require an observer in order for wave functions to appear to collapse. Indeed, awareness may be synonymous with the collapse of a wave function, and thus, consciousness itself may be built into the universe under the laws of physics!

CHAPTER 4

MATHEMATICS – WHEN THINGS DON'T ADD UP

There are many different paths and purposes one can take in mathematics. Some people are drawn to areas of applied mathematics and enjoy solving real world problems about things such as the rate at which one quantity changes with respect to another. Other people prefer more abstract mathematics and the clean logic behind theorem proving. For me, however, mathematics is just another path to enlightenment. As such, math can shed light on those things which are murky or unclear. Additionally, mathematics can provide metaphors and models for things beyond imagination, and more importantly, mathematics can reveal to us the limits of rational thought. One of those limits was revealed as a result of the development of the theory of infinite sets in the late 1800s by Georg Cantor. To set the stage, we often think of mathematics as the one place where things are true or not true, right or wrong. We don't normally think of mathematics as possessing paradoxes or contradictions. Nonetheless, that's exactly what happened when Cantor led the mathematical community into the intricacies of infinity.

For centuries mathematicians avoided infinity as an ill-defined, slippery slope they did not want to go down. As the great mathematician Carl Friedrich Gauss (1777 CE – 1855 CE) once said, “I protest against the use of infinite magnitude as something

completed, which is never permissible in mathematics. Infinity is merely a way of speaking, the true meaning being a limit which certain ratios approach indefinitely close, while others are permitted to increase without restriction.” However, as Gauss’ life was coming to an end, the life of Georg Cantor’s (1845 CE – 1918 CE) was just beginning. Of the infinite universe that he opened up for the rest of mathematics, David Hilbert (1862 CE – 1943 CE) declared, “No one shall expel us from the paradise that Cantor has created.”

So what exactly did Cantor do and how did he do it? Let us begin. Cantor’s interest in infinity came about as a result of the study of certain equations that had an infinite number of solutions. Cantor realized that to describe what was transpiring he needed a vocabulary that did not exist at that time. In the process of creating a vocabulary, he also created “set theory.” One of Cantor’s early definitions of a set was, “A set is a many which can be thought of as a one.” However, today most people think of the word “set” as a synonym for the word “collection.” Thus, the set of numbers 1, 2, & 3 (written in set notation as $\{1,2,3\}$) can also be thought of as the collection $\{1,2,3\}$. When we are comparing the relative sizes of finite collections, that’s easy. We just count up how many elements there are in each collection or set. Consequently, the set $\{1,2,3\}$ has three elements, and the set $\{a,b,c\}$ has three elements. However, when we are comparing the sizes of infinite sets, things are not so clear. Are all infinities the same? Is infinity just infinity? For example, the numbers 1, 2, 3, and so

on, are called the counting numbers, and they are denoted in set notation by $\{1, 2, 3, \dots\}$. If we compare the counting numbers $\{1, 2, 3, \dots\}$ with the even counting numbers $\{2, 4, 6, \dots\}$, are these sets the same size because they are both infinite, or is the set of counting numbers larger than the set of even counting numbers since the latter is wholly contained inside the former? To answer these questions, Cantor needed a way to compare the relative sizes of infinite sets, and the answers did indeed turn out to be surprising.

Cantor realized that children begin comparing sizes even before they begin to count. For example, even without counting we know that we have just as many thumbs and fingers on one hand as on the other because we can pair up the thumb and each finger on one hand with a corresponding partner on the other. Such a pairing is referred to in mathematics as a one-to-one correspondence. This was the tool Cantor needed in order to see if one infinity might be larger than another infinity. He concluded that the infinity of the counting numbers was the same size as the infinity of the even counting numbers because the rule that pairs a counting number n with the even counting number $2n$ establishes a one-to-one correspondence between the two sets. Thus, 1 gets paired with 2, 2 gets paired with 4, 3 gets paired with 6, 4 with 8, and so on. Every counting number n gets paired with exactly one even counting number $2n$, and no numbers in either set are left unaccounted for. Now for the bombshell. Cantor proved that it is impossible to find any sort of one-to-one correspondence

between the set of counting numbers, $\{1,2,3,\dots\}$, and the set of real numbers, the numbers that correspond to the points on a number line¹. Consequently, not all infinities are the same size, and since the counting numbers are contained in the set of real numbers, the real numbers must represent the larger infinity. Furthermore, Cantor also proved that given any set, the set of all subsets of that set is always larger in size. For example, suppose you want to make your own pizza, and you have three toppings to choose from – cheese, pepperoni, and onion. You could consider this as a set with three elements, $\{cheese, pepperoni, onion\}$, and you could choose 0, 1, 2, or 3 toppings from this set. Any set of choices would be a subset of the original set. Also, if you don't choose any toppings, we call that the null or empty set, and we denote it by \emptyset . We can view the set of all subsets of $\{cheese, pepperoni, onion\}$ as a list of eight different possible choices for our toppings. In particular, we could choose any of the following combinations of toppings:

- None, \emptyset
- Cheese
- Pepperoni
- Onion
- Cheese & Pepperoni

¹ The real numbers include zero, the counting numbers, the negatives of the counting numbers, and also all fractions and all irrational numbers such as $\sqrt{2}$ and π . These are the numbers that are represented by the number line, and we call them real numbers because these are the numbers that we usually need when dealing with reality.

- Cheese & Onion
- Pepperoni & Onion
- Cheese & Pepperoni & Onion

What is quite important to us here is that the set of possible toppings we could choose is larger than the original set of three toppings that we have to choose from. The original set has 3 elements, but the set of all of its subsets consists of the 8 elements that we've listed above. Consequently, the set of all subsets of our original set is larger. It can easily be shown that if a set contains exactly n elements, where n is a finite counting number, then the set of all of its subsets contains 2^n number of elements. Hence, our 3 element set had 2^3 or 8 subsets. It's also easy to see for finite sets that the set of all subsets will be larger, but Cantor's genius allowed him to extend this result to infinite sets. Thus, the set of all subsets of the counting numbers is a larger infinity, the set of all subsets of that result is an even larger infinity, and so on and so on. Cantor now knew how to construct an infinite number of infinities of different sizes.

Now comes the problem. Consider the set of all sets, in others words, the collection of every possible thing, the mother of all collections. And now ask yourself, "How large is the set of all subsets of the set of all sets?" On the one hand, Cantor proved that the set of all subsets of any given set is going to be larger than that original set.

But on the other hand, how could anything be larger than everything? Aren't we talking about the collection of all possible things? And if so, what could be larger? Or, for some reason, does the formal, deductive logic of mathematics forbid us from even talking about "the collection of everything?" This was one of the first paradoxes found in set theory. To talk about the collection of everything led to contradictions, but on the other hand, it was not apparent why you could not talk about "everything." Nonetheless, it soon became clear that if sets were allowed to be too large, then this and other paradoxes would arise. So, the solution that mathematicians came up with was to first construct a set of rules or axioms that they believed sets would abide by. These rules were generous enough to allow the existence of infinite sets of different sizes, but restrictive enough to disallow sets that were so large that they led to contradictions and paradoxes such as the one above. The term "set" itself was just left as an undefined term so that it could represent any sort of object we might come across that seemed to obey the axioms. This is a standard procedure in mathematics and it left things very satisfactory from a mathematical point of view, but at the same time, very unsatisfactory from a philosophical point of view. Cantor originally defined a set as "a many that can be thought of as a one," and sets later came to be viewed as collections. Now, technically speaking, we don't really know what a set is at all. It's left undefined.

From a mathematical point of view we can say a set is anything that follows the axioms or rules for set theory that mathematicians have laid down, but from a personal point of view this is not very satisfying. On the personal level, we still want to know what a set is, and if it's not a collection, then what is it? Here is where I like to conceptualize a set using Cantor's original definition as "a many that can thought of as a one," rather than a collection, simply because it is much easier to grasp that there may be some things that are too large to be thought of as a one. For example, every conscious perception seems to require an observer, and that immediately splits the universe into two parts, the observer and the observed. To grasp everything as one, the observer has to merge with the observed, and then there goes the universe. When the observer and the observed become one, it's no longer a perception in the usual sense of me feeling myself sitting in my brain looking at something out there. It's beyond perception. It's a state in which there are neither objects nor lack of objects nor a mixture of both nor a lack of both. It's neither of these things because it is a state about which nothing can be said. And yet it can be experienced. It just can't be perceived in the usual sense of the word.

The fact that the totality of all things is beyond perception (since the observer must disappear into that totality) makes it easier to grasp why the "set" of all sets is not itself a set, and since it isn't, we will, henceforth, begin referring to it as the class of all sets, as is customary in mathematics. In practical terms, "class" is simply the word

we use for a “collection” when we somehow realize that the word “set” is no longer mathematically appropriate. In this way, at least in mathematics, we can convince ourselves that we’ve clarified things more than we actually have. Cantor, by the way, was not the first to realize that there could be problems when things get too big.

Around the year 216 CE, a great rabbi known as Rav Huna was born. In *Genesis Rabbah*, the great rabbinical commentary on *Genesis*, he states, “*Whatever things you see are but parts of the ways of the Holy One, blessed be He, as it says, 'Lo, these are but parts of His ways (Job 26:14).'*” (*Genesis Rabbah XII:1*)” There have always been people who have intuited that the totality of all things is essentially unknowable and cannot be an object of perception in the usual way.

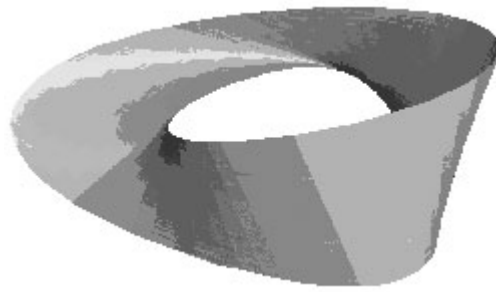
By the twentieth century, infinity had become part and parcel of a mathematician’s tool kit, and set theory had become the foundation for all of mathematics. For awhile it had been assumed by many that from the coupling of this foundation with basic logic, all mathematical truths could be derived. However, in 1931, Kurt Gödel showed that such a goal could never be achieved. In this year, Gödel proved his famous incompleteness theorem that showed essentially that any consistent axiom system that is rich enough to allow basic arithmetic will contain true statements that cannot be derived from the axioms. By consistent we mean that no contradictory statements can be developed as a logical consequence of the axioms. The way Gödel proved his incompleteness theorem was quite clever. He took a version of a well -

known paradox and found a way to convert it into a mathematical formula. In particular, he converted the statement, “You can’t prove this statement.” As a result, if you can prove from the axioms that you can’t prove the statement, then the system is inconsistent. Otherwise, if the system is consistent, then, “You can’t prove this statement,” is a true statement that can’t be proven from the axioms. Since Gödel’s original proof, mathematicians have also discovered a variety of assertions that can neither be proved nor disproved using the axioms of a given branch of mathematics. Such propositions exist independently of the axiom system and are referred to as “undecidable” or “Gödel undecidable,” since Gödel, himself, discovered such statements. One such declaration has to do with the actual size of the set of real numbers. We know that the real numbers represent an infinity that is larger than that of the counting numbers, but is it the next largest infinity or is there an infinity whose size is between that of the real numbers and the counting numbers? The belief that the real numbers do represent the next largest infinity is called “the continuum hypothesis,” and it has been shown to be independent of the other axioms of set theory. In other words, you can either accept or deny the veracity of the continuum hypothesis, and doing so won’t affect the consistency of your axiom system. Another statement that is undecidable is what is known as “the axiom of choice.” This axiom basically states that given any set of objects, we can “pick” an object out of that set. It seems rather innocuous, and we do it all the time in mathematics. For example, when we say things like “let x be a counting number” or “let x be a real number,” we

are invoking the axiom of choice. Nonetheless, there are serious questions that can be raised about the axiom of choice. For instance, how do we know that simply because something exists that we can pick it? In practical terms we generally need a procedure for implementing our picking. Thus, it doesn't suffice to simply say, "There is a needle in that haystack. Now pick the needle and then proceed to the next step." We need to know a specific way to find the needle and extract it from the haystack. A mathematical consequence, though, of the axiom of choice is that if we assume it, then it theoretically becomes possible to rearrange all the numbers on the number line (i.e. the real numbers) so that there is a first number, a second number, a third number, and so on in order. In mathematics, we call this a well-ordering of the real numbers. I don't know how to do this and neither does anyone else, but if we assume the axiom of choice, then you can prove that it's possible. The bottom line, however, is that we can change our reality, in some respects, just by changing our assumptions about that reality. Sometimes changing a particular assumption simply creates a new reality that is just as valid and consistent as the old one. You can either live in a universe where the real numbers can be well-ordered, or you can live in a universe where they can't. Our assumptions change the content of what is to come. By the way, I don't always believe in the axiom of choice.

In both mathematics and ordinary language we talk about orientations. For example, we can talk about the inside of a box or the outside. Here only two orientations are

given. However, if we are talking about a direction to walk in, north, south, east, or west, or anything in between, then there are an infinite number of orientations possible. In this regard, we can often think of a paradox as a situation or a statement that is nonorientable. For example, the statement we presented earlier of “This sentence is false,” can’t be oriented with respect to truth-value. If it’s a true statement, then it’s false, and if it’s false, then it’s true. In higher versions of geometry, mathematicians have learned how to construct surfaces which are, in some respects, equally nonorientable. One of the earliest known examples was the Möbius strip. The Möbius strip is formed by taking a ribbon of paper and putting a half-twist in it before connecting the ends together. The result is a surface that technically has only one side. Even though you may think the twisted ribbon has two sides, you can verify that it has only one side by tracing a line down the middle. When you are done, you will see that what you thought were two sides have now been marked with the same line. Furthermore, if you take a pair of scissors and cut along this line, then the end result will be one long twisted ribbon of paper instead of two pieces. This inability to cut the ribbon in half should convince you that the ribbon is not two-sided like most other pieces of paper. Because we are unable to orient the object with respect to “side” we say that the surface is nonorientable.



The Möbius Strip has only one side.

A higher dimensional version of the Möbius strip is the Klein bottle. To create this surface, a twist has to be done through a fourth dimension. This, of course, is not easy for us mere mortals to do in the real world, but in the mathematical world we can pretty much just wave our hands and it's done. The result, though, of this higher dimensional twist is that the inside of the bottle becomes the same as the outside. This would be like pouring wine into a cup and having it immediately appear on the outside. Its inside-outside orientation becomes a paradox, and like the Möbius strip this surface is nonorientable. As strange as such a surface may seem, it is, nonetheless, a good model for aspects of our own consciousness. For example, we often speak of the ghost in the machine. In other words, we tend to naturally see ourselves as an observer sitting inside a body and viewing all that comes into our field of perception. We speak in terms of what's going on inside of us and what's happening on the outside. However, like the Klein bottle, perception is nonorientable with respect to inside and outside. For instance, every perception immediately

appears as part of the outside world in terms of brain activity. There doesn't seem to be a clear distinction between what we usually think of as our inside versus the outside. Like a Klein bottle, what pours into us immediately appears as neural activity as part of the outside world. Thus, we can't really assign orientations like inside and outside to perception. No wonder I always seem so disoriented!

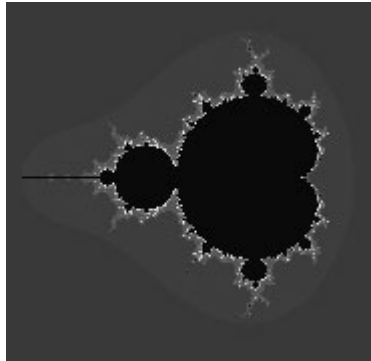
Nonetheless, once we understand that we are only observers with neither an inside nor an outside, we may become more open and flexible and be less likely to cling to those patterns and behaviors that we were once so certain belonged only to us and that must be protected from others at all cost.



The inside of a Klein bottle is the same as the outside.

Another area that can help us understand the dynamics of our own being is the still fairly new realm of fractals. The term “fractal” was coined by mathematician Benoit Mandelbrot in the late seventies, and for now just think of a fractal as an infinitely

wiggly curve. The most famous fractal image is still the one known as “The Mandelbrot Set.”



The Mandelbrot Set

For the most part, fractals tend to have the following three properties:

1. infinite detail
2. self-similarity
3. fractional dimension

By “infinite detail” we mean that if magnify the object in question, however magnification is defined, you tend to find more complexity at every level of magnification. This isn't the way most of our mathematical models of the world behave. For example, if you zoom in on a point on a curve such as a circle, then the curve just seems to flatten out more and more with every increase in magnification,

and it becomes very straight and very dull. However, if you zoom in on the bark of a tree, you notice more of its roughness and texture, and if you continue to zoom in, you will notice the cellular level and then the molecular level, and then even finer details on the atomic scale. Many of our mathematical models fail to exhibit this kind of revelation of new details at each level of magnification, but in the real world the level of detail and information seems unending!

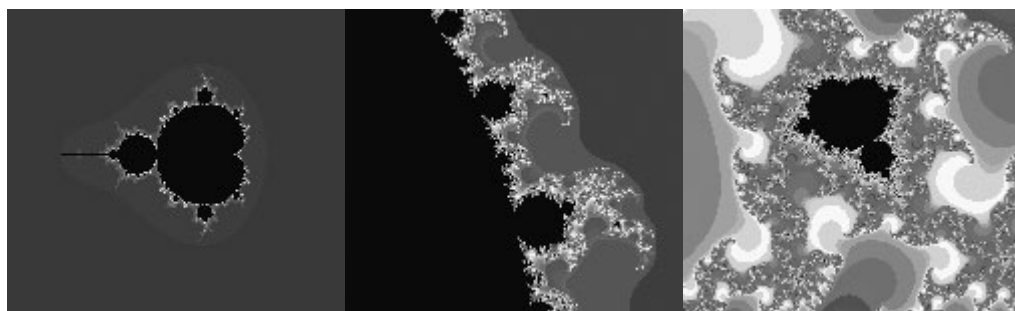
By “self-similarity” we mean that you tend to encounter a repetition of shapes and structures at the different levels of magnification. For example, consider the spiral shape of certain galaxies, and how that spiral shape persists as we magnify down to the level of seashells or even smaller. Or consider this example. Imagine yourself as an old man. Contained in that old man is the middle aged man you once were, and contained in that middle aged man is the man of your youth, and inside that the boy and so on. The outer most level of magnification is old age, and the deeper levels of magnification take you back in time. Still, at each level you find something familiar and recognizable. You find yourself. That’s self-similarity. The same structures keep recurring over and over again at all levels. There’s nothing new under the sun.

To explain fractional dimension, think first of a straight line and then a rectangle. The line has just one dimension, length, and even if we bend it into a less than straight curve, it still has the dimension of length. The rectangle, on the other hand,

has two dimensions – length and width. Now suppose that we bend and twist our straight line so much that, like a tangled mass of thread, it almost fills up our two-dimensional rectangle. In that case, we might be justified in giving the curve a dimension that is a fraction somewhere between 1 and 2. This fractional dimension is simply reflecting the fact that our one-dimensional curve is almost filling up a two-dimensional region, and the more convoluted the curve is, the closer its dimension is to two. While fractals often have this type of dimension, there are, nonetheless, some fractal curves that are so twisted that they move all the way up to the next whole number dimension. This is actually the case with the Mandelbrot Set whose boundary curve has so many twists and turns in it that it's thought of as 2-dimensional.



A line has 1 dimension, a square has 2 dimensions, and a very, very wiggly line can have a dimension that's a fraction between 1 & 2.



The Mandelbrot set has a very complicated boundary that exhibits self-similarity at all levels of magnification.

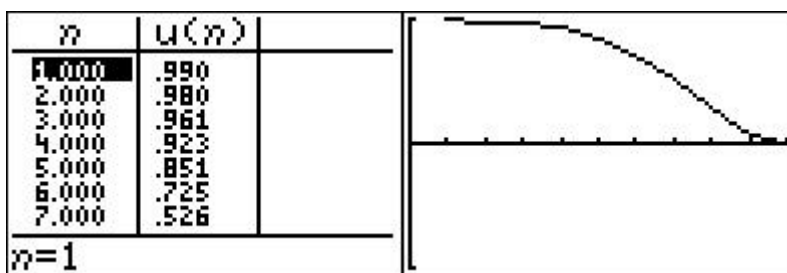
One of the points to be made here is that we are like fractals. Our minds consist of levels of complexity, and we tend to repeat characteristic behaviors and structures at each possible level. Also, mathematically many fractals are created by iterative procedures where the output of one step becomes the input for the next step. This is very much like the feedback that one occasionally experiences with a microphone. The sound output becomes the new input for the microphone, and the simple sound very quickly mutates into something very loud and very complex. In a similar manner, the output of our thoughts immediately becomes input for the next thought, and through mulling over a topic, complexity results. To learn some interesting lessons that iterative procedures have to teach us, below are some simple experiments that can be performed on a calculator. The screenshots that follow show you what you would see on a typical TI-83 or TI-84 graphing calculator.

Experiment 1: You pick a fraction between 0 and 1, and you square it over and over again. What happens?

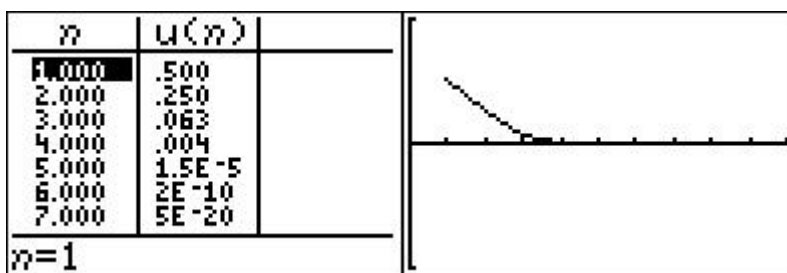
What happens is that the results get closer and closer to 0 and they move further and further away from 1. In this case we call 0 an *attractor* and we call 1 a *repeller*.

Much of our lives can be understood in terms of *attractors* and *repellers*. For example, take a moment to think about what people and things you gravitate toward and what things you run away from as quickly as possible. In fact, try making two lists – one containing what you like and the other containing what you don't like. If you do this exercise well with enough specificity, then you'll get a pretty good idea of what you should be doing with your life as well as those areas you should avoid.

Additionally, below are a couple of screenshots showing in table form and graphically what we get when we start with 0.99 as our first number and square it repeatedly.



Notice that if we start with $1/2$, everything still gets closer to 0 as we keep squaring the results. We just get there a little quicker than we do when we start with 0.99.

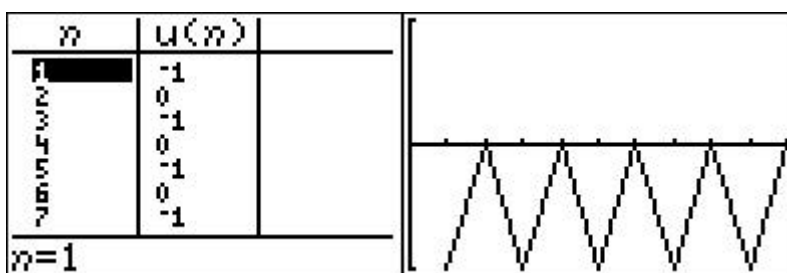


Another way to illustrate *attractors* and *repellers* is to consider a large empty bowl and a marble that you are going to release at the top of the bowl. Now matter what path the marble begins with, it will still eventually wind up at the bottom. It doesn't matter whether it goes straight there or first spins around the sides of the bowl. One way or another the bottom of that bowl is going to be an *attractor* and the top of the bowl is a *repeller* that the marble moves away from. The lesson in this illustration is that our lives are sometimes like that marble heading toward the bottom of the bowl. I believe that in everyone's life there are some destinations you are going to eventually arrive at regardless of the path you take. *Attractors* such as these form our destiny in this particular life. For example, for me mathematics has always been such an *attractor*. I've done several things in my life, but I keep coming back to mathematics. The most important *attractor* in my life, however, is my wife. I always knew we would wind up together, and things eventually turned out just as I had seen

in a vision over thirty-five years ago. Consequently, find your *attractors*, and you will know your destiny.

Experiment 2: You start with the number -1. You square that number and add -1 to it. Then you square that result and add -1 to it. And so on and so on. What happens?

The result this time is that the values keep alternating between -1 and 0. In other words, you're in a rut! This is how many people live their lives where they do the same thing day in and day out, and that rut keeps getting deeper and deeper.

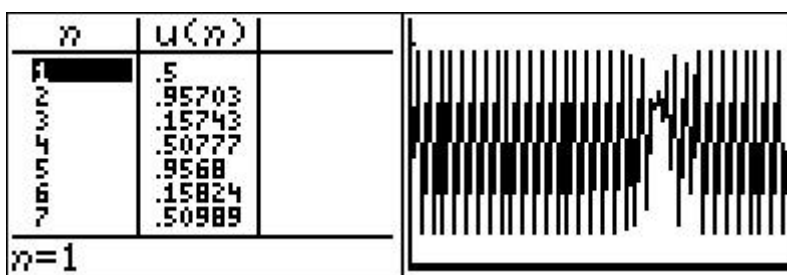


Experiment 3: You create a sequence of numbers that this time starts at $a_1 = 0.5$, and the $n+1$ term of this sequence is defined by the formula $a_{n+1} = 3.82812a_n(1 - a_n)$.

What happens as we go farther out in this sequence?

This time the sequence seems to alternate between three values approximately equal to 0.5, 0.96, and 0.16. However, these values aren't repeated exactly the same each

time, and as the second graph below shows, the usual pattern is periodically broken up by a moment of random chaos, or perhaps ... creativity! Again, this is good metaphor for the daily lives that most of us experience. We get up and do approximately, but not exactly, the same things we did the day before. And every now and then there is either a crisis or a revelation the completely turns our schedules upside down. But after a while, our usual, almost repetitious pattern appears.




Experiment 4: You wish to generate two sequences, each based on the expression $a_{n+1} = 4a_n(1 - a_n)$. You decide to start the first sequence at $U_1 = 0.22$ and the second sequence at $V_1 = 0.22001$. What happen as you continue the two sequences?

You would think that the two sequences would be pretty much the same since their starting points are so close to each other. After all, that's the way most things seem to work. A small variation in how we start something usually results in just a small variation in where we wind up. However, in this case we experience what is known as sensitivity to initial conditions. This is also known as the butterfly effect. The term comes from the statement that weather can sometimes be so sensitive to initial

conditions that a butterfly flapping its wings in Brazil might cause a tornado to form in Texas a few weeks later. In so far as it applies to us, though, the lesson is that there are certain moments in our lives when one small action can make a difference in either our life or someone else's. Think back over your own life. Have there been times when one small remark by another person gave you the confidence you needed to accomplish something? Have there been times where a single good act led to a good future for you? Or have there been times when a single mistake led to much regret? Either way, it is what is now that matters. Just be aware that a single action can have great consequences, so as you go through life, make your choices wisely.

Returning to our two sequences, we can see below how they very quickly begin to differ even though they start at almost the same place. By the time we get to the fourteenth term in each sequence, the values really begin to differ. Additionally, in the graph below, with one of the sequences graphed in bold, you can see how much the values differ as we go from the 25th term to the 35th term. And this is all in spite of the starting point of each sequence differing by only 0.00001.

n	$u(n)$	$v(n)$	n	$u(n)$	$v(n)$
1	.22	.22001	8	.11221	.11124
2	.6864	.68642	9	.39847	.39545
3	.86102	.86099	10	.95877	.95628
4	.47866	.47875	11	.15813	.16725
5	.99818	.99819	12	.53249	.55711
6	.00727	.00721	13	.99578	.98695
7	.02889	.02863	14	.01682	.05151
$n=1$			$n=8$		
n	$u(n)$	$v(n)$			
15	.06616	.19542			
16	.24713	.62892			
17	.74423	.93352			
18	.76141	.24824			
19	.72666	.74647			
20	.79451	.75702			
21	.65307	.73577			
$n=15$					

In this chapter, we've looked at a lot of different facets from mathematics, and it is time to summarize the lessons learned. We've seen both that knowledge can clarify our path and that there are limits to knowledge. In particular, we've seen that:

- Some things are too big to be comprehended.
- Not everything that is true can be proven.
- We can often change our reality just by changing our assumptions.
- Reality may be nonorientable. We may not be able to separate the world into unrelated parts with orientations like “inside” versus “outside” or “us” versus “them.”
- Attractors and repellers can help us understand our destiny.
- Sometimes it's the smallest action that makes all the difference.

CHAPTER 5

THE VALIDITY OF PERSONAL EXPERIENCE

In the previous chapters we've tried to show what various areas of math and science can tell us about the world and how we ought to perceive it. As a result of these investigations, a more accurate way of viewing reality might be through the following lens:

- Everything is both a particle and a wave.
- All of time and space exists simultaneously.
- Communication can occur not only from past to present but also from the future to the present and the present to past.
- There exist parallel worlds corresponding to the road not taken.
- Once two things have interacted, they are forever connected with one another.
- The totality of all things is unknowable.
- There are limits to what we can prove formally through our rational mind.
- We live in a multiverse of many dimensions rather than a single universe of three spatial and one temporal dimension.

When quantum mechanics was first conceived the general consensus was that all the “weirdness” of it was confined to the microscopic level because surely such strange things did not happen at the level on which our conscious awareness acts. My

The Validity of Personal Experience

personal experience, however, disagrees. For me, the things that physicists have discovered at the quantum level are exactly what I experience at the macroscopic level. For example, when I feel alone and isolated, I experience myself as a particle with rigid, well-defined boundaries, and when I feel connected to everything, I am like a wave that extends forever and easily blends with other waves. At the very least, quantum mechanics is a powerful metaphor for human experience and the transcendent ways in which people can experience their reality. Human beings can experience an analogous wave-particle duality within themselves, and it is just this sort of personal experience that adds validity to any of our understandings of the world we live in.

In the summer of 1972, I was walking on the road to Austin when my whole being suddenly filled with light and my heart exploded with love. I was overflowing with knowledge that I didn't have before, and, in particular, I immediately found myself in possession of a very deep understanding of the poetry of Walt Whitman as he often appeared to be describing similar mystical experiences in his epic poem "Song of Myself." I was changed forever.

I hear the train'd soprano (what work with hers is this?)

The orchestra whirls me wider than Uranus flies,

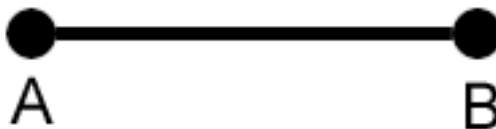
It wrenches such ardors from me I did not know I possess'd them,

The Validity of Personal Experience

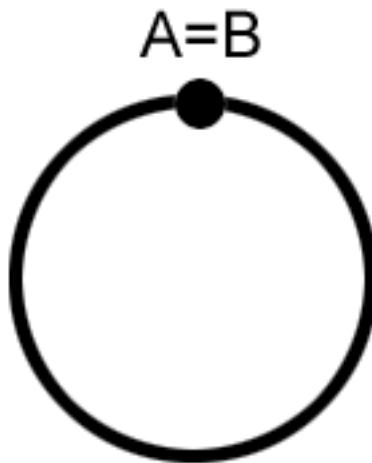
It sails me, I dab with bare feet, they are lick'd by the indolent waves,
I am cut by bitter and angry hail, I lose my breath,
Steep'd amid honey'd morphine, my windpipe throttled in fakes of death,
At length let up again to feel the puzzle of puzzles,
And that we call Being.

Leaves of Grass, Song of Myself, Walt Whitman

Since that time. I've been particularly good at what I call folding space and time. Let me give you an illustration of what I mean. Imagine a piece of string with end points that we might label A and B . As long as we see A and B as different points, there is separation and distance between them. However, if we instead see A and B as the same point, then the piece of string suddenly becomes a closed loop. In mathematics we call this lumping together of A and B an "equivalence class." In other words, we create a new world in which A and B are seen as equivalent, and this is one of the ways by which we can change the structure of our personal reality.



A and B appear as different points.



A and B are seen as the same point.

Whenever we lump certain objects into the same mental box and treat them as equivalent, that automatically changes the reality we perceive. In my case, I often fold space and time by removing the separation between me and another person. We become like the two endpoints on a string that have been joined together to form a loop. Below are just a few of my personal experiences.

In the early seventies I was obviously excited about the revelations I was having, and it pretty much dominated my conversation with whomever I was interacting with. In particular, Tom, an old friend of mine that I had known since elementary school, had finally had enough of this talk and he said that he didn't think we really had that much in common anymore. To me that was devastating. The two of us had been best friends for years, and now we were no longer communicating. I was despondent that

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Tom didn't understand what I was experiencing, and I desperately wanted to show him my new point of view. Consequently, I meditated on Tom that night, and I visualized him standing before me. I held my hands in front of me with my palms facing each other, and I created with energy from my heart and my hands a ball of light that contained all the knowledge and enlightenment I felt I had, and I placed that ball on and inside Tom's head. The next morning I got an excited call from Tom as he exclaimed, "I'm enlightened!" Well, Tom's epiphany faded within a few days as his attention turned to other things, but we were once again best friends and have remained so ever since.

There was another time years later when I had had a few dates with a woman one summer. It was not one of those encounters that was going to evolve into a permanent relationship, but, nonetheless, when it ended I felt a disappointment that she had never seen the real me. Consequently, I sat outside one night under a cloudless sky as a gentle breeze passed by, and again I projected all of my essence and spiritual awareness into a ball and sent it out to her just so she would know. The next day she called me and enthusiastically told me about a vivid dream she had had in which she saw me sitting in my meditation room transcending and expanding beyond physical reality. The association was still over, but I felt satisfied that she had gotten a glimpse of what I'm really all about.

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When I was in graduate school, I would often meditate in the morning upon rising, and during my meditations I would send blessings to the various people I worked with and knew. One morning after doing that, I arrived at school at the same time as one of the departmental secretaries, and her mood was very animated over what had just happened to her. She told me that when she awoke that morning, she saw my head floating in the air above her, and then it gradually dissolved as her conscious awareness became stronger. I let her know that I often get around that way.

Yet another time during the late seventies, I was working with a cute girl that I thought surely should be dating me. Thus, I tried to send her a strong message that she should drop all her other boyfriends and go out with me instead. After doing that, I had a very vivid dream about her in which she was sitting on a park bench smiling at me. I went over to say hello to her when she suddenly slapped me as hard as she could and said, “Don’t you ever try to control me again!” Well, I certainly learned a very valuable lesson from that. No matter how well intentioned we might be or how sure we are of our course, we should never ever interfere with another person’s freedom of choice. We can discuss, suggest, and advise someone on what we think they should do, but one of our greatest freedoms should always be the freedom to make our own decisions in life.

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The deepest and most important example from my life of the folding of space and time, however, involves me and my wife, Susan. I first met Susan in the spring of 1973 when we had both taken jobs as nurse's aids in the psychiatric ward of a hospital in Austin, Texas. We soon discovered that we lived just around the corner from one another in Austin, and that in itself was a sign that we were always meant to be close to one another. We fell in love immediately, but if youth is characterized by eternal optimism, then it can also be characterized by endless folly. It was Austin in the early part of the seventies, and at that time in that city the hippie culture of sex, drugs, and rock and roll was in full bloom. On top of those distractions, I was young and immature, and before I knew what happened, Susan had married someone else. At one point, I had the opportunity to ask her why, and she said that she had loved me so much it had frightened her. Given my immaturity and total lack of preparation for a relationship at that point in time, I wouldn't have been surprised if other things had frightened her, too, but, nonetheless, I still had faith in my visions that we were to be married some day. Five years later, I was older, more mature, and in graduate school in mathematics, and still in love with Susan. I didn't know where she was, and so I wrote a letter to her mother in Phoenix hoping that she would forward it to her. Fortunately, her mother did and I received a call from Susan. She was divorced and living in Galveston, Texas, at the time, and she wasn't that far away from the University of Houston where I was attending graduate school. Also, during the interim years following her divorce, she had moved to Alvin, Texas, a small town

southeast of Houston, and obtained an associates degree in nursing from Alvin Community College. We got together for awhile, but as she was still feeling the effects of a bad marriage, she really needed to be alone at that time to develop and establish her own sense of identity. Thus, I reluctantly stayed away and focused on my graduate studies. A couple of years later, though, after I had finished my master's degree, I was sitting around one day wondering how Susan was doing, and so I folded space and time in order to see if perhaps she was ready to see me again. I immediately felt that she had been very ill and near death, and so I gave her a call and asked her how she was doing. She answered at first that she was fine but then added, "Not really." It turned out that she was recovering from a severe case of viral encephalitis and, indeed, had almost died. I went to visit her and I told her of my visions that we were supposed to be together, but at that point she wasn't able to be in a relationship. After having her nervous system and brain scrambled by encephalitis, she was too busy struggling just to make it one day at a time. Nonetheless, being an eternal optimist I asked when she would be ready. "Twenty years," she said off the top of her head, not knowing why. I then said, "Give me something I can use to help me find you again." Immediately, again off the top of her head without knowing why she said, "My mother's maiden name is McIndoo." I left her that day feeling elated because I knew that someday I would see her again and we would be together.

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Not long after that I got a full-time job teaching mathematics at Alvin Community College where Susan had gotten her nursing degree, and I worked there for over twenty years both as a teacher and as an administrator. Again, my life and Susan's life seemed to be playing tag. First, we were just around the corner from each other in Austin, and later we both found ourselves in Alvin, though at different times. Nonetheless, this led to us having a lot of mutual friends in that city. Even my landlord in Alvin had once (unsuccessfully) asked her out on a date. Susan, meanwhile, decided to change careers and went to law school, in part to prove to herself that her brain had fully recovered from the trauma of the severe illness she had experienced. Unbeknownst to me, after finishing law school she moved into an apartment in Houston that was next to the condominium complex my parents lived in. She had no idea she was so close to my parents, but this is again just one of the many ways in which we seem to have been following each other all these many years. During the nineties there were many times when I missed her very deeply, and I would often lie awake at night imagining myself lying next to her and wrapping my arms and my heart around her. I just wanted her to feel the depth of the love in my heart that I had for her, and, as you'll soon see, I found out a decade later that she did indeed feel the call of my soul. And so life went on with me wanting to be with her, but for many years I sensed that she was not quite ready to be found.

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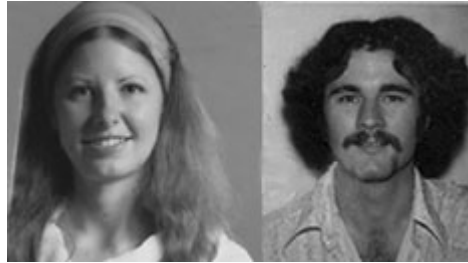
Things began to change, however, in the fall of 2003. I was thinking about her one day, when I suddenly felt a push back. I sensed that she wanted to see me again and that she missed me, but by then I had no idea where she was and I no longer had a current address for her parents. Nonetheless, in the early part of 2004, I was meditating one day when in my inner eye I saw a light that I recognized as Susan's soul. I grabbed onto that light with my mind and said to myself, "I don't want to live in a world without Susan." A few months later, twenty years after I had last seen Susan, I was surfing the Internet when I came across a reference to someone with one of the surnames in my family line that had married a McIndoo, the maiden name of Susan's mother. From there a link took me to the online McIndoo family tree, and with a few clicks of the mouse I had found Susan again. I was elated. I wrote Susan, hoping that she was in fact the girl I had fallen in love with some many years before, and as soon as she saw the letter from Alvin, Texas, she knew it was from me and that we would soon be married. And we were. It was finally the right time. It's funny how things work out eventually if you just hang in there long enough. Also, even though I never told Susan about how I would miss her and blend with her back in the nineties, in one of her early emails she wrote the following, "By the way, during the nineties I would often be lying in bed at night when I would suddenly feel this male presence beside me with its arms wrapped around me, and it really scared the heck out of me. But then I would feel surrounded by the purest love imaginable, and I knew there was someone out there who really loved me. I think it was you and I hope

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it was because if it wasn't, then there's someone else out there who knows how to be in two places at once!" As I said, funny how things work out. Susan was very ill throughout much of the nineties, and it was only after much suffering that doctors realized she had Celiac's disease, an inherited condition that makes wheat and all wheat byproducts poisonous to the body. However, now Susan is doing much better as a result of following a strict diet, and we are happily married and living in the Valley of the Sun, a place that I also knew I would someday live in as a result of my visions from decades ago.

Well, that's my story, and it contains several important lessons. In particular, it is filled with connections and coincidences that shouldn't happen under the usual view of reality that most people have. However, information traveling between different time frames and connections that last forever are the sorts of things that modern physics predicts. The main point, though, is that reality is not what it appears to be and recognizing such is the first step toward change. If you don't even believe something is possible, then for you it won't be possible. Furthermore, I'm sure that many of you also have your own stories of the things that are not supposed to happen. If so, don't sweep them under the rug. Pay attention to them. They are just trying to tell you it's time to wake up.

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Susan and me in the seventies



Susan and me today. Less hair, more brains!

Part 2

FOUNDATIONS

Doc Benton discovers rabbinic literature, righteousness, wisdom literature, early kabbalistic writings, and the tree of life.

CHAPTER 6

THE JOY OF RABBINIC LITERATURE

In this chapter I just want to introduce the various bits of rabbinic and Jewish literature that I will be referencing throughout the rest of this book, and so if you ever get confused about what I'm talking about, just come back to this section! The word *Torah* refers to the Books of Moses, the first five books of the *Bible*. These include *Genesis*, *Exodus*, *Leviticus*, *Numbers*, and *Deuteronomy*. In a larger context, however, *Torah* is sometimes used to refer to entire corpus of Jewish writings. Also worth noting is that the word *Torah* means "instruction." Everyone is always complaining that they weren't given an instruction book for life. Well, duh! Here it is. The rest of the Jewish *Bible* consists of the books of the prophets (*Joshua*, *Judges*, *Samuel*, *Kings*, *Isaiah*, *Jeremiah*, *Ezekiel*, and the *twelve minor prophets*) and the books referred to as writings (*Psalms*, *Proverbs*, *Job*, *Song of Songs*, *Ruth*, *Lamentations*, *Ecclesiastes*, *Esther*, *Daniel*, *Ezra*, *Nehemiah*, and *Chronicles*.) In Hebrew, the word for prophets is *Nevi'im*, and the word for writings is *Ketuvim*. These three words, *Torah*, *Nevi'im*, and *Ketuvim*, give rise to an acronym *TNK* which is pronounced *Tanach*, and that is how the Hebrew *Bible* is generally referred to. It's the *Tanach*.

Obviously, in Judaism, the *Tanach* is a biggie. Equally important, though, is the *Talmud*. The *Talmud* is essentially a statement and commentary on what is known as the oral law. The *Torah* is the written law given by tradition to Moses on Mount Sinai, but another tradition is that he was also given an oral law that explains how to implement the written law. Whether you believe this or not is certainly up to you, but even if there wasn't an oral law (or even a specific written law) given on Mount Sinai, it is almost inevitable that people would create some sort of tradition to describe how the law should be put into practice. Around 200 CE the oral law was put into print in a text called the *Mishnah*. One very important section of the *Mishnah* is a very small work known as *Pirkei Avot*, *Chapters of the Fathers*. It contains a lot of good wisdom and ethical advice from the rabbis of that period. Interestingly, though, once the oral law was committed to print in a terse format, it needed its own commentary to explain it. This commentary was put together over the course of the next few centuries, and it is known as the *Gemarah*. If you now combine the *Mishnah* with the *Gemarah*, then there's your *Talmud*. Actually, just to make matters even more confusing, there are two *Talmuds*. One was composed in the land of Israel and is known as the *Yerushalmi*, and the other was compiled in Babylon (Iraq) and is called the *Bavli*. Of the two, the *Bavli* is more developed and has undergone more polishing and editing, and when people refer to the *Talmud*, they are generally referring to the *Bavli*. I will do likewise throughout the remainder of this work. The *Bavli*, itself, is arranged according to topic. It covers agricultural laws,

laws of festival days, family law, civil and criminal law, Temple service, and ritual purity. References to the *Bavli* generally begin with a capital letter “B” followed by the name and page number of the specific section that is being quoted, such as “*B. Chagigah 14b.*” If you see that letter “B,” you know it’s from the *Bavli*.

Additionally, much of the *Talmud* can be classified as either *halakah* or *aggadah*. *Halakah* means law, and it refers to those specific legal arguments that comprise much of the *Talmud*. *Aggadah*, on the other hand, refers to the stories and fables that also make up a significant portion of the *Talmud*. As I get older, I find myself drawn more and more to *aggadah* as a source of wisdom. For the common person, *aggadah* probably speaks louder and more clearly than obscure legal arguments.

The *Bavli* is a magnificent document, and tremendous amounts of wisdom and advice for refining one’s behavior may be found in it. However, for me an even more magnificent document is the *Midrash Rabbah* collection. The word *midrash* (plural *midrashim*) means to examine or investigate, and the word *rabbah* means big or large. The *midrash rabbah* collection is basically an expansive line-by-line commentary on the *Torah* as well as some other books of the Bible. It is a spectacular set of documents, and many of the beliefs, practices, and interpretations of modern Judaism coincide with statements in *midrash rabbah*. I’ll make references to *midrash rabbah* whenever I can.

Jewish mysticism is as old as Judaism itself. It is hard, though, to determine when certain key texts were written because it has been a common practice to ascribe authorship to earlier prestigious personalities. That is one way of elevating the stature of a work. One of the earliest known works on Jewish mysticism is the *Sefer Yetzirah*, the *Book of Formation*. This is a very terse work like the *Tao te Ching*, and at its end it attributes its authorship to Abraham. Others, however, think it was written by the great Talmudic personage, Rabbi Akiba, and others, still, think it was composed later in the eighth century of the common era. Either way it is a remarkable text that is dense with information. We'll make many references to it later. Another work of antiquity and perhaps the best known tome on Jewish mysticism is the *Zohar*. The name of this work means "brilliance," and unlike the *Sefer Yetzirah*, it is voluminous. The tradition is that this work was authored by the Talmudic rabbi, Rabbi Shimon bar Yohai, but it is far more likely that it was written by the thirteenth century rabbi, Rabbi Moses de Leon. Some believers split the difference and say that Moses de Leon channeled the earlier writings of Shimon bar Yohai. Either way, the *Zohar* is quite lengthy and consists mainly of stories and *midrashim*. When it was made available for study in the early fourteen hundreds, it made a considerable impact, and in the sixteenth century, Rabbi Isaac Luria extracted information from the *Zohar* and organized it into a body of knowledge that we now refer to as *Lurianic kabbalah*. This is essentially the standard version of the *kabbalah*.

And finally, another person and work that we will reference from time to time is Rabbi Moshe ben Maimon, also known as Maimonides. Maimonides was born in 1135 CE, and he is equally famous as a rabbi, a philosopher, and a physician. His works and writings have standardized many of the understandings and interpretations of modern Judaism, and one of his most important works is known as *The Guide for the Perplexed*.

Well, there is now much to cover, so let's begin!

CHAPTER 7

COMMAND PERFORMANCE

In the *Bavli (Talmud)*, we find the following succinct warning about the dangers of mystical study.

Four men entered the “Garden”, namely, Ben Azzai, Ben Zoma, Elisha ben Abuya, and Rabbi Akiba. Rabbi Akiba said to them, “When you arrive at the stones of pure marble, do not say, ‘water, water!’ For it is said, ‘He that speaks falsehood shall not be established before my eyes.’” Ben Azzai cast a look and died. Of him Scripture says, “Precious in the sight of the Lord is the death of His saints.” Ben Zoma looked and became demented. Of him Scripture says, “Have you found honey? Eat only as much as is sufficient for you, lest you be filled therewith, and vomit it.” Elisha ben Abuya became a heretic. Only Rabbi Akiba departed in peace. (B. Chagigah 14b)

In *Song of Songs Rabbah I:28*, we find essentially the same story, but with the slight change at the end that Rabbi Akiba both entered in peace and departed in peace. The Hebrew word for “peace” (*shalom*) is related to the word for “wholeness” (*shalem*), and the ending to this story illustrates the importance of a good foundation and of

being a balanced individual, and in Judaism as in many other religions, balance is attained by doing the right thing, i.e. by following the commandments.

If you ask someone how many commandments there are in the *Bible*, chances are they will say ten. The Ten Commandments generally refer to either the passages found in *Exodus 20:2-17* or to an almost but not quite identical list found in *Deuteronomy 5:6-21*. Occasionally, someone may even say that they are talking about wholly other passages from *Exodus 34*. These latter passages talk about festivals and offerings to observe, and they are sometimes referred to as the ritual commandments while the former lists are known as the ethical commandments. But, regardless of which list people are referring to, they will usually say that there are just the Ten Commandments. Unless, of course, they are Jewish.

In Judaism, the tradition is that there are 613 commandments. This number comes from the following observation in the *Bavli*.

Rabbi Simlai when preaching said, "Six hundred and thirteen precepts were communicated to Moses, three hundred and sixty-five negative precepts, corresponding to the number of days in the year, and two hundred and forty-eight positive precepts, corresponding to the number of the bones of man's body." Said Rabbi Hamnuna, "What is the proof text for this?" It is,

“‘Moses commanded us Torah, an inheritance of the congregation of Jacob (Deuteronomy 33:4).’ ‘Torah’ being in letter-value, equal to six hundred and eleven, ‘I am’ and ‘Thou shall have no other Gods’ not being included, because we heard these directly from the mouth of the Divine.”
(B. Makkoth 23b-24a)

There are a couple of things you need to understand here. First, every letter of the Hebrew alphabet is also a number. Consequently, every word has a numerical value, and even the *Torah* itself can be thought of as one long number. That’s right. The *Bible* is just a math book! I knew it! If we look at the numerical value of the word “*Torah*,” it adds up to 611. So where do we get 613? Well, if you look in *Exodus 20* where the Ten Commandments are given for the first time, immediately afterwards in *Exodus 20:15-16* we read,

And all the people saw the thunderings, and the lightnings, and the sound of the shofar, and the mountain smoking; and when the people saw it, they were shaken, and stood far away. And they said to Moses, “Speak with us, and we will hear; but let not God speak with us, lest we die.” (Exodus 20:15-16)

Based on this passage the conclusion was drawn that the first two commandments found in *Exodus 20:1-3* were uttered directly from God to the people and the others

were delivered indirectly through Moses.

And God spoke all these words, saying, "I am the Lord your God, who have brought you out of the land of Egypt, out of the house of slavery. You shall have no other gods before me." (Exodus 20:1-3)

Once it became established that there were 613 commandments, the next question was what are they? That turns out to be a little more difficult to answer than you might think because the *Bible* doesn't always explicitly say, "Here's commandment number such and such. All y'all follow it!" Consequently, some deduction is involved, and leading rabbis came up with their own versions. The most widely accepted version, though, is the one compiled by Maimonides. As required, it contains 248 "do's" and 365 "don'ts." For example, "do rest on the Sabbath" and "don't do forbidden work on the Sabbath" are both on the list. Many other commandments on the list, however, are not things that can be done today as they have to do with rituals that were to be performed in the ancient Temple in Jerusalem. Also, as many others have done since, the rabbis of the *Talmud* tried to condense the commandments down to a fundamental essence.

David came and reduced them to eleven principles, as it is written, "A Psalm of David. Lord, who may sojourn in your tent? Who shall dwell in your holy

mountain? — [i] He that walks in innocence, and [ii] does what is right, and [iii] speaks truth in his heart, and [iv] has no slander on his tongue, [v] nor does evil to his fellow, [vi] nor discredits his neighbor, and [vii] in whose eyes a wicked person is repulsive, but [viii] who honors those that experience awe before God, [ix] a person that stands by his word at any cost, and, [x] who doesn't lend his money to others at interest, [xi] nor takes a bribe to harm the innocent. He that does these things shall never be moved (Pslam 15)."

Isaiah came and reduced them to six principles, as it is written, "[i] He that walks righteously, and [ii] speaks honestly, and [iii] despises gain through extortion, [iv] that refuses to hold a bribe in his hand, [v] that does not listens to plans of bloodshed, [vi] and shuts his eyes rather than allow them to gaze upon evil; he shall dwell on high (Isaiah 33:15)."

Michah came and reduced them to three principles, as it is written, "It has been told to you, O man, what is good, and what the Lord does require of you: [i] only to do justice, and [ii] to love mercy and [iii] to walk humbly with your God (Michah 6:8)."

Again came Isaiah and reduced them to two principles, as it is said, "Thus says the Lord, [i] Observe justice and [ii] do righteousness (Isaiah 56:1)."

Command Performance

Amos came and reduced them to one principle, as it is said, "For thus says the Lord unto the house of Israel, 'Seek ye Me and live (Amos 5:4).'" To this Rabbi Nahman ben Isaac demurred, saying, "Perhaps what is meant is, 'Seek Me by observing the whole Torah and live.'" But it is Habakuk who came and based them all on one principle, as it is said, "The righteous shall live by his faith (Habakuk 2:4)." (B. Makkoth 23b-24a)

You might think of the commandments as corresponding to something like the Constitution of the United States except that there was also a caveat from God through Moses not to add or subtract anything. In other words, no amendments!

You shall not add to the word which I command you, neither shall you diminish nothing from it, that you may keep the commandments of the Lord your God which I command you. (Deuteronomy 4:2)

What ever I command you, take care to do it; you shall not add to it, nor diminish from it. (Deuteronomy 13:1)

Nonetheless, in spite of this prohibition not to do any additions or deletions, such things will occur in a natural way as a result of having to decide how to implement the law in varying situations. For example, suppose there is a statute that simply says,

“Do not disturb the peace.” Judges now have to decide what constitutes disturbing the peace and what isn’t disturbing the peace. In this way, the body of law grows without adding on to the basic statutes. The rabbis argued their authority to do such a thing in the following way.

Of the words of the Scribes it is written, “According to the law which they shall teach you (Deuteronomy 17:11).” It does not say, “which the Torah shall teach you,” but “which they shall teach you.” Nor does it say “according to the judgment which it shall tell you,” but “which they shall tell you.” You shall not turn aside from the sentence which they shall declare to you to the right hand nor to the left. If they tell you that the right hand is right and the left hand left, listen to them, and even if they shall tell you that the right hand is left and the left hand right, listen to them.

(Song of Songs Rabbah I:18)

The injunctions of the Scribes are more beloved than those of the Torah, as it says, “For thy love (dodeka) is better than wine (Song of Songs 1:2).”

[‘Wine’ is a metaphor for the written Torah, and the Scribes are the lovers (dodim) of God.] If a man says, “There is no commandment to put on tefillin,” thus transgressing a law of the Torah, he is subject to no penalty. But if he says, “There are five compartments in the tefillin,” thus

transgressing an sanction of the Scribes, he is subject to a penalty.

(Song of Songs Rabbah I:18)

Consequently, the pronouncements of the rabbis and scribes also carry weight and provide valuable insights on how to lead a proper life. Returning for a moment back to the official list of 613 commandments, one of them is to write an actual Torah scroll.

Now therefore write this poem for yourself, and teach it to the people of Israel; put it in their mouths, that this poem may be a witness for me against the people of Israel. (Deuteronomy 31:19)

The particular (and non-traditional!) way in which I try to implement this in my own life is by making a list of those instructions I currently want to put additional focus on. In so doing, my sources include both the *Tanach (Bible)* and the later rabbinical writings. What I encourage you to do, however, is to make your own list drawing upon those sources that are most important to you, whether they be Christian or Muslim or Buddhist or whatever. The most important thing is that you adopt a structure that will help you lead a righteous life. It doesn't matter if you're Jewish. All that matters is that you are righteous. For example, as it says in the *Tosefta*, one of the source documents for the *Talmud*,

The righteous of all nations have a share in the world to come.

(Tosefta Sanhedrin 13:3)

Below is a list of thirty-six life instructions I try to follow. Again, the important thing is that you make your own list and create a strong foundation for yourself by leading a good and balanced life. Everything that follows depends on the sturdiness of your foundation.

1. Treat other people the way you would like to be treated.

On one occasion it happened that a certain heathen came before Shammai and said to him, "Make me a proselyte, on condition that you teach me the whole Torah while I stand on one foot." Thereupon, Shammai repulsed him with the builder's cubit. When he went before Hillel, Hillel said to him, "What is hateful to you, do not do to your neighbor. That is the whole Torah. The rest is just commentary. Now go and learn the commentary." (B. Shabbath 31a)

Notice that Hillel reduces all of Torah to an ethical commandment: Treat other people the way you would like to be treated! Notice also that while he says that the rest of the Torah is just an elaboration on this principle, he also tells you to go

and study the elaboration!

2. Give! Give! Give!

Charity is equivalent to all the other religious precepts combined.

(B. Baba Bartha 9a)

Mar Zutra said, “Even a poor man who himself subsists on charity should give charity.” (B. Gittin 7b)

*Rabbi Eleazar said, “A man who gives charity in secret is greater than Moses .”
(B. Babba Bathra 9b)*

*Rabbi Eleazar further stated, “He who executes charity and justice is regarded as though he had filled all the world with kindness, for it is said, ‘He loves charity and justice, the earth is full of the loving kindness of the Lord (Psalm 33:5).’”
(B. Sukkah 49b)*

If blood and nutrients don't flow in your body, you die. If goods and services don't flow in the economic world, then the economy dies. Everything is maintained by the proper flow of energy, and in Judaism, charity is seen as a duty

that must be performed even by the poorest among us. So, in all aspects of your life and in all ways, be a giving person.

3. Do random acts of kindness.

Rabbi Eleazar stated, "Acts of loving kindness are even greater than charity, for it is said, 'Sow to yourselves according to your charity, but reap according to your kindness (Hosea 10:12).'" (B. Sukkah 49b)

The reward of charity depends entirely upon the extent of the kindness in it, for it is said, 'Sow to yourselves according to charity, but reap according to the kindness.' (Hosea 10:12). (B. Sukkah 49b)

In three respects are acts of loving kindness superior to charity. Charity can be done only with one's money, but acts of loving kindness can be done with one's person and one's money. Charity can only be given to the poor, but acts of loving kindness can be done for both for the rich and the poor. Charity can be given to the living only, but acts of loving kindness can be done for both the living and the dead. (B. Sukkah 49b)

Simeon the Righteous was one of the last men of the great assembly. He used to

say, “Upon three things the world stands: Upon the Torah and upon service and upon acts of loving kindness.” (Pirkei Avot 1:2)

By loving kindness and truth, iniquity is purged. (Proverbs 16:6)

4. Greet people with a smile. Be a clown! Be a clown! Be a clown!

Greet all men with a pleasant countenance. (Pirkei Avot 1:15)

While they were conversing, two men passed by and Elijah remarked, “These two have a share in the world to come”. Rabbi Beroka then approached and asked them, “What is your occupation”? They replied, “We are jesters, when we see men depressed we cheer them up. Furthermore, when we see two people quarrelling we strive hard to make peace between them.” (B. Taanith 22a)

At a place where I used to work, one secretary would greet everyone with a smile and look so happy to see you. The other secretary would give you that “Don’t you dare bother me” look. Guess which one made me feel better. Smiling and being courteous to people is so easy and it can make such a positive difference in the world.

5. Use your brain!

Rabbi Eleazar also said, "Whenever there is knowledge in a man, it is as if the Sanctuary had been built in his days. For knowledge is set between two names of God, 'For a God of knowledge is the Lord (I Samuel 2:3),' and the Sanctuary is set between two names of God, 'Thou hast made, O Lord, the sanctuary, O Lord (Exodus 15:17).'" (B. Berachoth 33a)

This, too, did Raba say, "Let one by all means learn, even though he is liable to forget, yea, even if he does not fully understand all the words which he studies, as it is said, 'My soul breaks for the longing that it has for Your ordinances at all times.'" (B. Avodah Zarah 19a)

Our brains are what set us apart from the rest of the life forms on this planet. Don't let yours go to waste. You were given that brain for a purpose. Also, in *kabbalah*, the word "knowledge" has a very specific meaning. It doesn't mean just book knowledge or facts and figures. Instead, it is the synthesis of both left and right brain ways of comprehension. In other words, when we combine our rational analysis with the intuitive wisdom that lies within us, then we have true knowledge, and part of what we should be doing is seeking out this greater knowledge of what the universe is and who we are within it. Along these lines,

the following passage seems most appropriate.

It is the glory of God to conceal a thing; but the honor of kings is to search out a matter. (Proverbs 25:2)

6. Pray and give thanks for what you have.

Rabbi Hanina ben Papa said, "To enjoy this world without a benediction is like robbing the Holy One." (B. Berachoth 35b)

Rabbi Eleazar also said, "Prayer is more efficacious than offerings, as it says, 'To what purpose is the multitude of your sacrifices unto Me (Isaiah 1:11),' and this is followed by, 'And when ye spread forth your hands (Isaiah 1:15).'" (B. Berachot 32b)

Rabbi Eliezer says, "If a man makes his prayers a fixed task, it is not a genuine supplication." (B. Berachoth 28b)

It has been taught, "To love the Lord your God and to serve Him with all your heart. (Deuteronomy 10:12)" What is Service of Heart? You must say, "Prayer." And the verse following reads, "That I will give the rain of your land in its

season, the former rain and the latter rain. (Deuteronomy 11:14)”

(B. Taanith 2a)

The sacrifice of the wicked is an abomination to the Lord, but the prayer of the upright is his delight. (Proverbs 15:8)

To You, silence is praise. (Psalm 65:2)

There are so many wonderful things in my life right now that I give thanks every day, and this is one form of prayer. Other prayers involve supplications for what we need, and others are just silent communion. In Judaism there are also formal prayers that are scripted the same for everyone. On the one hand, many of these prayers are so beautiful that they are like great symphonies to recite. On the other hand, as is noted in the *Talmud*, if one is not careful, then these scripted prayers can become lifeless and mechanical. The other type of prayer is that spontaneous prayer that arises from the heart, and the *Psalms* are a good model for such prayers that can cover virtually all situations.

7. Choose life.

I have set before you life and death, blessing and cursing. Therefore choose life

that both you and your seed may live. (Deuteronomy 30:19)

I apply this to myself in so many ways. Every day we are faced with choices. Some of those choices are destructive, and others are not. Always make the choice that leads to life. For me this means, among other things, eat a good diet, get exercise, don't fight with other people, and do those things that tend to strengthen the life force within. Choose life!

8. Be cheerful.

A merry heart is good medicine. (Proverbs 17:22)

Maintaining a happy heart will not only make you feel better, it will also help heal those around you!

9. Don't be lazy!

Go to the ant, you sluggard. Consider her ways, and be wise. The ant, having no guide, overseer, or ruler, provides herself bread in the summer and gathers for herself food in the harvest. (Proverbs 6:6-8)

Life always oscillates between the poles of activity and inactivity. When you get up in the morning, you're supposed to be active. Do what you can to accomplish something with the time you are given. Later on comes the time to be inactive and rest.

10. Stay far away from a transgression.

All the offerings that are to be eaten within one day may lawfully be consumed until the coming up of the dawn. Why then did the sages say, "Until midnight?" In order to keep a man far from transgression. (B. Berachot 2a)

Don't even get close to doing the wrong thing. Stay as far away from it as possible. That way there will always be a little room for error without crossing that boundary.

11. Don't engage in risky behavior.

Can one go on hot coals, and his feet not be scorched? (Proverbs 6:28)

Whether we are talking about using your cell phone while you drive or just taking too many chances in other areas of our lives, the injunction is clear. Don't do it.

Stay far away from such behavior. If you play with fire, you can expect to get burned.

12. Make sure your heart is good.

The Holy One, blessed be He, requires the heart, as it is written, “But the Lord looks on the heart.” (B. Sanhedrin 106b)

It matters not whether a man offers much or little so long as his heart is directed to heaven. (B. Menachoth 110a)

Righteousness, righteousness shall you pursue. (Deuteronomy 16:20)

It’s very important that your heart be in the right place. If it is, then everything else will follow.

13. Don’t gossip.

The talk about third persons kills three persons - him who tells the slander, him who accepts it, and him about whom it is told. (B. Arachin 15b)

Rabbi Johanan said in the name of Rabbi Joseph ben Zimra, “What is the meaning of, ‘What shall be given to you, and what shall be done more to you, you deceitful tongue! (Psalm 120:3)’ The Holy One, blessed be He, said to the tongue, “All members of the human body are standing, you are lying; all members of the human body are outside, you are guarded inside; not only that, but I surrounded you with two walls, one of bone and one of flesh; ‘What shall be given to you, what shall be done more to you, you deceitful tongue!’”
(B. Arachin 15b)

In Judaism, gossip is known as the evil tongue, and in the *Talmud* it is considered the equivalent of murder. Also, the evil tongue doesn't mean simply telling lies about people. It also refers to saying things which are true that aren't anyone else's businesses. So watch your tongue!

14. Don't always insist on your full rights.

Three the Holy One, blessed be He, loves: he who does not display temper, he who does not become intoxicated, and he who does not insist on his full rights.
(B. Pesachim 113b)

Do not proceed hastily to litigation. (Proverbs 25:8)

Look, other people aren't perfect and neither are you. Sure, there are some things in life you must insist on, but don't expect to get a hundred percent of what is yours all the time. Sometimes you just have to compromise, give people a little slack, and then move on. Expect of other people that they try to do the right thing, but then be satisfied not with always getting what you want, but with getting what you need. You'll be a lot happier for it.

15. Listen to your spouse.

If your wife is short, bend down and hear her whisper! (B. Baba Metzia 59a)

In all that Sarah has said to you, listen to her voice. (Genesis 21:12)

I am blessed with a wife that I love dearly. I don't want to miss a word that she has to say!

16. End the day on an inspirational note.

Resh Lakish says, "To him who is engaged in the study of the Torah by night, the Holy One extends a thread of grace by day, as it is said, 'By day the Lord will command his loving kindness, and in the night his song shall be with me. (Psalm

42:9) ' For what reason will the Lord command his loving kindness by day?

Because His song shall be with me in the night." (B. Avodah Zarah 3b)

Whenever the Torah is studied by night, a little thread of this hidden light steals down and plays upon them that are absorbed in their study, wherefore it is written, "The Lord commands His loving kindness in the daytime, and in the night his song is with me (Psalms 42:9)." (Zohar Vol II:149)

A very good practice is to end your day with the study of some inspirational text. Also, the very beginning of *Genesis* is related to these passages. According to *Genesis*, on the first day God says, "Let there be light." However, there is a problem in the text because God doesn't create the Sun and the Moon until the fourth day. Consequently, where's the light created on the first day? According to *Genesis Rabbah*, this light was a special light created for and hidden away for the righteous. This conclusion is based on the following passage:

Light is sown for the righteous. (Psalm 96:11)

As a result, the light that enters one due to divine study is part of this light set aside for the righteous. When I study *Torah*, *Talmud*, or related texts at night, I feel something at the crown of my head opening up, and I feel an invisible light of

love and oneness entering me and filling my being. This is a particularly good way to end the day!

17. Don't embarrass people.

Rabbi Johanan said on the authority of Rabbi Simeon bar Yohai, "Verbal wrong is more heinous than monetary wrong, because of the first it is written, 'And thou shalt fear thy God,' but not of the second." Rabbi Eleazar said, "The one affects his person, the other only his money." Rabbi Samuel ben Nahmani said, "For the former restoration is possible, but not for the latter." A tanna (a member of the early generation of rabbinic sages that spanned the period from approximately 70-200 CE) recited before Rabbi Nahman ben Isaac, "He who publicly shames his neighbor is as though he shed blood." Whereupon he remarked to him, "You say well, because I have seen such shaming, the ruddiness departing and paleness supervening." (B. Baba Metzia 58b)

Embarrassing someone publicly is very serious business. It is so serious that the rabbis considered it equivalent to shedding blood. Consequently, I do what I can to avoid embarrassing people in public. You've got to leave people with their dignity.

18. Plan for the generations to come.

One day Honi the Circle Drawer was journeying on the road and he saw a man planting a carob tree. He asked him, "How long does it take for this tree to bear fruit"? The man replied, "Seventy years." He then further asked him, "Are you certain that you will live another seventy years?" The man replied, "I found ready grown carob trees in the world. As my forefathers planted these for me so I too plant these for my children." (B. Taanith 23a)

When the Holy One, blessed be He, created the first man, He took him and led him round all the trees of the Garden of Eden, and said to him, "Behold My works, how beautiful and commendable they are! All that I have created, for your sake I created it. Pay heed that you do not corrupt and destroy My universe for if you corrupt it, there is no one after you to repair it." (Ecclesiastes Rabbah 7:20)

Think not only about what kind of world you are creating for yourself, but also what kind of world you will leave behind.

19. Be honest.

Raba said, "When man is led in for Judgment he is asked, 'Did you deal faithfully

with others [i.e., with integrity and honesty], did you fix times for learning, did you engage in procreation, did you hope for salvation, did you engage in the dialectics of wisdom, did you understand one thing from another? ”
(B. Shabbat 31a)

As one rabbi I know likes to point out, when you die the very first question you’ll be asked is, “Were you honest in business?” This should show you the importance of having integrity in your dealings with others.

20. Think twice before rejoicing in the failure of those you don’t like.

The ministering angels wanted to chant their hymns as the Egyptians drowned in the Red Sea during the exodus, but the Holy One, blessed be He, said, “The work of my hands is being drowned in the sea, and shall you chant hymns? ”
(B. Megilah 10b)

Always keep in my mind that the other person is a holy creation, too.

21. Don't be too quick to judge others.

Judge not your fellow man until you have stood in his place. (Pirkei Avot 2:4)

We are often so judgmental, both of ourselves and others. See if you can go an entire day accepting everyone instead.

22. Respect your elders even when they've lost their abilities.

The hoary head is a crown of glory. It is found in the way of righteousness.

(Proverbs 16:31)

You shall rise up before the hoary head, and honor the face of the old man.

(Leviticus 19:32)

“Which you did break, and you shall put them in the ark (Deuteronomy 10:2).”

Rabbi Joseph taught “This teaches us that both the tablets and the fragments of the tablets were deposited in the ark. Hence we learn that a scholar who has forgotten his learning through no fault of his must not be treated with disrespect.”

(B. Menachoth 99a)

As I get older, this respect for elders stuff becomes a whole lot more important to me! When we are young, many elders help us along the way with their love and their wisdom. Eventually, they pass away from our lives, and then there comes a time when we realize that we are now the elders to guide the next generation.

23. Don't be filled with guile; be sincere in your dealings with others,

Raba said, "Any scholar whose inside is not like his outside, is no scholar."

(B. Yoma 72b)

Always try and show your true face, both to yourself and to others.

24. Think about how your actions will affect others.

It is said, "Shall one man sin, and you will be angry with the whole congregation? (Numbers 16:22)." Rabbi Simeon bar Yohai taught, "This may be compared to the case of men on a ship, one of whom took a drill and began drilling a hole beneath his own room. His fellow travelers said to him, 'What are you doing?' Said he to them, 'What does that matter to you, am I not drilling in my own room?' Said they, 'It matters because the water will come up and flood the ship for us all!' Even so did Job say, 'And be it indeed that I have erred, my

error remains with myself (Job 19:4), ' and his friends said, 'He adds transgression to his sin, and he extends it among us.' They said to him, 'You extend your sins among us.''' (Leviticus Rabbah IV:6)

While we should be given maximum freedom to live our lives the way we want, we also need to be cognizant of how our choices affect others. I guess that's why God created homeowner's associations!

25. Live joyfully with your spouse.

Live joyfully with the wife whom you love. (Ecclesiastes 9:9)

A man should always eat and drink less than his means allow, clothe himself in accordance with his means, and honor his wife and children more than his means allow. (B. Chullin 84b)

Good relationships don't just happen. They require attention and loving care just like everything else. But the rewards are beyond measure.

26. Listen to your own heart.

Rabbi. Jannai said, "If the patient says, I need food, while the physician says he does not need it, we listen to the patient. What is the reason? 'The heart knows its own bitterness (Proverbs 14:10).'" (B. Yoma 83a)

I am not an expert in everything, but every person will know their own being better than anyone else. Don't discount your intuition. Listen to it before making any final decision.

27. Be flexible.

A person should always be as bending as a reed and not as rigid as the cedar. (B. Taanit 20a-b)

I consider myself persevering. Other people call that stubbornness. However, I always strive to be flexible and open to change. In fact, I work on physical flexibility as much as mental flexibility. I need to stretch my body as well as my brain.

28. Don't eat too much.

More people die from overeating than from hunger. (B. Shabbat 33a)

This is probably the hardest injunction for me to fulfill. I still eat way too much.

But I'm working on it!

29. Give people the benefit of the doubt.

Judge all men in the scale of merit. (Pirkei Avot 1:6)

As a mathematics teacher, I am often in the role of judge and jury. Over the years, though, I've become convinced of the wisdom of giving people the benefit of the doubt. For example, if a student's grade is right on the border between an *A* and a *B*, I will assume they are an *A* student. And if they say they missed class due to a sudden emergency, I will believe them. There may be some who are engaging in chicanery, but I think the majority of people want to be honest, and so whenever I can, in all situations, I assume the best of people.

30. Don't just study; do good deeds.

Anyone whose deeds exceed his wisdom, his wisdom is enduring, but anyone whose wisdom exceeds his deeds, his wisdom is not enduring. (Pirkei Avot 3:9)

Study is not the most important thing, but deed. (Pirkei Avot 1:17)

There are so many wonderful texts in Judaism with so much wisdom that it's easy to get lost in that scholarship. However, never forget that the most important thing is not what you read, but what you do. Rabbi Akiba believed that study was better, but only if it leads to practice.

31. Respect other people's property.

Let the property of your fellow man be as precious to you as your own. (Pirkei Avot 2:12)

This is a big one for me because I see a lot of people who don't respect the property of others.

32. Respect another person's honor.

Let the honor of your friend be as precious to you as your own.

(Pirkei Avot 2:10)

Rabbi Nehunia ben haKaneh was asked by his disciples, "In virtue of what have you reached such a good old age?" He replied, "Never in my life have I sought respect through the degradation of my fellow, nor has the curse of my fellow gone up with me upon my bed, and I have been generous with my money."

(B. Megillah 28a)

We don't raise ourselves up by putting other people down. We raise ourselves by raising others.

33. Take a walk after eating.

If one eats without walking afterwards, his food rots and that is the beginning of a foul smell. (B. Shabbath 41a)

As I've said, in all things you've got to keep the energy flowing.

34. Pursue peace.

Hillel used to say, “Be thou as the disciples of Aaron, loving peace and pursuing peace.” (Pirkei Avot 1:12)

As stated at the beginning of this chapter, the word *shalom*, peace, is related to the word *shalem*, wholeness. Thus, peace isn’t just an absence of conflict. It is a state of completeness and wholeness.

35. Don’t follow the multitude to do evil.

You shall not follow a multitude to do evil. (Exodus 23:2)

Frankly, these days it seems like all multitudes tend to do something wrong eventually. Hence, as I get older, I just become more independent.

36. Control your outbursts.

He who is slow to anger is better than the mighty; and he who rules his spirit than he who takes a city. (Proverbs 16:32)

Command Performance

Commit your deeds to the Lord, and your thoughts shall be established.

(Proverbs 16:3)

A soft answer turns away wrath, but grievous words stir up anger.

(Proverbs 15:1)

This, of course, is sometimes hard to do. I mean, have you seen how many idiots in my city are trying to drive while talking on their cell phones? Nonetheless, when you feel that flash of anger coming on, just take a nice deep breath and examine why you chose this particular emotion, and then your inner smile will return.

CHAPTER 8

WISDOM LITERATURE

The wisdom literature of the *Bible* includes the *Book of Job*, *Ecclesiastes*, *Proverbs*, and various *Psalms*. If we add *Genesis*, *Ezekiel*, *Song of Songs*, and *Isaiah* to this list, then we complete a set of texts that I often see referenced in early Jewish mystical works. Consequently, I view these texts as precursors to later kabbalistic writings. In particular, I see *kabbalah* as having much, much more to do with *Job* and *Ecclesiastes* than with magically pulling rabbits out of hats, and accordingly, the study of the wisdom literature of the *Bible*, along with the other books mentioned above, can deepen one's understanding of the origins and purpose of *kabbalah*.

Both the *Book of Job* and *Ecclesiastes* address the suffering of mankind and the apparent capriciousness with which that suffering is applied. This is in contrast to the *Torah* where the formula seems much more simplistic, i.e. follow the commandments and live, or transgress the commandments and die. However, we know that in life things aren't quite so simple. Bad things happen to good people, and the wicked often seem to lead charmed and happy lives. At the very least we may wonder why our neighbor down the street, who spent all his time goofing off in school, is now making so much more money than we are! Where is the justice in that? This is the sort of issue that wisdom literature often addresses.

In the *Book of Job* the story begins with the introduction of Job as a righteous man who is correspondingly prosperous. However, Satan, in his role as an obedient angel whose task it is to test people, says to God that if Job were to suffer, then he would quickly abandon his faith and gratitude towards God. Consequently, God allows Satan to test Job by first removing his wealth and later by afflicting his body. What follows in the text is a magnificent dialogue on the nature of suffering. We see Job go through many of the stages we might go through when hard times and severe illness hit us. He wonders why he is being punished, he feels the futility of the situation, and he wishes he were dead. Job's friends try to console him and explain why he must be going through such suffering, and through this we see the difficulties involved in trying to provide comfort to someone who is in immediate distress. Throughout, the question of God's fairness looms in the background. However, at the end of the story an answer is given, and the beginning of the story appears as a mere pretext for the launching of this essay on the human condition. In *Job 38*, God begins to respond and says,

Where were you when I laid the earth's foundations? Tell me if you know and understand. Who set its dimensions, if you know, or who stretched a surveyor's line over it. Into what are its bases sunken, or who laid its cornerstone? (Job 38:3-6)

And so the monologue continues for several verses. However, by the end the implication is clear. God is indeed just, but that doesn't mean that human beings are always capable of understanding His justice. In other words, not all of our suffering can be explained in terms that we currently understand. Our inability to fully understand God is echoed in *Isaiah 55:8-9* by the following,

For my thoughts are not your thoughts, nor are your ways my ways, says the Lord. For as the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts. (Isaiah 55:8-9)

Consequently, when we see the good suffer and the wicked prosper, that doesn't mean that there is no justice. It simply means that the justice that is there is beyond our ability to comprehend. Aside from this, there is one other important lesson to learn from the *Book of Job*. Endure. In everyone's life there are times of great travail, but like Job we must endure as best we can. And if we are lucky, our fortunes will once again turn around as they eventually did for Job. There is a story that Solomon once asked for a ring that would make him happy when he was sad and more sober when he was too happy. The craftsman simply made a ring engraved with the words, "*This too will pass.*" Thus, there are times in our lives when we can't understand the suffering that surrounds us, and all that we can do is to remember the words, "*This too will pass.*"

In *Ecclesiastes* we also find the issues of suffering and inequity addressed along with some suggested remedies. *Ecclesiastes*, by the way, may be the most misunderstood book of the *Bible*. In the most popular English translation we read at the beginning the words, “*Vanity of vanities, all is vanity*,” which come directly from the Latin Vulgate, “*Vanitas vanitatum, omnia vanitas*.” Unfortunately, “vanity,” while a good translation of the Latin, is a very poor translation of the original Hebrew, and this translation has led many to think that *Ecclesiastes* is all about the dangers of being a vain person. Nothing could be further from the truth! First of all, the Hebrew word that has been translated as “vanity” is *havel* which literally means “steam” or “vapor.” As such, the opening verses of *Ecclesiastes* are equivalent to us saying that everything is simply hot air. In other words, lacking substance and reality. Furthermore, in *Ecclesiastes* 6:12 we read,

*For who knows what is good for man in his life, all the days of his vain life
which he spends as a shadow? (Ecclesiastes 6:12)*

In *Ecclesiastes Rabbah* the rabbis relate this passage to the following one from *Psalms*.

Man is like a breath; his days are like a passing shadow. (Psalm 144:4)

The word for “breath” in this latter passage has the same root as the word which is translated as “vain” in the former passage. Remember, too, that the literal meaning of this word is steam or vapor. Thus, according to the *Psalms*, a man’s life is like vapor that creates an ephemeral shadow. The ancient rabbis took this text one step further and asked themselves what shadows have substance and what shadows are lacking in substance. In other words, a shadow is just an image created by something else. If this other object has permanence, then the shadow it creates points back to something of substance. On the other hand, if this other thing is itself transitory, then the shadow doesn’t point back to anything lasting, and in this case we say the shadow lacks substance.

If life is like the shadow cast by a wall, there is substance in it; if like the shadow cast by a date-palm, there is substance in it! David came and explained, “His days are as a shadow that passes away (Psalm 144:4).” Rav Huna said in the name of Rabbi Aha, “Life is like a bird which flies past and its shadow passes with it.” Samuel said, “It is like the shadow of bees in which there is no substance at all.” (Ecclesiastes Rabbah I:3)

A good exercise to do at this point is to ask yourself what in your life has substance? To do this, think about what is going to be important to you as you approach the end of your life. For me, love has substance. When I reach the end of life, the love I have

felt and given to others will be one of the things that has made life worthwhile.

Likewise, all the moments of kindness I have generated will have substance. So, too, will those things I have learned that have taken me to higher levels of understanding. What will not have substance will be the countless number of reports I've had to write at work and send to this agency or that. However, the cheerfulness and joy that I may have given to others as we worked on those projects, that has substance. An additional thing of substance related to the love, knowledge, and oneness mentioned above is the study of *Torah* or equivalent sacred text. Remember that the light that God created on the first day is considered a spiritual light that is hidden away for the righteous, and the proper study of *Torah* opens you up to let a thread of this light enter you from above.

At a year old a person is like a king seated in a canopied litter, fondled and kissed by all. At two and three he is like a pig, sticking his hands in the gutters. At ten he skips like a young goat. At twenty he is like a neighing horse, adorning his person and longing for a wife. Having married, he is like an ass. When he has begotten children, he grows brazen like a dog to supply their food and wants. When he has become old, he is bent like an ape. What has just been said holds good only of the ignorant; but of those versed in the Torah it is written, "Now King David was old (I Kings I:1)--although he was 'old', he was still a 'King'." (Ecclesiastes Rabbah I:3)

The implication in this text is that King David's elder years were still filled with substance because he studied the *Torah*, and this reminds us of studies that have shown that people of faith tend to live longer and be happier in their elder years. However, along with this I should mention one caveat.

Rabbi Hananel ben Papa said, "What is meant by, 'Hear, for I will speak princely things.' Why are the words of the Torah compared to a prince? To tell you, just as a prince has power of life and death, so have the words of the Torah potentialities of life and death. Thus, Raba said, 'To those who go to the right hand thereof it is a medicine of life, to those who go to the left hand thereof it is a deadly poison.' (B. Shabbat 88b)

Unfortunately, religion has been a two-edged sword throughout its history. There are countless examples that can be given of the good religion has done and the personal meaning it has given to people's lives. On the other hand, the amount of innocent blood that has been shed over the millennia in the name of religion is shameful. This is why it is important to me not to follow any multitude, religious or otherwise, to do evil (*Exodus 23:2*), and a corollary I have to this in my own life is that all multitudes eventually do evil. And a corollary to that statement is to never let religion get in the way of doing what's right. If you have a good heart, then your heart will guide you. Period!

Turning to another topic, let's talk about the authorship of *Ecclesiastes* for a moment. It is generally assumed that the author is Solomon because it does state in the text that the author is a son of David and a king of Jerusalem. Nonetheless, it never mentions Solomon's name directly, and many Biblical scholars believe the authorship was simply attributed to Solomon in order to make the document more authoritative. The name that is specifically mentioned in the text is *Kohelet* or *The Kohelet*. Some think of this as being more of a title than a name, and in the King James translation it is rendered as "The Preacher" while in some other translations it is denoted as "The Teacher." However, if we examine the Hebrew root of the word (*koof-hey-lamed*), we can see that the root meaning is "to assemble." One way in which we can now interpret this is that Kohelet assembled the teachings for the people and presented them in a way they could understand. This is supported by the following verses from *Ecclesiastes*,

And besides being wise, Kohelet also taught the people knowledge; for he weighed, and sought out, and set in order many proverbs. Kohelet sought to find out acceptable words; and words of truth written in proper form.
(*Ecclesiastes 12:9-10*)

In *Song of Songs Rabbah*, they explain it like this,

“And more so because Kohelet was wise, he also taught the people knowledge; yea, he pondered and sought out and set in order many proverbs (Ecclesiastes 9:12).” He pondered the words of the Torah and investigated the meaning of the words of the Torah. He made handles to the Torah, making it easy for the people to grasp. (Song of Songs Rabbah I:8)

There is another interpretation, however, we can apply to the term *Kohelet*. Later on in *Ecclesiastes 3:11*, we encounter a text that is rather difficult to render in English. Below, for comparison, are a few translations and their sources.

He hath set a world in their heart, so that no man can find out the work that God maketh from the beginning to the end. (King James)

Although he has given us an awareness of the passage of time, we can grasp neither the beginning nor the end of what God does.

(The New Jerusalem Bible)

He also puts eternity in their mind, but without man ever guessing, from first to last, all the things that God brings to pass. (Jewish Publication Society)

He has also put an enigma into their minds so that man cannot comprehend what God has done from beginning to end. (The Stone Edition)

If we examine the above translations closely, we might deduce that there is a word that some translate as “world,” some as “eternity” or other reference to time, and some as “enigma.” The heart of the problem is the Hebrew phrase *ha-olam* which can be translated as either “the world” or “the eternity.” However, to complicate matters this word is spelled incorrectly. It is missing a letter *vav*. Consequently, *ha-olam* could also be read as *heh-eh-lame* which means “hidden.” In other words, something hidden or an enigma in men’s hearts. However, in addition to these classical interpretations of the verse, one might also notice that if we replace each letter of the defectively spelled Hebrew word for “world” by its number equivalent, then *olam* (*ayin-lamed-mem*) has a numerical value of 140. This is the same as the numerical value of *hikahel* (*hey-kuf-hey-lamed*), the verb “to assemble” from which the appellation *Kohelet* is derived. Thus, I like to think of this verse as saying that an “assembler” has been put in our hearts and minds. This assembler creates time and space for us. It takes the perceptions it is given and creates a world. However, in the process of creating a finite world for us to sojourn in, the Infinite is hidden. The boundary which defines is also the boundary that excludes.

A final thing I wish to note about *Ecclesiastes* is something I think most people never realize. The book is out of order! If you look closely at the text, you will be able to identify a variety of major themes, but they're put together like an alphabet soup. Thus, a good exercise is to go through the text, and with some cutting and pasting, try and put verses that discuss similar themes next to one another. In this way, it becomes easier to decipher this manuscript. For example, consider these verses,

Moreover, I saw under the sun that in the place of justice there was wickedness, and in the place of righteousness, wickedness was there. (Ecclesiastes 3:16)

All this have I seen in my days of vanity: there is a righteous man who perishes in his righteousness, and there is a wicked man who live long in his evil doing. (Ecclesiastes 7:15)

Another futile thing that happens on earth; upright people being treated as though they were wicked and wicked people being treated as though they were upright. To me this is one more example of futility. (Ecclesiastes 8:14)

These passages highlight a basic problem that is hard to miss. Quite often in life, the wicked seem to prosper and the righteous suffer. An explanation is suggested by the following gathering of verses.

A generation goes and a generation comes. (Ecclesiastes 1:4)

The sun rises and the sun sets. (Ecclesiastes 1:5)

The wind goes round and round, and on its rounds the wind returns.

(Ecclesiastes 1:6)

To every thing there is a season, and a time to every purpose under the heaven; a time to be born, and a time to die; a time to plant, and a time to pluck up that which is planted; a time to kill, and a time to heal; a time to break down, and a time to build up; a time to weep, and a time to laugh; a time to mourn, and a time to dance; a time to cast away stones, and a time to gather stones together; a time to embrace, and a time to refrain from embracing; a time to seek, and a time to lose; a time to keep, and a time to cast away; a time to rend, and a time to sew; a time to keep silence, and a time to speak; a time to love, and a time to hate; a time of war, and a time of peace. (Ecclesiastes 3:1-8)

He (God) has made every thing beautiful in its time. (Ecclesiastes 3:11)

In these verses we are presented with a cyclic view of time, and this helps us understand the seeming inequities in life. It is simply the nature of things that highs be followed by lows and vice-versa. Nothing stays fixed and unchanging except for God, and consequently, good times and bad times will always alternate. And if every dog has his day, then so also will everything eventually return to a state of beauty.

Finally, Ecclesiastes provides us some suggestions on how to cope with the ever shifting fortunes of life.

There is nothing better for a man than he enjoy food and drink and find satisfaction his work. (Ecclesiastes 2:24)

So I saw that there is nothing better, than that a man should rejoice in his work; for that is his portion; who can bring him to see what shall be after him? (Ecclesiastes 3:22)

Then I commended enjoyment, because a man has no better thing under the sun than to eat and to drink and to be joyful, and that this should accompany him in his labor all the days of his life which God gives him under the sun. (Ecclesiastes 8:15)

Go your way, eat your bread with joy, and drink your wine with a merry heart. (Ecclesiastes 9:7)

I know that there is nothing better for them, than to rejoice, and to do good in his life. And also that it is the gift of God that every man should eat and drink, and enjoy the good of all his labor. (Ecclesiastes 3:12-13)

Live joyfully with the wife whom you love all the days of the life of your vanity, which he has given you under the sun, all the days of your vanity; for that is your portion in life, and in your labor in which you labor under the sun. (Ecclesiastes 9:9)

Better is the sight of the eyes than the wandering of the desire. (Ecclesiastes 6:9)

Taken as a whole, these verses suggest that one way of dealing with the inequities of life is to learn to live in the here and now. Find joy in the work you do and in the enjoyment of the fruits of those labors, and find joy with your spouse. Rather than wander in desire, look at what is right in front of you, and find happiness there. For as it says in the text, “*Live joyfully with the wife whom you love. (Ecclesiastes 9:9),*” and, “*Everything is beautiful in its own time (Ecclesiastes 3:11).*” When you learn to look beyond your assembler that is creating your reality, you will see the infinite beauty that is within all things.

CHAPTER 9

THE BOOK OF FORMATION

In this chapter we will take a look at one of the oldest extant texts on *kabbalah*, a work known as the *Sefer Yetzirah* or *The Book of Formation*. Some call it the *Book of Creation*, but the word “formation” is more apropos because Judaism distinguishes between two types of creation – *yesh m’yesh*, something from something, and *yesh m’ayin*, something from nothing. The *Sefer Yetzirah* concerns itself primarily with the “something from something” kind of creation, and the Hebrew word *yetzirah* for “formation” is generally used in this context. Other Hebrew words are typically used for the “something from nothing” type of creation. Thus, to remind ourselves that a central theme of the *Sefer Yetzirah* is the “something from something” type of creation, the title *The Book of Formation* will be utilized throughout. The book itself is very terse, not unlike that classic of Taoist philosophy the *Tao te Ching*, and yet at the same time it is very dense with information. Consequently, we will spend this entire chapter on just the first two verses. Also, in this chapter we will delve a bit more deeply into Jewish numerology and word play, and in fact, let us begin now with a very brief introduction to rabbinic word play since it is something that permeates the texts of classical Judaism. After this introduction we will apply the methodology to *The Book of Formation*.



The most common form of word play in Judaism is Jewish numerology or *gematria*, as it is called. The word *gematria* comes from the Greek word for “measure” as does the more familiar English word, *geometry*. The reason *gematria* is so common in Jewish writings is because the Jewish alphabet is also the number system.

Consequently, as we’ve mentioned previously, every Jewish word is also a number, and, thus, it is natural to examine words that have the same numerical value in order to see what other connections may exist. Furthermore, while some believe that every numerical correspondence is the direct result of the hand of God, my position on *gematria* is simply that it is a valuable tool for making connections that you might not make otherwise. I often say that one should use *gematria* only to verify what you already know in your heart to be true. For example, the most sacred name in Hebrew for God has a numerical value of 26. Additionally, the numerical value of the word for “one” is 13, and the numerical value of the word for “love” is also 13. Thus, using the equation $26 = 13 + 13$, *gematria* suggests that God is love and oneness, and this rings true with the core of our being. In a situation like this, *gematria* simply helps us uncover a truth that we already know.

The Book of Formation

Letter	Glyph	Number
<i>aleph</i>	א	1
<i>bet</i>	ב	2
<i>gimmel</i>	ג	3
<i>dalet</i>	ד	4
<i>hey</i>	ה	5
<i>vav</i>	ו	6
<i>zayin</i>	ז	7
<i>chet</i>	ח	8
<i>tet</i>	ט	9
<i>yud</i>	י	10
<i>kaf</i>	כ	20
<i>lamed</i>	ל	30
<i>mem</i>	מ	40
<i>nun</i>	נ	50
<i>samech</i>	ס	60
<i>ayin</i>	ע	70
<i>peh</i>	פ	80
<i>tzaddi</i>	צ	90
<i>kuf</i>	ק	100
<i>resh</i>	ר	200
<i>shin</i>	ש	300
<i>tav</i>	ת	400

The letters and glyphs of the Hebrew alphabet and their numerical values

Another interesting example of *gematria* involves *lev*, the Hebrew word for “heart” or “mind.” In Hebrew, *lev* is spelled *lamed-bet*, and the numerical value of the letter *bet* is 2. Notice now that if you interpret *lev* to mean “two *lameds*,” and if you take the letter *lamed*, , and combine it with another one that has been flipped about a vertical axis, then you get an image that looks like a human heart.  This helps bring to

life the connection between the word *lev* and an actual physical heart. Now much of the word play that follows in this chapter may look like nothing more than a tribute to “free association,” but nonetheless, it will help us make the connections we are seeking to establish. And it is up to each individual to decide whether the connections are valid or not.

Returning now to the *Sefer Yetzirah*, let’s take a look at the first two verses.

With 32 wondrous paths of Wisdom engraved Yah, the Lord of Hosts, God of Israel, the Living God, King of the Universe, Almighty God, Merciful and Gracious, High and Exalted, dwelling in eternity, whose name is Holy, and He created His universe with three books, with text (sepher), with number (sephar), and with communication (sippur). Ten sefirot of nothingness and 22 foundation letters. Three mothers, seven doubles, and twelve elementals.
(*Sefer Yetzirah* 1:1-2)

There are so many wonderful things to take note of in just these two beginning verses! First, notice the mention of the 32 wondrous paths of wisdom, and remember that 32 is the numerical value of the Hebrew word *lev* which means “heart” or “mind.” Also recall the following passages from *Proverbs* regarding the creation and wisdom.

The Book of Formation

Wisdom has built her house, she has hewn out her seven pillars.

(Proverbs 9:1)

By wisdom a house is built; and by understanding it is established.

(Proverbs 24:3)

In *kabbalah*, wisdom has a very specific meaning. It refers to the “aha” moment that takes place in the right hemisphere of the brain. In other words, when we are trying to figure something out and the answer suddenly pops into our mind like a flash, that is what is called “wisdom.” It’s occurs right at that moment when we say to ourselves, “I’ve got it.” What immediately follows that right brain inspiration is a left brain activity of organizing, classifying, and solidifying that inspiration. The left brain puts our inspiration into words and clothes our genius in structure. In *kabbalah* this subsequent left brain activity is called “understanding.” Thus, we read in *Proverbs*,

By wisdom a house is built; and by understanding it is established.

(Proverbs 24:3)

Compare this also with that enigmatic verse from *Ecclesiastes* that we mentioned in the previous chapter.

He has set a world/eternity in their heart/mind, so that no man can find out the work that God makes from the beginning to the end. (Ecclesiastes 3:11)

Combining this verse with the statements on “wisdom” from *Proverbs*, the “32 paths of wisdom” from the first verse of the *Sefer Yetzirah*, and the *gematria* of the word *lev*, we come to the conclusion that the world is built, assembled, and exists because of our minds. Continuing on with the first verse, we read that God dwells in eternity. Again, note that the above passage from *Ecclesiastes* places this eternity within our own hearts and minds.

Proceeding, we read that God “*created His universe with three books, with text (sepher), with number (sephar), and with communication (sippur).*” The word “text” refers to the stories that the right hemisphere of the brain creates; the word “number” refers to the more quantitative, analytical activities of the left hemisphere of the brain; and the word “communication” refers to the coordination of the two hemispheres of the brain, and according to the *Sefer Yetzirah*, this is how we create our world. The coordinated activities of the hemispheres of our brain create our reality for us. Notice that in many respects this is not unlike the conclusion of quantum mechanics that the observed does not have an existence that is independent of the observer. The observer can decide what characteristics reality will have by making choices with regard to how to observe it. Of further interest is that in *kabbalah* the right

hemisphere of the brain corresponds to water, the left hemisphere corresponds to fire, and air corresponds to the communication between the two. This will be discussed at more length in the next chapter, but for now, though, contrast this with what we find in Greek philosophy. Some of the Greek philosophers believed that everything was composed of four fundamental elements – water, fire, air, and earth. In the *Sefer Yetzira*, however, there are only three fundamental elements and the world (earth) is derivative from water, fire, and air. In other words, we create our own reality, not the other way around! Compare this now with the following quotes from the *Talmud*.

If a man strikes many coins from one mold, they all resemble one another, but the Supreme King of Kings, the Holy One, blessed be He, fashioned every man in the stamp of the first man, and yet not one of them resembles his fellow. Therefore, every single person is obliged to say: The world was created for my sake. (B. Sanhedrin 37a)

For thus we find in the case of Cain, who killed his brother, that it is written, “The bloods of thy brother cry unto me.” Not the blood of thy brother, but the bloods of thy brother, is said - i.e., his blood and the blood of his potential descendants. For this reason was man created alone, to teach you that whosoever destroys a single soul of Israel, scripture imputes guilt to him as though he had destroyed a complete world; and whosoever preserves a single

soul of Israel, scripture ascribes merit to him as though he had preserved a complete world. (B. Sanhedrin 37a)

On the one hand, destroying a single person is like destroying an entire world because you not only destroy that person, but also all the potential descendants of that person. But simultaneous with this interpretation, we can say, as the first verse suggests, that every person's view of the world is unique since no two people experience exactly the same reality, and when a person dies that unique universe dies with them. Additionally, the Hebrew word that is used for "paths" in the first verse of the *Sefer Yetzirah* is the plural of *nativ* rather than that of the more common word for path, *derekh*. In the *Zohar* (*Zohar II:215a*), a *derekh* is described as a public path, and consequently, as the late Rabbi Aryeh Kaplan pointed out in his commentary on the *Sefer Yetzirah*, the word *nativ* represents a more personal path. This reiterates the interpretation that we each create our own world through the particular paths we create and follow. The bottom line, though, of this passage from the *Sefer Yetzirah* is once again that it is the conscious activity of the mind that creates reality and not the other way around.

Another connection concerning 32 and the word *lev* for heart or mind is that this is what is spelled when the first and last letters of the *Torah* (*bet* and *lamed*) are put together. Consequently, this suggests that the *Torah*, i.e. our original instructions,

exists already within our hearts. See now how this interpretation is supported by various passages from the *Bible*.

In the hearts of all who are wise hearted I have put wisdom. (Exodus 31:6)

These words, which I command you this day, shall be in your heart.

(Deuteronomy 6:6)

I will put my Torah in their inward parts, and write it in their hearts; and will be their God, and they shall be my people. (Jeremiah 31:32)

If the 32 paths of wisdom are contained in our heart and if the 32 paths of wisdom also refer to embedded instructions of *Torah* and if the world is created through these 32 paths, then it follows that the world was created through *Torah*. Interestingly, this is exactly the conclusion that one finds in *Genesis Rabbah*, the great rabbinical commentary on *Genesis*.

God consulted the Torah and created the world, while the Torah declares, IN THE BEGINNING GOD CREATED, BEGINNING referring to the Torah, as in the verse, "The Lord made me as the beginning of His way (Proverbs 8:22)." (Genesis Rabbah I:1)

Now does this conclusion that the world was created with *Torah* really make sense? The image of an old man consulting a book as if it were a blueprint may seem credible to some, but not to me. The image is far too limited and anthropomorphic. Nonetheless, I would answer “yes” if you think of the word *Torah* in the context of its English translation, “instruction.” In other words, we seem to be born pre-wired to observe the world in certain ways. Our brains are indeed born with “instructions” built in that tell us how to assemble a world from our perceptions. And if we look at it from an exterior point of view, we might say that the “instructions” of the universe are nothing more than the fundamental laws of physics. Either way we can in a meaningful way come to the same conclusion of the rabbis that the *Torah*, i.e. the “instruction,” is the blueprint for the universe.

If we try to relate the number 32 to human anatomy, we might note that there are 32 vertebrae in the human body (seven cervical, twelve thoracic, five lumbar, and eight that comprise the sacrum and coccyx), and additionally the natural number of permanent teeth is 32. Consequently, when it says in *Ecclesiastes* 12:3 that at the end of life “*the grinders cease*,” we can interpret this as an indication that the 32 paths return to their source, and this world that we have briefly created for ourselves comes to its conclusion. Notice also that in the above explanation we find yet another connection between kabbalistic literature and wisdom literature.

Looking now at the second verse of the *Sefer Yetzirah*, we read,

Ten sefirot of nothingness and 22 foundation letters. Three mothers, seven doubles, and twelve elementals. (Sefer Yetzirah 1:2)

Notice the obvious that 10 plus 22 yields 32, the number of paths of wisdom mentioned in verse one. This passage is the basis for the development of that diagram known as the kabbalistic *Tree of Life* that we will study in the next chapter and which may be used to further understand the structure of our reality.

The word “*sefirot*” (singular *sefirah*) in this passage is rather obscure and of uncertain origin. The three letter root of this word, *samech-peh-resh*, is the same three letter root for the three words used in the previous passage for “text,” “number,” and “communication.” Some think that the word “*sefirot*” refers to “number” since it appears just once in the *Bavli* (*B. Menachot 65b*) in the context of counting the *omer*. However, I suspect it refers to all three of the previous words simultaneously. A basic pattern in the *Sefer Yetzirah* is that everything exists because of the presence of two opposites coupled with interaction between them as in right brain, left brain, and communication between the two hemispheres. This is alluded to even in *Ecclesiastes*.

The Book of Formation

“Also God made one opposite the other” (Ecclesiastes 7:14). Good opposite evil, evil opposite good. Good from good, evil from evil. Good defines evil and evil defines good. Good is kept for the good ones, and evil is kept for the evil ones. (Sefer Yetzirah 6:4)

This passage from *The Book of Formation* specifically references *Ecclesiastes* regarding the two opposites, and many other passages of the *Sefer Yetzirah* add to this the third element of communication and interchange between these opposites. Thus, it is logical to assume that the word *sefirot* refers to all three processes simultaneously. Furthermore, since the words text (*sepher*), number (*sephar*), and communication (*sippur*) do all have the same three-letter Hebrew root, this suggests that the separation of the world into these three components is really just something of an illusion. Just as these three words are combined into a single word, *sefirot*, so are the three components that form reality really one, and this teaches us that the world is in some way illusory and that there is really only one thing that exists, God. In *kabbalah*, this conclusion that all is God is based on the following passage from *Isaiah*.

Holy, holy, holy, is the Lord of hosts; the whole earth is full of his glory.
(Isaiah 6:3)

Also of interest is that the *gematria* of the word *kavod*, the Hebrew word for “glory,” is 32. This suggests that our heart is also filled with God’s glory. Additionally, one might just as well have quoted this verse, too, from *Psalms*.

Where shall I go from your spirit? Where shall I flee from your presence? If I ascend up to heaven, you are there! If I make my bed in Sheol, behold, you are there! If I take the wings of the morning, and dwell in the uttermost parts of the sea, even there shall your hand lead me, and your right hand shall hold me. (Psalm 139:7-10)

Consequently, the view being presented here is that consciousness creates reality, and, furthermore, we each create our own individual reality. But at the same time, this separation of reality into three parts is ultimately an illusion as there is only the one God. It is like the Klein bottle¹ whose inside is the same as its outside. It is like trying to divide water into water, water, and water. In the end, you really have just one component, water.

There are more lessons to be derived from the phrase “*ten sefirot of nothingness*.” In particular, this phrase seems to be a reference to the teaching that God created the world with ten utterances.

¹ Chapter 4

With ten utterances was the world created. (Pirkei Avot 5:1)

Rabbi Johanan said, “The ten utterances with which the world was created. What are these? The expressions ‘And God said’ in the first chapter of Genesis. But there are only nine? — The words ‘In the beginning’ are also a creative utterance, since it is written, ‘By the word of the Lord the heavens were made, and all the host of them by the breath of his mouth. (Psalm 33:6)’” (B. Megilah 21b)

Since the world is created by “*ten sefirot of nothingness*,” this also suggests that the world of multiplicity that we perceive is ultimately lacking in substance. Also, the Hebrew word used for “nothingness,” *b’limah*, is rather obscure. It appears only once in the *Tanach* in the *Book of Job*,

He stretches out the north over the void, and hangs the earth upon nothing (b’limah). (Job 26:7)

The word *b’limah* can be decomposed into the words *b’li* and *mah* which literally mean “without anything.” Furthermore, the three-letter root (*beth-lamed-mem*) spells the verb “to restrain.” In the *Talmud* both of these interpretations can be found, and it is quite likely that in the *Sefer Yetzirah* both meanings are indeed intended.

Raba, others say Rabbi Johanan, also said, "The world exists only on account of the merit of Moses and Aaron; for it is written here, 'And we are nothing,' and it is written there of the world, 'He hangs the earth upon nothing.'" Rabbi Ila'a said, *"The world exists only on account of the merit of him who restrains himself in strife, for it is written: He hangs the earth upon b'limah. (B. Chullin 89a)*

From this passage in the *Talmud*, we get two meanings for the word *b'limah*. On the one hand, it refers to "nothingness," while on the other hand it implies restraint and restriction. The way that this is interpreted in *kabbalah* is that all that really exists is God, but in order for us to experience our more limited world, God had to restrict God so that God would not overwhelm God's restriction of God. Make sense? Think of it for a moment in terms of the particle and wave nature of reality that we encounter in quantum physics. We like to think of everything as composed of particles since particles give reality the appearance of being concrete. For a particle, boundaries are clear cut and if we think of ourselves as particles, then we can easily talk in terms of me being over here and you being over there. However, we know from quantum physics that things in the real world aren't just particles. They are also waves, and as waves the boundaries are unclear. When the wave that is me blends with the wave that is you, it is no longer clear where I end and you being. And as this wave side of the equation increases in impact, the boundaries we associate with the

world of particles fade more and more until all separation vanishes. And at that point there is no diversity. There is no world of multiplicity. There is only unity. There is only the One.

The second part of the second verse of the *Sefer Yetzira* says that God created the world with “22 foundation letters: Three mothers, seven doubles, and twelve elementals.” These 22 foundation letters are the 22 letters of the Hebrew alphabet, and in many respects, this is, indeed, how we create our world. The letters of an alphabet become the building blocks for the words that are spoken, and words and the relationships we establish between them create our personal reality. To give an example, the English word “charity” comes from the Latin word *caritas* meaning “love.” Thus, in English, charity is seen as an act of love. In Hebrew, however, the word for charity is related to the word for “righteousness.” Consequently, in Hebrew, charity is seen not necessarily as an act of love, but as the right thing to do (whether we want to or not). Different languages create different word associations which create different ways of experiencing reality. Even in the *Gospels* we read that “*In the beginning was the word (John 1:1),*” and so mystical Judaism is not unique in implying that reality is formed by the words we use to describe it. We also read in the *Talmud* that,

Bezalel knew how to combine the 22 letters by which the heavens and earth

were created. (B. Berachot 55a)

Combining the teaching that the heavens and the earth were created with 22 letters with the teaching that God created the world with 10 utterances, we once again wind up back at the number 32. Interestingly, this is also the number of times that the God-name *Elohim* appears in the *Torah* in the story of the six days of creation in Genesis.

If we go back to the sentence “*He created His universe with three books, with text (sepher), with number (sephar), and with communication (sippur). (Sefer Yetzirah 1:1),*” there are even more things we may derive. As mentioned above, the words used for “text,” “number,” and “communication” all have the same three letter root, *samech-pey-resh*, and the numerical value of this root is 340. This is also the numerical value of *shem*, the Hebrew word for “name,” *shin-mem*, and in the paragraph above we just established a connection between the God-name *Elohim* and the creation via the “*32 paths of wisdom.*” This connection can be strengthened in many ways. One is that the *gematria* of *Elohim* is 86, the same as that of “the nature” (*ha-tevah*). Additionally, we draw attention to the following passage from the *Zohar*, that voluminous work on *kabbalah* published in the thirteenth century. This passage seems to be giving a very elegant description of the big bang, and at the end it identifies this physical universe with *Elohim*.

Radiance! Concealed of concealed struck its aura, which touched and did not touch this point. Then this beginning expanded, building itself a palace worthy of glorious praise. There it sowed seed to give birth, availing worlds. The secret is, “Her stock is seed of holiness (Isaiah 6:13).” Radiance! Sowing seed for its glory, like the seed of fine purple silk wrapping itself within, weaving itself a palace, constituting its praise, availing all. With this beginning, the unknown concealed one created the palace. This palace is called Elohim. The secret is, “With beginning, it created Elohim (Genesis 1:1).” (Zohar I:15a)

We are now at the end of this particular chapter, and if you have read it closely, then you have probably seen it give many explanations and, at the same time, raise many questions in your mind that need further explanation. Among the assertions made are:

- The universe is created by consciousness, not the other way around.
- The basic pattern for all creation is two things opposite another with a third element providing interaction between the two.
- All separation is ultimately just an illusion.

Among the questions you should be asking yourself are, “If this universe is an illusion, then why does my back hurt so much,” and “If I create my own reality, then

where the heck is my winning lottery ticket, and my big fancy car, and, in particular, where the heck are all those wild women!!!” These questions and more will be addressed in the chapters to come.

CHAPTER 10

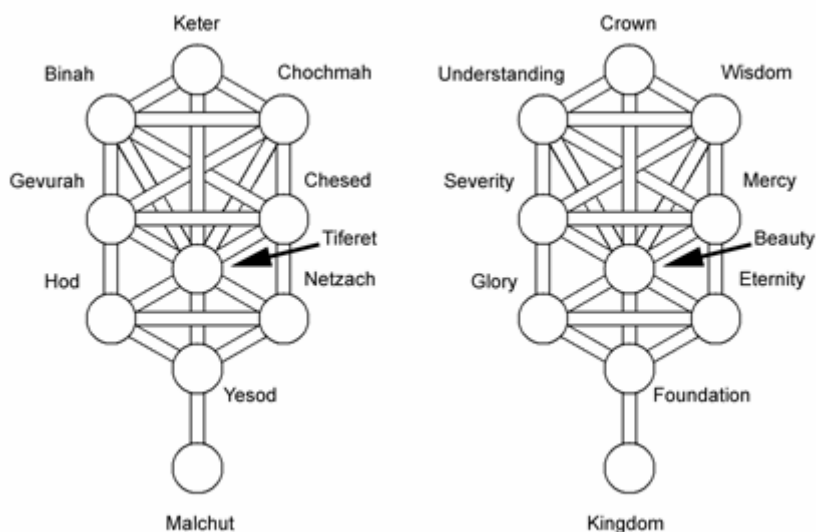
THE TREE OF LIFE

In trigonometry we work with a diagram called the “unit circle” (a circle of radius one with center at the origin), and everything you ever wanted to know about trigonometry can be derived by studying that unit circle. In *kabbalah* we also have a diagram which helps us organize all the various concepts and patterns. It’s called the *Tree of Life*, and in this chapter we will go over the basics of this diagram. The impetus for this schema comes from that second verse of the *Sefer Yetzirah*.

Ten sefirot of nothingness and 22 foundation letters. Three mothers, seven doubles, and twelve elementals. (Sefer Yetzirah 1:2)

The *sefirot* are represented by 10 spheres in the diagram, and the 22 letters of the Hebrew alphabet are assigned to paths that connect those spheres. The diagram with the names of the 10 *sefirot* in both Hebrew transliteration and English is as follows:

The Tree of Life



Part of the basic structure of this tree is the presence of two sets of polar opposites or dichotomies. We can think of the very bottom of the tree as pertaining to the physical world and the top of the tree pertains to the spiritual world. Thus, as we move up the tree we are moving from the physical to the non-physical. The right side of the tree represents formlessness, and the left side of the tree is structure. The right side of the tree also corresponds to the right hemisphere of the brain where perception is more holistic, and the left side corresponds to the left hemisphere where structure is created. We could also say, using metaphors from quantum mechanics, that the right side is the wave nature of reality and the left side is the particle. Along these same lines of physics, we might say that the bottom is matter and the top is energy. Now let's start moving on the tree.

The Tree of Life

We'll start at the bottom with *Malchut*, the Kingdom. This is just the material world, hard core physical reality. Directly above *Malchut* is *Yesod*, Foundation. Think of this in terms of your physical body, your persona, and your habits or basic reactions to things. In other words, *Yesod* is your interface with the physical world. It is also the foundation on which the rest of your being rests. Thus, you want to have a healthy physical body and to have good habits and a personality without guile. If your foundation is good, then it's easy to build on and move up to the next level.

To the right of *Yesod* is *Netzach*, Eternity. *Netzach* is our basic right brain mode of functioning. In the right hemisphere of the brain, things are apprehended in a more holistic manner without detailed analysis, and, consequently, there is no time. The memory of the good time we had one day when we were a child sits right alongside the great dinner we had today. They both make their psychological impact on us without reference to time. Because in the right brain perceptions are distinguished only by intensity and not by time, we refer to this realm as Eternity.

To the immediate left of *Yesod* is *Hod*, Glory. This *sefirah* refers to the analytical functions of the left hemisphere of our brain. Typically, we think of all these left brain functions as what distinguishes us from the other mammals on the planet. We can reason and solve problems and reach great intellectual heights, and as human beings that is our glory. As it says in the *Psalms*,

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You have made him a little lower than the angels, and have crowned him with glory and honor. (Psalm 8:6)

Directly above *Yesod*, is *Tiferet*, Beauty and Harmony. This *sefirah* corresponds to our ego, our sense of self, and our moral compass. It is the “I” within, the inner identity by which we describe ourselves. When we are little, our actions are more instinctive, and we have comparatively little or imperfect control over ourselves. Our consciousness at this point is centered at *Yesod*, and we are, in some respects, only slightly more evolved than the animals we might keep as pets. When we reach our teenage years, though, we begin to develop more of a sense of self and individuality as well as awareness of others, and we begin to pull away from our parents. If we have established good habits, then we will blossom into a moral individual at this point and be able to take greater control and responsibility of our life. On the other hand, if we have not developed good habits, then we will still seek greater freedom, but we will be more controlled by our desires and impulses. Notice that on the *Tree of Life* that *Tiferet* is essentially in the middle and directly connected to all the other parts of the tree with the exception of *Malchut*. This is because *Tiferet* represents the balance point within our being. After we have experienced all the other parts of the tree, all the other parts of our being, this is where we should sit in order to keep everything else in balance and harmony. When our development is complete, we will be good, moral individuals with the ability to make choices without being slave to

either others or our own desires, and we will be able to focus our attention in any direction we wish. *Tiferet* is the point of harmony within our universe.

To the right of *Tiferet* and slightly above is *Chesed*, Mercy, Kindness, and Love.

Think of *Chesed* as a higher function of the right hemisphere of the brain. Also, since love and mercy are not things with sharp boundaries, they belong on the formless side of the tree. But again, if we develop in a proper fashion, then we not only develop a healthy ego and good control over ourselves (*Tiferet*), we also become more giving individuals and develop a greater capacity for love and kindness (*Chesed*).

To the left and above *Tiferet* we find *Gevurah*, Strength and Severity. This *sefirah* is on the left side of the tree, so we naturally expect it to be connected with form and with left brain functions. In its proper development, it represents moving from just having a brain (*Hod*) to being able to use that brain (*Gevurah*). As such, *Gevurah* represents a higher stage in our intellectual development. If we mature properly, then in our teen years we find ourselves also with greater intellectual capacity. We begin to appreciate our ability to do math and to read and comprehend great literature. Our minds become strong. On the other hand, if we don't have a proper development, then we only increase our capacity to plot and scheme and to be judgmental. We create severity both for ourselves and for others. Another term applied to *Gevurah* is

Din, Judgement. We also sometimes think of *Gevurah* as tough love, that love that comes with caveats and restrictions as opposed to the unconditional love of *Chesed*.

Back on the right side of the tree and directly above *Chesed* is *Chochmah*, Wisdom. This *sefirah* represents the highest level of functioning of the right hemisphere of the brain, and it corresponds to what I call the “aha” moment. Whenever we are trying to solve some puzzle or problem, there is that moment where we say “aha,” and we know we’ve got the answer. At that point, the answer is still formless. It hasn’t been put into words, but we know we have it. We feel a tremendous rush of excitement and joy, and the bigger the problem, the bigger that “aha” moment is. That “aha” is our encounter with Wisdom.

Once we have our inspiration in *Chochmah*, the left side of the brain immediately begins to interpret it and give it structure. This is the function of *Binah*, Understanding. This *sefirah* lies to the left of *Tiferet* and directly above *Gevurah*. This is the highest level of functioning of the left hemisphere of our brain. We can liken it to when we have completely mastered a subject and we take joy in seeing and understanding all the interconnections between the various parts of that topic. That is when our brain is like a Beethoven symphony reveling in the comprehension of a theme and its many variations. It is a very high level of intellectual functioning.

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Directly above *Tiferet* at the top of the tree is *Keter*, the Crown. Just as *Yesod* is our interface with the physical world, *Keter* is our point of contact with whatever it is that lies beyond our being on non-physical planes. It corresponds to the crown of our head where we feel that light hidden away for the righteous enter our body when we are in an exalted state. The *sefirah* of *Keter* is also the source for that inspiration we receive in *Chochmah*. Thus, *Keter* is our muse, our genius. This *sefirah* is additionally associated with will and intent. Intent is often where many of our actions begin. We will ourselves to get out of bed in the morning, and we have the intent to accomplish things throughout the day. But where does this intent come from? Who knows? That's as far back as we can trace it. Our journey from the top can only start with *Keter*. Beyond that, there is no me or you to talk about.

There are many patterns in the *Tree of Life* to discern and appreciate. One of the more obvious ones is that of the three vertical pillars that the tree defines. On the right we have the *pillar of mercy*, on the left the *pillar of justice*, and the third pillar is the *middle path* that balances the other two. We also associate the right pillar with expansion and giving and the left pillar with constriction, receiving, and the creation of form. And as we've mentioned before, the presence of two opposites and a mediator in between is a central theme of *The Book of Formation*.

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*Three: Each one stands alone. One acts as advocate. One acts as accuser.
And one decides between them. (Sefer Yetzilah 6:5)*

Another pattern of three we see is formed by the *sefirot Keter, Chochmah, and Binah*. We can think of this as the spiritual triad. If we are functioning at this level, then our intent or will reigns supreme and we can delight in the emergence of our inspirations and our understandings and then the dissolution of both back into oneness.

Below this we have the moral triad of *Tiferet, Chesed, and Gevurah*. At this level of functioning, if our development has been good, we are a moral being capable of making good choices and being responsible for them. We can direct our lives and use both sides of our brain, and we can find that proper balance between mercy and justice.

The lowest triad is the instinctual triad of *Yesod, Netzach, and Hod*. This is the level at which children function at. They operate mostly out of instinct, and they need the guidance and control of a mature adult. From *Yesod* we learn that children need to develop good habits so that they will have a good foundation for when they are older. From *Hod* we learn that children need to begin developing their brains and learning the basic skills that will carry them successfully through the rest of life. And from *Netzach* we learn that children also need time to play and to dream. After all, it's the

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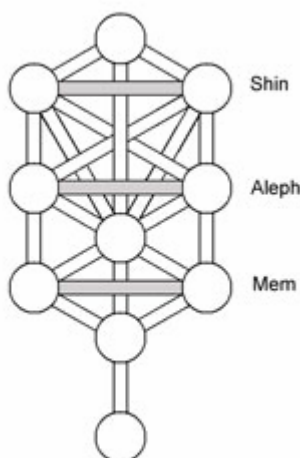
fantasies we have as children that create the reality we experience later on. It's that dream we have as a child of being a dancer or an astronaut or a mathematician that begins that process of creation for what is to come. These days with all the emphasis on early development, I'm not sure that kids are given enough time just to be kids. Well, that takes us through the basic structure of the ten *sephirot*. Let's start looking now at the paths that connect them!

The Three Mother Letters

Three Mothers: Aleph, Mem, Shin. Air, water, and fire. Fire is above, water is below, and air of breath is the rule that decided between them.

(Sefer Yetzirah 6:2)

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On the *Tree of Life* there are just three paths that connect the left and right sides of the trees, and these paths correspond to the three mother letters: *Aleph*, *Mem*, and *Shin*.

The top connecting path is *Shin*, the middle path is *Aleph*, and the bottom connecting path is *Mem*. Elementally, these are fire, air, and water. Notice that this also corresponds to our physical anatomy. We have electrical fire in the brain, air in the lungs, and water and other fluids in the organs of the belly. Also, as connecting paths, these letters represent ways in which we can balance the two sides of our being. For example, think of how you might use fire to balance yourself, or air, or water. There are a variety of ways in which this can be done, and yet another good exercise is to find ways pertaining to fire, air, and water that you enjoy using in order to bring about health and balance within you. For fire, one can meditate to balance the fire of the mind, or one can enjoy a sauna or soak in a hot tub or take a sun bath if

the sun is not too severe. Let your imagination soar in order to come up with your own ways to balance yourself through heat.

For air, I usually do breathing exercises to calm my being. More than one culture has noticed the relationship between breathing and mental states. For instance, when one is afraid or anxious, one's breathing tends to become rapid and shallow. However, when one is calm, the breathing is also slower and more regular. By controlling our breathing we can better regulate our state of consciousness. One of the better breathing exercises I've found for calming the mind is to breathe in for a count of seven and then breathe out for the same count. Another way to balance through air is to get aerobic exercise. Treadmill here I come!

For water there are also a variety of ways that can be utilized for health and balance. First, of course, make sure you drink a sufficient amount of clean water each day. Also, you can balance your system by swimming or other water play. For myself, I like to sit in a whirlpool tub a couple of times a week and let the hot water massage all my aches and pains away. Furthermore, since the letter *Mem* corresponds to the belly, this also suggests using food and herbs to balance your system.

Another way to use water is by studying *Torah*. This conclusion is due to passages in rabbinic literature and the *Bible* that establish a connection between *Torah* and water.

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Water means nothing but Torah, as it is written (Isaiah 55:1), “Ho, everyone that is thirsty, come you for water.” (B. Baba Kama 82a)

My doctrine shall drop as the rain. (Deuteronomy 32:2)

Additionally, in *Song of Songs Rabbah* we find a very lengthy list of correspondences between *Torah* and water.

- *Just as rain **water** comes down in drops and forms rivers, so with the **Torah**; a man learns two halachahs (laws) today and two tomorrow, until he becomes like a flowing stream.*
- *Just as **water** has no taste unless one is thirsty, so the **Torah** has no taste unless one labors at it*
- *Just as **water** leaves a high place and flows to a low one, so the **Torah** leaves one whose spirit is proud and cleaves to one whose spirit is lowly.*
- *Just as **water** does not keep well in a vessel of silver or gold but in the commonest of vessels, so the **Torah** resides only in one who makes himself like*

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a vessel of earthenware.

- *Just as with **water** a great man is not ashamed to say to a lowly man, “Give me a drink of **water**,’” so with the words of the **Torah**, a great scholar must not be ashamed to say to a lesser one, “Teach me one chapter, or one statement, or one verse, or even one letter.”*
- *Just as **water** makes plants grow, so the words of the **Torah** nurture everyone who labors over them as they require.*
- *Just as **water** is a source of life for the world, as it says, “A fountain of gardens, a well of living waters (Song of Songs 4:15),” so the **Torah** is a source of life for the world, as it says, “For they are life unto those that find them and health to all their flesh (Proverbs 4:22).”*
- *Just as **water** restores the soul, as it says, “But God cleaved the hollow place which was in Lehi and there came water out of it; and when he had drunk... he revived (Judges 15:19),” so does the **Torah**, as it says, “The law of the Lord is perfect, restoring the soul (Psalms 19:8).”*

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- *Just as **water** purifies man from ritual uncleanness, as it says, “And I will sprinkle clean water upon you, and ye shall be clean (Ezekiel 36:25),” so the **Torah** cleanses an unclean man of his uncleanness, as it says, “The words of the Lord are pure words (Psalms 12:7).”*
- *Just as **water** cleanses the body, as it says, “He shall bathe himself in **water** (Leviticus 17:15),” so the **Torah** cleanses the body, as it says, “Thy word is purifying to the uttermost (Psalms 119:140).”*

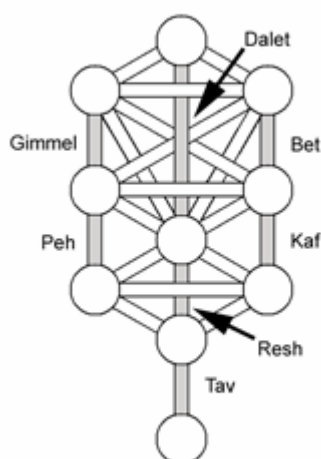
(Song of Songs Rabbah 1:19)

The bottom line is that study of a sacred text, when done with joy and creativity, can also be very healing and balancing to one's being.

Above we've listed just a few ways in which fire, air, and water can be used to balance and to heal. Let your imagination go to work and help you find your own ways to keep your being in balance. It's an exercise you won't regret!

The Seven Doubles

Seven doubles: Bet, Gimmel, Dalet, Kaf, Peh, Resh, Tav. They direct themselves with two tongues: Bet-Bhet, Gimmel-Ghimmel, Dalet-Dhalet, Kaf-Khaf, Peh-Pheh, Resh-Rhesh, Tav-Thav. A structure of soft and hard, strong and weak. (Sefer Yetzirah 4:1)



There are seven letters in the Hebrew alphabet that can be pronounced with either a hard sound or a soft sound. It's these letters that are represented by the seven vertical paths that we find on the *Tree of Life*. As such, they represent activities that can elevate us from one level of the tree to another. Let's begin with the paths that travel up the central column of the tree.

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The letter *Tav* connects *Malchut* and *Yesod*, and it stands for *Torah*. Recall, too, that the word “*Torah*” means “instruction.” Thus, what elevates us above the level of the beasts and instills good habits within is following our original instructions. For me that means I will try to base my behavior on the commandments. This, in turn, puts me on a path that leads to that good foundation.

The letter *Resh* connects *Yesod* with *Tiferet*, and it stands for *rachamin*, compassion. The word *rachamin* is also related to the word *rechem*, womb. Thus, the love of a mother for her child in the womb is seen as the model for compassion. Through the development of such compassion, we become aware of others and their suffering, and we begin to see that there is a world beyond that of just me, me, me! At this point, we become moral individuals capable of making these good, responsible choices.

The letter *Dalet* connects *Tiferet* to *Keter*, and it stands for *da’at*, knowledge. *Dalet* also represents the Hebrew word for “door.” In *kabbalah*, knowledge has a specific meaning just as do wisdom and understanding. In fact, knowledge is seen as the synthesis of these two. In other words, if our higher wisdom and understanding are functioning properly, then the result will be a depth of knowledge that will open the door to a higher realm of being. This makes us reflect upon the following *Talmudic* passage.

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Rabbi Eleazar also said, “Whenever there is knowledge in a man it is as if the Sanctuary had been built in his days; for knowledge is set between two names of God, ‘For a God of knowledge is the Lord (I Samuel 2:3),’ and the Sanctuary is set between two names of God, ‘Thou hast made, O Lord, the sanctuary, O Lord’ (Exodus 15:17).” (B. Berachoth 33a)

Recall, too, that *Tiferet* is both the center of the *Tree of Life* and the center of our being. In every day life, we experience our center as our ego, our sense of “I.” The Hebrew word for “I” is *ani*. However, if we rearrange the letters, then this spells *ain* or *ai-een* which means “negation” and “nothingness.” Thus, when we become aware of the unseen observer that stands behind our sense of “I,” then we can ascend from ego consciousness to more cosmic consciousness. When we become firmly established in the true observer, then we ascend to *Keter*, but we are, nonetheless, still at the center of our *Tree of Life* because this unseen awareness has been described as having center everywhere and circumference nowhere.

On the left side of the tree, we have *Peh* on the path from *Hod* to *Gevurah* and *Gimmel* on the path connecting *Gevurah* to *Binah*. *Peh* is also the Hebrew word for mouth, and this suggests that the way to progress from ordinary left brain activities to the higher level of intellectual functioning of *Gevurah* is to control your mouth. In other words, learn to control both your tongue and your appetites! Recall that *leshon*

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hara, gossip or the evil tongue, is considered equivalent to murder. Don't do it! Additionally, we have to chew on and digest the things we learn. As it says in *Chapters of the Fathers*,

Ben Bag Bag said, "Turn it over and over again." (Pirkei Avot 5:22)

The letter *Gimmel*, from *Gevurah* to *Binah*, stands for *gamal*, a camel. As a camel crosses the desert, it has to live off of its own fat and water. Likewise, in our intellectual development, there comes a time when we have to live and work with what is inside of us in order to get to the next level. As it says in *Proverbs*,

Drink the water from your own storage well, and fresh water from your own spring. (Proverbs 5:15)

When we make the necessary sacrifices of time and effort to reach this higher level of mental development, then we will have crossed that desert to reach an oasis of understanding. This is all very reminiscent of the following *Talmudic* passage.

When Rabbi Shesheth kept a fast, on concluding his prayer he added the following, "Sovereign of the Universe, You know full well that in the time when the Temple was standing, if a man sinned he used to bring a sacrifice,

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and though all that was offered of it was its fat and blood, atonement was made for him therewith. Now I have kept a fast and my fat and blood have diminished. May it be Your will to account my fat and blood which have been diminished as if I had offered them before You on the altar, and do You favor me.” (B. Berachoth 17a)

Furthermore, *Gimmel* also stands for *gomeil*, benefactor, i.e. giving to others. When we give an explanation to others of what we have learned, then, as all teachers know, our own understanding ascends to a higher level. Thus, we read in the *Talmud*,

Rabbi Hanina said, “I have learned much from my teachers, and more from my colleagues, but from my students I have learned the most of all.”
(B. Taanith 7a)

On the right side of the tree, the letter *Kaf* connects *Netzach* to *Chesed*, and *Bet* connects *Chesed* to *Chochmah*. *Kaf* stands for *kavannah*, intention or devotion. This word is often used to represent those spontaneous prayers, praises, and supplications that arise from the very soul of our being. By engaging in these *kavannahs*, we can elevate our right brains to a higher level of love and mercy. The letter *Kaf* also stands for *cohein*, a priest. Additionally, in the *Talmud* we read that a non-Jewish person who studies the *Torah* is equivalent in stature to the High Priest.

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Rabbi Meir used to say, "From where can we learn that even if a gentile occupies himself with the study of the Torah he is equal in status to the High Priest? We find it stated, 'You shall keep my statutes and my judgments, which if a man does, he shall live by them. (Leviticus 18:5)' It does not say "priests, Levites and Israelites", but "a man", which shows that even if a gentile occupies himself with the study of the Torah he is as the High Priest."
(B. Baba Kama 38a)

Thus, the study of *Torah* (and the rest of the *Bible*) is elevating for everyone.

However, since the letter *Kaf* represents a pathway on the right side of the *Tree of Life*, this is a reminder that scriptures have an emotional/feeling component as well as a thinking/intellectual component. Detailed analysis of scripture in order to arrive at deeper spiritual truths belongs to the left, analytical side of the *Tree of Life*. For study related to the right side, pick a pleasing *Psalm* or other scripture whose very beauty and eloquence reveals to you a higher truth. This is one way to do devotional study on the right side of the *Tree of Life*.

The letter *Bet*, among other things, stands for blessings. Furthermore, the Hebrew word for "blessing" can also be translated as "praising." Once we have reached the level of love and mercy and kindness on our right side, we can travel still higher by giving blessings to things and also by giving praise. Recall from Part 1 how in our

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wave form we are always connected with everything else. Consequently, a good exercise is to hold someone in thought and just give them a blessing. See them enveloped in love and light and peace and healing. That's all you need to do. You can also take a space such as a room and see that room filled with blessings. This creates a conditioned space, a space filled with your intent to bless all who enter it. Finally, with every person you see, let a blessing go forth from your eyes to that person. Let your eyes look upon them with love and joy. This sort of exercise will take you up to the next level of divine wisdom.

The letter *Bet* also stands for *beit*, a house. In particular, when we exhibit kindness and mercy as represented by *Chesed*, then we create a house within us for higher wisdom. As it says in the *Tanach*,

And let them make a sanctuary that I may dwell among them. (Exodus 25:8)

My house shall be called a house of prayer for all peoples. (Isaiah 56:7)

As you might see at this point, our methodology has been to associate each letter with something that corresponds to its position on the tree. For the most part, these associations have been traditional ones, but even so the main thing is that it fits. If

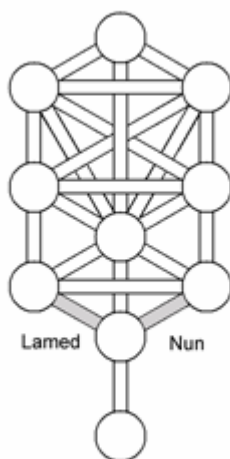
you know some Hebrew, then you can look for your own associations in order to better understand what activities can take you from one level to the next.

The Twelve Elementals

Twelve elementals: Hey, Vav, Zayin, Chet, Tet, Yud, Lamed, Nun, Samech, Ayin, Tzaddi, Kuf. Their foundation is the twelve diagonal boundaries: the east upper boundary, the east northern boundary, the east lower boundary, the south upper boundary, the south eastern boundary, the south lower boundary, the west upper boundary, the west southern boundary, the west lower boundary, the north upper boundary, the north western boundary, the north lower boundary. They extend continually until eternity of eternities, and it is they that are the boundaries of the universe. (Sefer Yetzirah 5:2)

The remaining twelve letters of the Hebrew alphabet are assigned to the diagonal paths that go from one column to another. We think of these paths as not only moving us vertically, but also horizontally on the *Tree of Life*.

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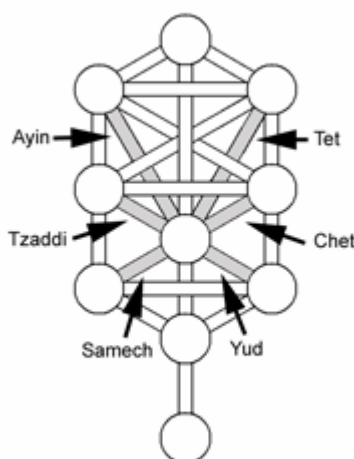


The first letter we'll look at is *Lamed* which connects *Yesod* to *Hod*. *Lamed* stands for *lamad* which means to learn. Through learning we stimulate the left side of our brain and begin our intellectual development.

Next we have *Nun* which connects *Yesod* to *Netzach*. *Nun* stands for *neheman*, faithful. When we listen to that still voice within and learn to accept on faith what we know to be true, then we begin to stimulate the more intuitive right side of the brain. Also, when we spell *Nun* as a word in Hebrew it appears as *nun-vav-nun*. Like the word *neheman*, it begins and ends in the letter *Nun*. If we now drop the first and final letters *Nun* from *neheman* and if we insert the middle letter *Vav* from *Nun* into the middle of what's left, then it spells *aleph-vav-mem* or OM. This is a nice reminder

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that meditation on the sound of a mantra such as OM is another way to enter into the right brain functioning of *Netzach*.



The next six letters we look at will all connect to *Tiferet* which represents the core of our self. Consequently, each path leading to *Tiferet* is a pathway to the essence of our beng. We'll start with *Samech*. The letter *Samech* connects *Hod* to *Tiferet*, and one of the meanings of *Samech* is *samoch*, support. When we turn our attention from the mental activity we are engaged in to the consciousness that is supporting that activity, we move from *Hod* to *Tiferet*. The shape of the letter *Samech* is a circle, and this is a reminder of the cyclic nature of our thoughts. We often go round and round again with the issues that concern us. Additionally, our whole existence seems to be wrapped up in cycles. There is the cycle of day and night, the cycle of the seasons,

and so on and so on. When we move in the direction from *Tiferet* back to *Hod*, we move from that which supports our existence back into the world of cycles.

The letter *Yud* connects *Netzach* to *Tiferet*. We are now starting in the right brain and moving toward the center. In this case, think of *Yud* as standing for *y'chidah*, unity.

It is in the conscious awareness of *Tiferet* that all objects of perception are united.

The letter *Yud* also stands for *yad*, hand. With our hands we grasp things, and with our awareness, we also grasp. In *Netzach* we have a holistic, right brain perception of things, and when we turn our attention to the awareness that is grasping that apprehension, then we move from *Netzach* to *Tiferet*.

The letter *Tzaddi* connects *Gevurah* to *Tiferet*. In Hebrew, a *tzaddik* is a righteous person. Thus, through the practice of righteousness we are able to perceive our true essence more clearly and to become more centered. There is also a tradition that this world continues to exist because of the presence of righteous people.

As the stormy wind which passes, so is the wicked no more, but the righteous is an everlasting foundation. (Proverbs 10:25)

Abaye said, "The world must contain not less than thirty-six righteous men in each generation who are granted the sight of the Shechinah (God's presence),

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for it is written, 'Blessed are all they that wait lo (for him, Isaiah 30:18), the numerical value of lo (Lamed + Vav) is thirty-six.'" (B. Sandhedrin 97b)

Rabbi Hiyya ben Abba said in the name of Rabbi Johanan, "Even for the sake of a single righteous man does the world endure, as it is said, 'But the righteous is the foundation of the world. (Proverbs 10:25)'" (B. Yoma 38b)

Consequently, every act of righteousness you perform helps to sustain the world.

The letter *Chet* is the link from *Chesed* to *Tiferet*. *Chet* stands for *chai*, live, and *chaim*, life. When we are in the loving state of *Chesed*, if we focus on the source of our life, then that will help center us in *Tiferet*. The letter *Chet* also represents *chein*, grace/favor, and *chesed*, mercy/kindness. This informs us that when we extend grace and mercy and kindness to people, we also enhance life.

Connecting *Tiferet* and *Binah* is the letter *Ayin*. This letter has a numerical value of 70, and there is a rabbinic tradition that every verse of the Torah has seventy interpretations. In my own experience I have found that whenever you are able to understand anything in several different ways, you automatically move up to a higher level of understanding. Understanding multiple points of view is always elevating. In Hebrew the word *ayin* means "eye." Thus, when we turn our focus away from the

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lofty understandings we are having back to the essence of consciousness that sees those understandings, then we make that move back from *Binah* to *Tiferet*.

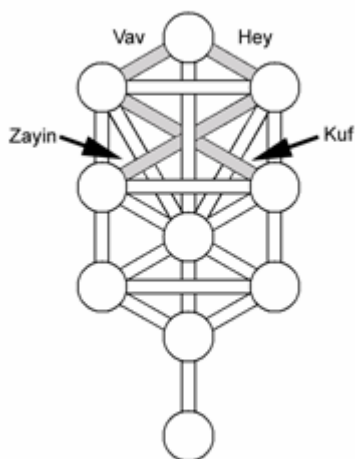
Connecting *Tiferet* to *Chochmah* is the letter *Tet*. This letter stands for *tov*, good.

When we put our focus on doing good, we move from *Tiferet* to *Chochmah*, the place of higher wisdom. Additionally, in the *Talmud* it says that every man was formed with two inclinations, one good and one evil or self-serving.

Rabbi Nahman ben Rabbi Hisda expounded, "What is meant by the text, 'Then the Lord God formed (vayitser) man? (Genesis 2:7)' The word vayitser is written with two yuds to show that God created two inclinations, one good and the other evil." (B. Berachot 61a)


Just as righteous acts help us connect with our center, so does choosing to do good help us more clearly see the center of our being that is represented by *Tiferet*.

The Tree of Life



We now look at the final four elemental letters beginning with *Kuf* which connects *Chesed* to *Binah*. The letter *Kuf* stands for *kadosh*, holy. To make the transition from *Chesed* on the right side of the tree to *Binah* on the left side, focus on those feelings of holiness within, and let that transport you to a higher state. The letter *Kuf* also stands for *klippot*, shells. In *kabbalah*, the *klippot* are the shells that hide the holiness that resides at the center of all things. Consequently, as we move from a higher part of the *Tree of Life* to a lower part, the light of this holiness becomes more obscured. The letter *Kuf* also stands for *kof*, monkey, and this is a reminder that human beings are a combination of both spirit and physical form, and that we can choose to go in either direction. We can either accentuate our spiritual side or we can descend to the level of beasts.

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The letter *Zayin* connects *Gevurah* to *Chochmah*. This letter represents a sword, and the glyph for *Zayin*, , even looks like a sword. Remember that *Gevurah* is on the left side of the tree which deals with form and discrimination. In one sense, we create our reality by cutting the totality of all things into pieces and saying, “This goes here,” and “That goes there.” If we reverse the process, if we stop our hair splitting and quit creating separations and distinctions between things, then we can travel from *Gevurah* back to *Chochmah*. The numerical value of the letter *Zayin* is seven, and this also reminds us of the *Sabbath*, the seventh day of the week. This is the one day of the week when we want to rest. The one day when we want to stop our slicing and dicing method of creation and return to the higher wisdom of *Chochmah*. Furthermore, since *Chochmah* represents the “aha” moment, this is the type of thought we want to engage in on the *Sabbath*. The kind of mentation that is used to generate reports and other mundane learning and writing activities is tedious by comparison. Of this type of activity, *Ecclesiastes* says,

He that increases knowledge increases sorrow. (Ecclesiastes 1:18)

On the other hand, the “aha” moment of *Chochmah*, Wisdom, renews and refreshes. Regarding this type of inspiration, *Ecclesiastes* states,

Wisdom gives life to those who have it. (Ecclesiastes 7:12)

Just two letters left! And these are the two connecting *Binah* and *Chochmah* back to the crown, *Keter*. This means that if we are traveling these paths, then we are already at a very high level. The letter *Vav* connects *Binah* to *Keter*, and *Vav* represents the connective “and.” You can also think of *Vav* as representing “union.” However, this is a different type of union from what we experience in mathematics. In mathematics when we talk about the union of two sets, A and B , we are talking about two collections merely being combined to give us a larger collection. The union signified by *Vav*, though, is different. The *Vav* union is of the type where “the two become one.” In other words, instead of the union of two collections A and B simply resulting in larger collection, we have A and B merging in such a way that they become indistinguishable from one another. This is the type of union that is indicated, for example, in the following verse from *Genesis*.

Therefore, a man shall leave his father and his mother, and shall cleave to his wife, and they shall be one flesh. (Genesis 2:24)

When we are in *Binah* consciousness, if we can remove all distinctions between the objects of our perception and unite both the observer and the observed into a single whole, then we will attain *Keter* consciousness. When we are in *Binah* consciousness, all we have to do is simply ask ourselves where does understanding occur? At the moment when we know an object, where does that object go? If we

can shift from the looking to that which does the looking, then we can unite our understanding with the very source of awareness because it is into this awareness that all objects merge and disappear leaving only a wordless, objectless understanding.

The final path is the letter *Hey* which connects *Chochmah* to *Keter*. When moving in this direction, think of *Hey* as standing for the Hebrew word *hass*, silence. As we move from *Chochmah* to *Keter*, we enter the Great Silence into which all perceptions disappear. This state is suggested by the following verse from *Ecclesiastes*,

All the rivers run into the sea, but the sea is never full. That place from where the rivers come, there they return again. (Ecclesiastes 1:7)

Think of the sea as representing our basic awareness or consciousness. All objects arise in consciousness and disappear into conscious awareness, and yet that awareness is never full. Similarly, all being extends from *Keter* and then returns again into that state of nothingness or *Ayin*, another name for *Keter*. When *Hey* is spelled as a word, *hey-aleph*, it has a numerical value of six, the same as *Vav*. Thus, the function of *Hey* is similar to that of *Vav*, and both paths represent the union of things back into awareness. When traveling the path from *Keter* to *Chochmah*, think of *Hey* as standing for *hayah*, the verb to be. This is another reminder that one direction brings

being into existence, and the other takes us back to that silent void that contains all things.

This concludes our brief introduction to the letters that form the connecting paths on the *Tree of Life*, and hopefully it has been very helpful. Before we leave this chapter, though, there are just a couple of other patterns we would like to point out. First, remember always that the *Tree of Life* is a diagram that represents the structure of our being. What is beyond this structure is outside of what humans can know or put into words. Also, the most sacred name of God in Hebrew is spelled *Yud-Hey-Vav-Hey*, יהוה, and we find this name is reflected in the *Tree of Life*. The very tip of the letter *Yud* represents *Keter*, and the rest of it corresponds to *Chochmah*. The first letter *Hey* represents *Binah* and the second letter *Hey* represents *Malchuth*. Since both of these *sefirah* are represented by *Hey*, this is another way in which we see that the physical world is a mental creation. This also says that to change things in this world, we have to go to a high level, i.e. to the level where the basic programming is done. For example, if you feel that you are a worthless person and have nothing but bad luck and rejection as a result, you have to go up to the level where that thought “I am a worthless person” is programmed in, and you have to change the program there before you will see a change in your life. The remaining six *sefirot* in the *Tree of Life* correspond to *Vav*, the sixth letter of the Hebrew alphabet and the glyph for the number 6. And finally, if we arrange the Hebrew letters of the most holy name for

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God vertically, then the image of a man emerges. In this way the *Tree of Life* teaches us that even though we are limited and finite, we are still made in God's image and can understand God through that link and connection.



This concludes Part 2. In Part 3, we will begin to put what we know into practice!

Part 3

BEYOND THE BLUE HORIZON

Doc Benton looks for God, has incredible journeys, does something creative, and realizes what it's all about.

CHAPTER 11

LOOKING FOR GOD IN ALL THE RIGHT PLACES

What is God? Who is God? Whose side is God on? And just what part of Texas does God live in? These are just some of the questions that humans (and Texans!) have asked about God over the ages. In this chapter we want to look and see what kinds of answers we can give. First of all, God must be intrinsically unknowable. For example, we know from mathematics that the class of all sets is too large to be a set. Just within the realm of mathematics some things are too large to be “known” objects. Consequently, anything that would contain an unknowable must be equally unknowable. We see this also as something that is intuited quite well in the *Bible* and in rabbinic literature. We can not see God in totality. All we can see are parts of that greater whole.

“Lo, these are but parts of His ways; and what blemish of aught is heard of Him! But the thunder of His mighty deeds who can understand (Job 26:14)?”
Rav Huna said: “Whatever things you see are but parts of the ways of the Holy One, blessed be He, as it says: ‘Lo, these are but parts of His ways.’”
(Genesis Rabbah XII:1)

And He said, “You can not see My face.” (Exodus 33:20)

Another time the Emperor said to Rabbi Joshua ben Hananiah, "I wish to see your God." He replied, "You cannot see Him." "Indeed," said the Emperor, "I will see Him." He went and placed the Emperor before the sun during the summer solstice and said to the him, "Gaze upon it." He replied, "I cannot." Said Rabbi Joshua, "If you cannot look at the sun which is but one of the ministers that attend the Holy One, blessed be He, then how can you possibly look upon the divine presence!" (B. Chullin 59b-60a)

"Nor has the eye seen a God except for Yours (Isaiah 64:3)." But if you argue that the prophets did not see them at all, they surely did see a part, as it is stated, "For the Lord God will do nothing, but He reveals His counsel unto His servants the prophets (Amos 3:7)." How did they see? Rabbi Berekiah said, "As one peeps." How did they see? Rabbi. Berekiah said, "As one peeps through a crack in the door." (Ecclesiastes Rabbah I:27)

Some of you may have wondered if we went back to the beginning of the universe, back to the Big Bang, would we see God working his creation? The answer from the above is no, God is still unknowable even at that point. No matter how we look, we are not going to see God as a completed whole. As Rav Huna said, all we can see are parts of what make up that whole. Additionally, there is no guarantee that we can even prove or disprove God's existence. Recall how we saw previously that even

within the realm of mathematics there are some things that are beyond proof or disproof. Turning now to some *Biblical* text, we find Moses wanting to know what God looks like.

And he said, "I beg you, show me your glory." And He said, "I will make all my goodness pass before you, and I will proclaim the name of the Lord before you. And I will be gracious to whom I am gracious, and I will show mercy to whom I am merciful." And He said, "You can not see my face for no man shall see me and live." And the Lord said, "Behold, there is a place by me, and you shall stand upon a rock. And it shall come to pass, while my glory passes by, that I will put you in a cleft of the rock, and will cover you with my hand while I pass by. And I will take away my hand, and you shall see my back, but my face shall not be seen." (Exodus 33:18-23)

Again, God explains that his face may not be seen, but he does allow Moses to see his backside. The verbiage is very anthropomorphic, but Maimonides explains that what is meant when God says he will show Moses his back is that while we cannot see God face to face, we can see the effects of God's presence in the world. Thus, while we do not see God, we do see the beauty of the rainbow.

In mathematics, when things get too large they tend to contain inherent paradoxes. The rabbis recognized that God, too, would have to contain paradoxes and contradictions if everything is contained within God. Thus, in the *Zohar* and *Song of Songs Rabbah*, we read the following.

When God created the world, He made the heavens of fire and of water united together. (Zohar I:77a)

Rabbi Johanan said, "It is written that He makes peace in high places (Job. 25:2). The firmament is made of water and the stars are of fire, and yet they do not harm one another." (Song of Songs Rabbah III:24)

Michael is the Prince of snow and Gabriel is the Prince of fire, and neither quenches or injures the other. Rabbi Ahib said, "It is not merely between one angel and another that the Holy One, blessed be He, makes peace, but even between the two parts of an angel, one half of which is snow and the other half fire." (Song of Songs Rabbah III:24)

From these passages we see that God is able to reconcile opposites, and since everything must be contained within God, opposites can and must coexist within that

totality. This principle applies not only to fire and water, but extends to the arguments of scholars, and other things, too.

For three years there was a dispute between Beth Shammai and Beth Hillel. The former said, "The halachah (law) is in agreement with our views," and the latter asserted, "The halachah is in agreement with our views." Then a bat kol (heavenly voice) declared, "The utterances of both are the words of the living God." (B. Eiruvim 13b)

R. Nehemiah said, "If two scholars argue over a law and each one cites a general principle to support his view, the Holy One, blessed be He, says, 'Their source comes from Me.'" (Song of Songs Rabbah I:16)

A human being cannot say two things at once, but the Holy One, blessed be He, uttered the Ten Commandments simultaneously.
(Mechilta d'Rabbi Yishmael 41b)

Because opposites can exist within God, this makes it possible for all things to come from God including good and evil.

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I form the light and create darkness; I make peace and create evil; I, the Lord, do all these things. (Isaiah 45:7)

We cannot see God, but we do try to create images of God. Probably one of the oldest images of God is that of cloud rider and mighty thunderer. Presumably, this was a monotheistic progression from earlier concepts of a thunder god similar to Zeus and Thor that were common in many polytheistic religions.

God thunders marvelously with his voice; he does great things which we cannot comprehend. (Job 37:5)

Who laid the foundations of the earth, that it should not move forever. You covered it with the deep as with a garment; the waters stood above the mountains. At your rebuke they fled; at the voice of your thunder they hurried away. (Psalm 104:5-7)

Behold, the Lord rides upon a swift cloud. (Isaiah 19:1)

Sing to God, intone hymns to His name; praise Him who rides on the clouds; His name is the Lord, exult in his presence. (Psalm 68:5)

A difficulty that exists, though, is reconciling the image of God as a dynamic, moving cloud rider with other images of God as something static, eternal, and unchanging such as what we see in Malachi.

I am the Lord, I do not change. (Malachi 3:6)

The paradox, however, is resolved by the way in which God moves. Even though in this early imagery God is riding on the clouds, nonetheless he does not really move. Instead, he remains seated on the throne of glory and it is the angels and cherubim that effect the transport and create the illusion of this unchanging God being in motion.

*Then I looked, and behold, in the firmament that was above the head of the cherubim appeared over them something like a sapphire stone, in appearance like the shape of a throne. . . . Then the glory of the Lord went up from the cherub, and stood over the threshold of the Temple; and the Temple was filled with the cloud, and the court was full of the brightness of the Lord's glory.
(Ezekiel 10:1, 4)*

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And he rode on a cherub, and flew; he flew on the wings of the wind. He made darkness his secret place; his pavilion around him was dark with waters and thick clouds of the skies. (Psalm 18:11-12)

Give ear, O Shepherd of Israel, you who lead Joseph like a flock; appear, you who are enthroned upon the cherubim. (Psalm 80:2)

Who makes the clouds his chariot; who walks upon the wings of the wind; who makes the winds his messengers (angels). (Psalm 104:3-4)

Rabbi Hanina ben Papa said, "When a human being rides, he rides on something that carries him, something tangible; but not so the Holy One, blessed be He; He carries His chariot and rides on something which is not tangible, as it is written, 'And He rode upon a cherub and it did fly; yea, He did swoop down upon the wings of the wind' (Psalm 18:11)."

(Song of Songs Rabbah I:49)

A cloud must have appeared to ancient people as something in between existence and non-existence. You could see it, but you could not grasp it. As such, it was a bridge between the physical world and the spiritual world. Thus, it is not surprising that in these earlier images God is found within a cloud. What is not well known, though, is

that the early rituals for communicating with God via the Ark of the Covenant involved creating an artificial cloud from incense in order to facilitate this communication. It is quite likely, too, that the incense may have put one in a state of mind that makes one more receptive to this type of mystical communication.

And the presence of the Lord abode upon Mount Sinai, and the cloud covered it for six days; and on the seventh day he called to Moses from the midst of the cloud. (Exodus 24:16)

And the Lord came down in the pillar of the cloud, and stood in the door of the Tent, and called Aaron and Miriam; and they both came forward. (Numbers 12:5)

And you shall make two cherubim of gold, of hammered workmanship shall you make them, in the two ends of a the cover. ... And you shall put the cover upon the ark; and in the ark you put the testimony that I shall give you. And there I will meet with you, and I will talk with you from above the cover, from between the two cherubim which are upon the ark of the testimony, of all things which I will give you in commandment to the people of Israel. (Exodus 25:18, 22)

And the Lord said to Moses, "Speak to Aaron your brother, that he not come always into the holy place inside the veil before the covering which is upon the ark; that he die not; for I will appear in the cloud upon the covering. (Leviticus 16:2)

And he shall put incense upon the fire before the Lord, so that the cloud of the incense may blanket the covering that is upon the testimony, so that he shall not die. (Leviticus 16:13)

For what purpose then is it stated, "For I appear in the cloud upon the ark cover? (Leviticus 16:2)" It comes to teach us that he puts into the incense a smoke-raiser. From where do we know that he must put a smoke-raiser into it? Because it is said, "So that the cloud of the incense may cover the ark cover. (Leviticus 16:13)" (B. Yoma 53a)

So what do we know at this point? At this point, we may conclude that God is unknowable and unchanging, that all we can see are but parts of God and God's effect upon the world, that it might even be logically impossible to prove or disprove the existence of God, and that the early *Biblical* communications with God involved incense and the creation of an artificial cloud in conjunction with the image of God as

the cloud rider. Now let's examine some additional aspects of God that we might deduce from *Biblical* and rabbinic literature.

In the *Bible* there are many different Hebrew names that are used to refer to God. In the English translations many of these differences disappear and are consolidated into just one expression, "God." In the original Hebrew, however, there are a variety of descriptive terms. Many of them are male oriented because human rulers of that time were generally male. Thus, when one reasons by analogy and calls God the "King of the Universe," a male gender is automatically assigned. Nonetheless, there is one particular name of God that is feminine, and it is *Shechinah*. This name of God is derived from the verb "to dwell," and it refers to a God that is nurturing, close by, and dwelling among us. Images of God as riding in the clouds or functioning as CEO of the universe are still viewed as masculine, but the God that is close by and whose presence we can feel is feminine. In addition to this feminine form of God there is also *Ein* which is entirely genderless. This name of God is basically a Hebrew word for negation. In other words, if you look around you, whatever you can see, it is not God. So, if you just look and say, "Not this, not this, not this, and so on," then whatever is left over is God.

Probably the most famous discourse on the name of God occurs in *Exodus 3:13-14*.

And Moses said to God, Behold, when I come to the people of Israel, and shall say to them, The God of your fathers has sent me to you; and they shall say to me, What is his name, what shall I say to them? And God said to Moses, I AM THAT I AM; and he said, Thus shall you say to the people of Israel, I AM has sent me to you. (Exodus 3:13-14)

The phrase “*I am that I am*” can be translated in either the present or the future tense. Thus, it could also be “*I am what I will be*” or “*I will be what I am*” or “*I will be what I will be.*” A few verses further in *Exodus* we find the following discourse.

And God spoke to Moses, and said to him, I am the Lord; And I appeared to Abraham, to Isaac, and to Jacob, by the name of God Almighty, but by my name The Lord was I not known to them. (Exodus 6:2-3)

In this passage, where it says “God spoke to Moses,” the word that is used for God is *Elohim*. Where “God Almighty” is written, the Hebrew term is *El Shaddai*, and where “Lord” is written that is where the name *Yaweh* is used. A few things need explanation here. First, the name by which God will be known is being changed. We are informed that the patriarchs knew God as *El Shaddai*, but since these verses begin with the appellation *Elohim*, we may assume that the name *Elohim* is now being supplanted by the name *Yaweh*. At one point the name *Yaweh* was commonly used in

speech, but by the third century BCE its direct pronunciation was purposely avoided and people began to substitute the word “Lord” or *Adonoy* in its place. When the name *Yaweh* is examined in detail, it appears to be a reflexive form of the verb “to be.” In other words, “the one who causes being” or “the creator.” The tradition in rabbinic literature that followed this name change, though, is that the name *Elohim* referred primarily to God’s aspect as a God of justice, and *Yaweh* or *Adonoy* defined God’s role as a God of mercy. One thing we see here that is very common is that God is named or defined by His characteristics.

Rabbi Jose, son of Rabbi Hanina, said, “God said ‘I am ELOHIM’ to the Egyptians, but ‘I AM THE LORD (Adonoy)’ to the Israelites.” Rabbi Judah said, “Moses argued thus, ‘When you did say to me, “Go, and I will send you to Pharaoh,” You did speak to me with the Attribute of Mercy, promising that you would one day redeem them. Now I fear lest before I came it was changed to the Attribute of Justice.’ So God said to him, ‘I AM THE LORD. I stand before you with My Attribute of Mercy.’” (Exodus Rabbah VI:2-3)

Recall that we showed previously that the name *Elohim* is also associated with the created universe. We saw this through the *gematria* of *Elohim*¹ being equivalent to

¹ Chapter 9

“the nature,” and also through the following poetic description of the creation of the universe found in the *Zohar*.

There was indeed a "brightness" (Zohar). The Most Mysterious struck its void, and caused this point to shine. This "beginning" then extended, and made for itself a place for its honor and glory. There it sowed a sacred seed which was to generate for the benefit of the universe, and to which may be applied the scriptural words "the holy seed is the stock thereof" (Isaiah 6:13). Again there was Zohar, in that it sowed a seed for its glory, just as the silkworm encloses itself, as it were, in a palace of its own production which is both useful and beautiful. Thus, by means of this "beginning" the Mysterious Unknown made this palace. This palace is called Elohim, and this doctrine is contained in the words, "By means of a beginning it created Elohim." (Zohar I:15a)

There is more *gematria* to follow regarding *Elohim* and severity. First, in addition to everything we've mentioned so far, there are also names for God that are composed of various numbers of letters. One of the most famous is the 72 letter name of God which is identified with the 72 Hebrew letters that comprise *Exodus 14:19-21*. Each verse contains 72 letters and grouped three letters at a time, they define 72 names of God.

And the angel of God, who went before the camp of Israel, moved and went behind them; and the pillar of the cloud went from before their face, and stood behind them; And it came between the camp of the Egyptians and the camp of Israel; and it was a cloud and darkness to them, but it gave light by night to these; so that the one came not near the other all the night. And Moses stretched out his hand over the sea; and the Lord caused the sea to go back by a strong east wind all that night, and made the sea dry land, and the waters were divided. (Exodus 14:19-21)

What is less well known is the 216 letter name of God. Numerically, 216 is 3 times 72, and we find mention of the 216 letter name of God in this context in the *Zohar* where the prophet Elisha restores a boy to life.

“He (Habakkuk) received indeed two embracings, one from his mother and one from Elisha, as it is written, “and he put his mouth upon his mouth” (II Kings 4:34). In the Book of King Solomon I have found the following: He (Elisha) traced on him the mystic appellation, consisting of seventy-two names. For the alphabetical letters that his father had at first engraved on him had flown off when the child died; but when Elisha embraced him he engraved on him anew all those letters of the seventy-two names. Now the number of those letters amounts to two hundred and sixteen, and they were all engraved

by the breath of Elisha on the child so as to put again into him the breath of life through the power of the letters of the seventy-two names. And Elisha named him Habakkuk, a name of double significance, alluding in its sound to the twofold embracing, as already explained and in its numerical value (chet+bet+kuf+vav+kuf = 8+2+100+6+100) to two hundred and sixteen, the number of the letters of the Sacred Name. By the words his spirit was restored to him and by the letters his bodily parts were reconstituted.” (Zohar I:7b)

If we now return for a moment to the *Tree of Life* and examine the *sefirot* for mercy and justice, we notice that the *gematria* of *Chesed* is 72 and the *gematria* of *Gevurah* is 216. This suggests that 72 is associated with God’s love while 216 is associated with the harsher things in life. Since Elisha traced 72 names on Habakkuk, he was invoking God’s mercy on the boy. The associations between these numbers and God’s mercy and severity are also reinforced by the following passage.

Rabbi Eleazar said in Rabbi Jose's name, “The Holy One, blessed be He, promised our forefather that He would redeem his children with these two letters (dalet-nun, din, judgment); but if they repented, He would redeem them with seventy-two letters.” Rabbi Judan said, “In the passage, ‘Or has God ventured to go and take Him a nation from the midst of another nation, by trials, by signs, and by wonders, and by roar, and by a mighty hand, and by

an outstretched arm, and by great terrors (Deuteronomy 4:34), 'you will find seventy-two letters, and should you object that there are seventy-five, deduct the second 'nation,' (goy, gimmel-vav-yud) which is not to be counted."

Rabbi Abin said, "He redeemed them by His name, the Name of the Holy One, blessed be He, consisting of seventy-two letters." (Genesis Rabbah 44:19)

From this we see that mercy and redemption correspond to 72. *Din*, on the other hand, means justice and is another term used in place of *Gevurah*. Consequently, since *Gevurah* has a *gematria* of 216, we can also associate this number with God's justice. So in general, the number 72 represents God's mercy and the number 216 corresponds to the harsher aspects of reality. Interestingly, *Ecclesiastes*, which deals with harsher realities and apparent injustices in life, contains several references to the number 216. For example, the *gematria* of the key theme of *Ecclesiastes*, "Futility of futilities, all is futile (Ecclesiastes 1:2)," is none other than 216. Furthermore, the very first word of *Ecclesiastes*, *Divrei*, 'words of,' also has a *gematria* of 216. And finally, scholars have noted that in Chapter 12, the last chapter of *Ecclesiastes*, verses nine through thirteen seem to have been added later as an addendum. If we remove these particular verses, then the text of *Ecclesiastes* contains exactly 216 verses. Now look at these two passages.

You shall place My words upon your heart and upon your soul.

(Deuteronomy 11:18)

He has also put a world/eternity into their heart so that man cannot

comprehend what God has done from beginning to end. (Ecclesiastes 3:11)

One verse says that “My words” have been put into our hearts and the other says a word/eternity has been put into our hearts. Thus, we can make a connection between “My words” and the world within our heart, and if we examine the *gematria* of “My words,” it has a numerical value of 216. Hence, this world is full of severity.

Another way to look at it, though, is to say that this world is often God’s “tough love.” Also, since each letter of the name of God, *Yaweh*, can be spelled out in such a way that the numerical value of the entire name is 72^2 , it follows that *Yaweh* is a name of God’s mercy while *Elohim* represents the created world, and hence, God’s severity.

At this point we’ve noted the ineffable nature of God, the imagery of God as the cloud rider, the feminine side of God as the *Shechinah*, and the two aspects of God as God of justice and God of mercy. It’s now time to address the big question. How the

² *Yaweh* is spelled yud-hey-vav-hey in Hebrew. Each of these letters can, in turn, be written out as a word and a final numerical value derived. When we do this, we get yud-hey-vav-hey = (yud-vav-dalet) + (hey-yud) + (vav-yud-vav) + (hey-yud) = (10+6+4) + (5+10) + (6+10+6) + (5+10) = 72.

heck can we know God? In theory, you would think it is very hard. In practice, though, it's quite simple!

The one hope for connection with God is found in *Genesis 1:27*.

So God created man in His own image, in the image of God created He him; male and female He created them. (Genesis 1:27)

The Hebrew phrase for "in the image of God" is *b'zelem Elohim*. Maimonides explains that this refers not to a physical image, but a spiritual one. In other words, it is not the case that God has a body like ours, but rather that our inner essence is in the image of God. Or to say it differently, our awareness is in the image of God. Like God, our awareness is not something we can see, and it is the most mysterious part of our being. It is the part which gives us life, and in fact, my favorite appellation for God is one that is found in the *Sefer Yetzirah* 1:9 and which avoids the anthropomorphisms of other names, *Chai HaOlamim*, the *Life of the Worlds*. With modern technology we can locate where various perceptions and feelings are experienced in the brain, but this does not mean that the brain is synonymous with the living awareness. It only means that the brain is a tool that is used by awareness. We can produce robots and computer programs that mimic our thoughts and reactions, but unlike us, they have no conscious awareness. Science generally presumes that

awareness evolved from matter, but I personally suspect not. It is difficult for me to accept that the universe existed for billions of years with no observer and then suddenly began to observe itself. Instead, I suspect that, in some way consistent with quantum mechanics, awareness is an intrinsic component of the universe and that the only thing that has changed over time is the sophistication with which matter can support awareness. Now that we see the link between awareness and God, the big question is how can we bring the experience of God into our lives? To answer, let's consider the following two passages.

And Noah built an altar to the Lord; and took of every clean beast, and of every clean bird, and offered burnt offerings on the altar. And the Lord smelled the pleasing odor. (Genesis 8:21)

Let my prayer be set forth before you like incense; and the lifting up of my hands like the evening sacrifice. (Psalm 141:2)

Recall how incense used to be burned in front of the Ark of the Covenant to create a cloud to facilitate communication with God. In later times, the smoke and odor from the sacrificial altar produced its own cloud of incense, and after the destruction of the Temple, prayer replaced the sacrifice and the incense as seen in the quote above from *Psalms*. Consequently, through prayer we communicate with God. Many, though,

will say that they pray and still don't feel God. One answer to this, though, is that righteousness also plays a role. Recall once again that light that is hidden away for the righteous³. When we act properly, that light is drawn into our being and establishes that two-way communication. Recall also that the *gematria* of *Yaweh* is 26 which is the sum of "love" (13) and "one" (13)⁴. Consequently, if we have experienced love or oneness in our lives, then we have experienced God. All that remains is to amplify that experience.

As yet another way of connecting with God, consider the following well known passage.

And, behold, the Lord passed by, and a great and strong wind tore the mountains, and broke in pieces the rocks before the Lord; but the Lord was not in the wind; and after the wind an earthquake; but the Lord was not in the earthquake; And after the earthquake a fire; but the Lord was not in the fire; and after the fire a still small voice. (I Kings 19:11-12)

In the Zohar we find this elaboration.

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⁴ Chapter 9

After the earthquake, fire, Yaweh was not in the fire (I Kings 19:12), for the name Elohim controls it, from the side of darkness. After the fire, the sound of sheer silence. Here is found the name Yaweh. (Zohar I:16a)

Again, *Elohim* is connected with fire which is severe, but *Yaweh* is connected with silence and the still small voice. The connection between *Yaweh* and silence is strengthened even further by noticing that the glyph for the silent Hebrew letter *Aleph*, א, may be decomposed into two *Yuds* and a *Vav*, ׀׀ו. The numerical value of *Yud-Yud-Vav* is 26, and, again, this is also the numerical value of *Yaweh*. Hence, God can be found in silence.

In *Ezekiel 1:27* there is a Hebrew word *hashmal* that is very difficult to translate.

And I saw the color of hashmal, like the appearance of fire inside it all around, and downward I saw something like the appearance of fire, and a brilliance surrounding it. (Ezekiel 1:27)

The rabbis interpreted *hashmal* as an abbreviation for *hashot m'malot* which means “the speaking silence.” In their commentary in the *Talmud* on *hashmal* and Ezekiel’s vision they said,

It is taught that hashmal means at times they are silent and at times they speak. (B. Chagigah 13b)

Primarily, this strengthens our argument that God is found in silence. So how do we connect with God? The answer is quite simple and is found in *Psalms* 46.

Be still, and know that I am God. (Psalms 46:11)

The first step is just to be still. Stop everything. Stop the incessant chatter of your mind, stop all the things you are worrying about, stop your kvetching (complaining), and stop the passage of time and be only in the now. Then you will know. The root of the Hebrew word for knowing is the same as that of knowledge that on the *Tree of Life* represents the perfect union between wisdom and understanding, between right brain and left brain. It is also the “know” that is used in *Genesis 4:1* when it says that Adam knew Eve, and it is the knowing where two things merge not into a larger collection but into a greater whole as when it says in *Genesis 2:24*, “*They shall become one flesh.*” This is the kind of knowing that is required. So, stop everything, merge with the essence that is within you, and then you will know God. Repeat as needed.

CHAPTER 12

THE WORK OF THE CHARIOT

One of the earliest recognized forms of Jewish mysticism is known as the *work of the chariot*. It is based on the account of Ezekiel of his vision of the *Throne of Glory* and the chariot that supported it. Within this branch of mysticism, literature was produced that described ascents to God through a series of heavenly palaces guarded by angels that required precise passwords in order to let you through. What survives of this literature is scant and incomplete. Consequently, while our theme is on journeys, the methods will be from our own experience. This is in line with the thinking of the late Rabbi Aryeh Kaplan who believed that this form of mysticism was about experiences that occur during meditation. Also, keep in mind the warning of the story that we presented previously of the four who entered the garden¹. Of the four, only Rabbi Akiba entered in peace and departed in peace. Ben Azzai died, Elisha ben Abuya became a heretic, and Ben Zoma went insane. Regarding Ben Zoma, we read the following in *Genesis Rabbah*,

It once happened that Simeon ben Zoma was standing wrapped in speculation, when Rabbi Joshua passed and greeted him once and a second time, without his answering him. At the third time Ben Zoma answered him in confusion.

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Rabbi Joshua said, "What means this, Ben Zoma?" Ben Zoma exclaimed, "Whence are the feet?" "From nowhere, Rabbi," replied Joshua. "I call heaven and earth to witness that I will not stir hence until you inform me whence are the feet," Ben Zoma urged. "I was contemplating the Creation and have come to the conclusion that between the upper and the lower waters there are but two or three fingerbreadths," Ben Zoma said. "For it is not written here, 'AND THE SPIRIT OF GOD blew, but HOVERED, like a bird flying and flapping with its wings, its wings barely touching the nest over which it hovers.'" Thereupon Rabbi Joshua turned to his disciples and remarked to them, *"The son of Zoma has gone."* But a few days elapsed and the son of Zoma went to his eternal home.

(Genesis Rabbah II:4)

Whatever happened to Ben Zoma, it caused him to lose touch with this reality and eventually led to his demise. Consequently, the methods I outline here will be the safest that I know of, and they will involve only the chemicals that a person's own brain creates.

Before going any further, we need to understand the relationship between various states of consciousness and brainwave activity. In a nutshell, faster brainwaves correspond to alertness and focus, and slower brainwaves correspond to states of

fantasy and deep sleep. Also, brainwaves are measured in cycles per second called “Hertz.” Roughly speaking, the range of beta is 13 to 40 cycles per second, alpha is 8 to 13, theta is 4 to 7, and delta is 1/2 to 4 cycles per second. Some characterize a fast beta brainwave of 24 Hertz or higher as a gamma wave, and there is a hypothesis that it may be involved with forms of hyper-creativity. Lower beta waves, however, seem to correspond to a relaxed alertness and awareness of the present moment. It is said that cats can generate brainwaves at a frequency of 14 cycles per second at will. Not an insignificant skill for an animal that has to be vigilant as it stalks its prey! Another interesting fact is that most people immediately start generating alpha waves the moment they begin watching television. Now the overall significance of the various levels of brainwaves is that beta waves are needed in order for us to be alert and pay attention, alpha waves permit relaxation, theta waves are involved with fantasy and imagery, and delta waves are required for deep sleep and relaxation. In our society, a problem many people have today is that the demands of the day leave them stuck in beta. This is what happens when you can’t unwind and your mind is running the same thoughts and programs over and over again. As a result, many people turn to a variety of substances (alcohol, tobacco, tranquilizers, herbal preparations, etc) in the evening hours in an effort to change their state of consciousness. Personally, I use such legal mood changers only as a last resort. I prefer to use my own will and my own brain chemicals to change my state whenever possible because other substances can linger in your system far beyond the period that you desire. The alpha state is

important because it serves as the bridge between beta and theta, and this is the state that needs to be reached before we can unwind. The theta state is where visions and fantasies occur, and this is the state that is the launching pad for a variety of journeys that you might take. If you have good control over your alpha, then you can move from beta to theta and back almost at will.

One way in which you can learn to control your brain state is by brainwave entrainment. What this means is basically that our brainwaves will automatically try and synchronize with whatever stimulus they are presented with. For example, when you hear Brahms's Lullaby, you automatically begin to relax, while a rousing John Phillip Sousa march will immediately pick you up and make you more alert. The faster pace of the march causes you to produce more beta waves while the slower pace of the lullaby induces a correspondingly slower brainwave pattern.

Brainwaves may be manipulated today using what has come to be known as a "brain machine" or "light/sound machine." A typical brain machine might range in cost from \$100 to \$400, and it uses pulsing light and sound to induce particular frequencies within the brain. Most brain machines will come with a variety of built-in programs, and the more expensive models will be programmable. Caution: People who are epileptic or prone to seizures triggered by flashing lights should not use a brain machine. Additionally, not every brainwave program is necessarily going to be

beneficial for you. It's pretty much like trying to write great music. Some programs may be relaxing symphonies for your brain, but others may be rather jarring. If you get a brain machine, use your judgment and find programs that are good for you.

These days, I use a brain machine about once every one or two weeks just to give my brain a tune up. One program I use is one I wrote, and it simply starts at the highest frequency on the machine and works its way down to lowest delta frequency before ramping back up to the theta level. It generally takes about 23 minutes to complete. What this program does is it gives my brain a few minutes at each level, and in that way every level gets some exercise and it helps keep the doors open so that I can effortlessly move from one level to the next. I always end on theta so that I don't lose my capacity to dream and visualize my goals. The other program I use stays in the theta range, but otherwise it makes some random choices each time I use it. That way, it's always a fresh program for my brain. I use this program whenever I feel like I'm getting stuck in some of the higher brainwave frequencies. Additionally, one of the benefits that many people experience on a brain machine is that thoughts and images that they have been holding inside immediately get released during the course of the session. This release generally results in a variety of vivid imagery and fantasy as the program progresses, and over time this has a healing effect. Furthermore, while modern technology makes sophisticated brainwave entrainment easy to do, the principle seems to have been known for centuries. For example, just consider the following passage from the *Zohar*.

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Certain illnesses of men, as jaundice, can be cured through the patient's gazing upon shining steel, which is held before his eyes and rapidly moved from side to side, so that, like a comet's tail, it sends flashes of light into the face, thus healing the disease. (Zohar II:171b)

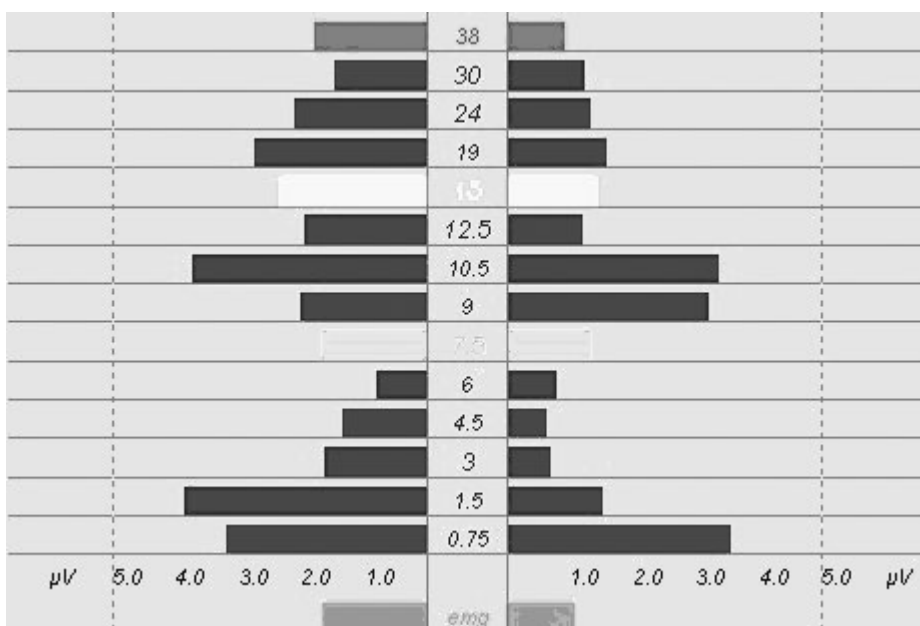
Again, if you get a brain machine, exercise a little discrimination. A great symphony can harmonize the brain, but other things such as heavy metal music might be quite jarring. It's exactly the same with brain machine programs. If you find a good program, it can be healing. If it leaves your brain feeling jarred or dysfunctional, then move on to another. There are also a variety of different colored lights available for the glasses that plug into a brain machine. Red light frames have a tendency to over stimulate many people, but white light frames seem to work well for everyone. And as a final caution, don't do a deep relaxation program and then jump into the car for a drive. Use some common sense!

Once your brain has gained the flexibility it needs, a variety of natural states and experiences are possible. Here are a few examples from my own life. What follows are some graphs of my brainwave patterns made with a four-channel EEG while engaged in various activities. The graphs are oriented so that the faster brainwaves are at the top and the slowest brainwaves are at the bottom. The length of a bar

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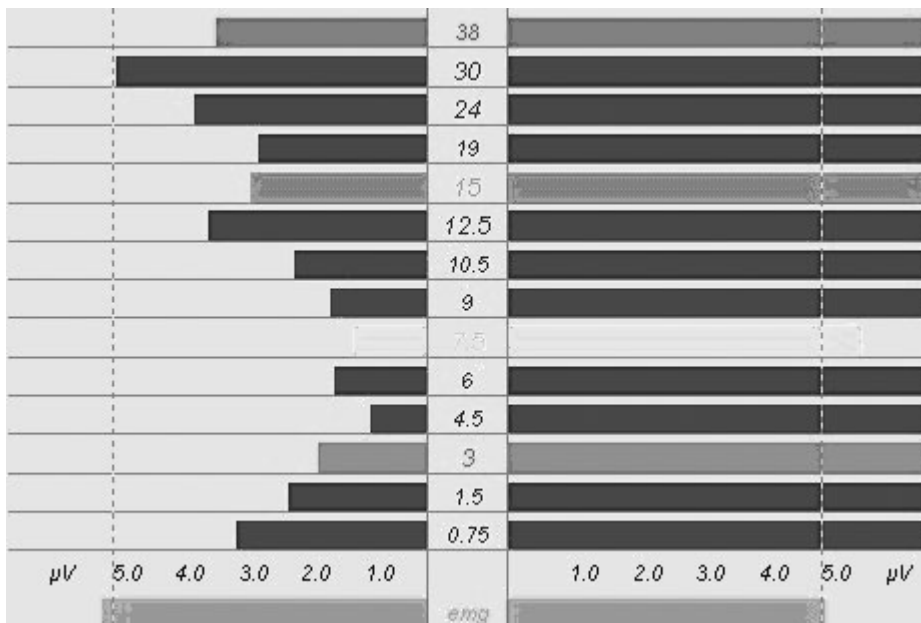
corresponds to the amplitude or strength of the brainwave, and there are always two bars, one indicating left brain activity and the other indicating right brain activity.

This first pattern shows what is happening in my brain while engaged in meditation on a mantra. Notice the predominance of alpha waves and delta waves. Meditation tends to naturally cause the brain to produce stronger alpha waves and to create symmetrical patterns between the hemispheres of the brain.



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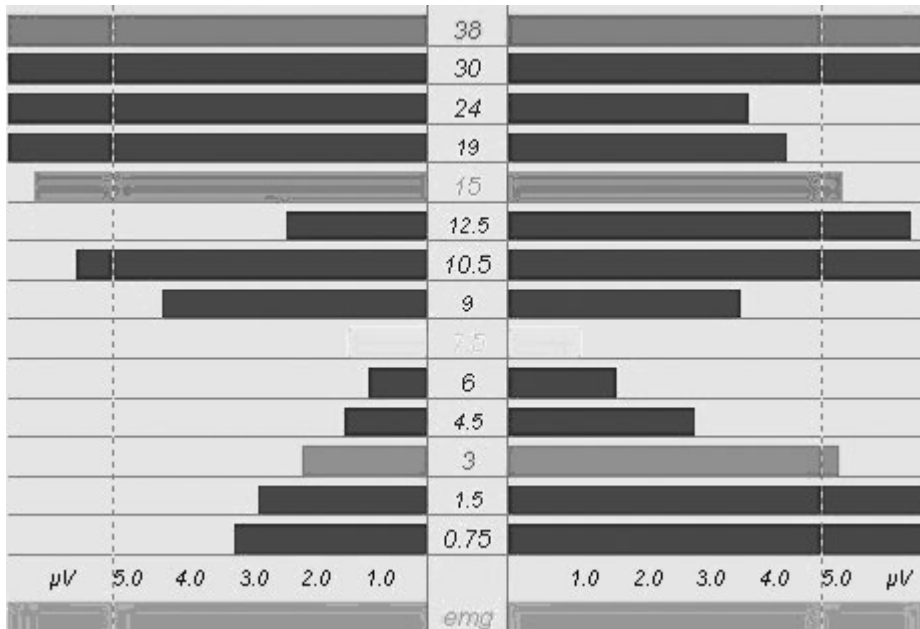
This next snapshot of my brain shows what happens when I suddenly go into a state of oneness with everything, and all objects and perceptions momentarily disappear. As you can see, the readings for the right hemisphere of my brain go off the chart, and for a moment I experience an intense bliss that has no measure.



Oneness

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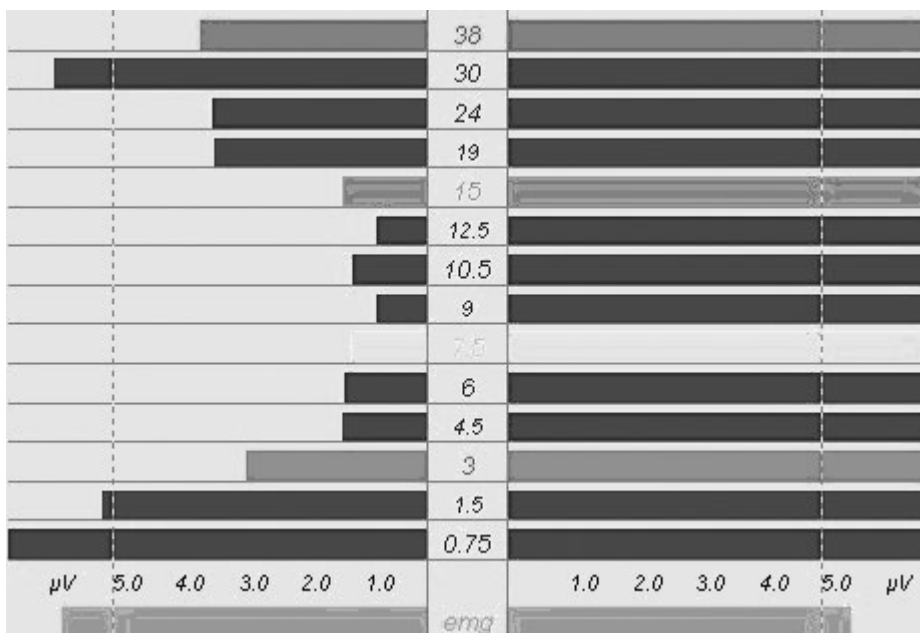
This third picture shows the activity of my brain as I study rabbinic literature. This endeavor requires intense focus as well as high levels of creativity and problem solving. There's a lot of intense activity taking place on both sides of the brain.



Experiencing intense left and right brain activity while studying

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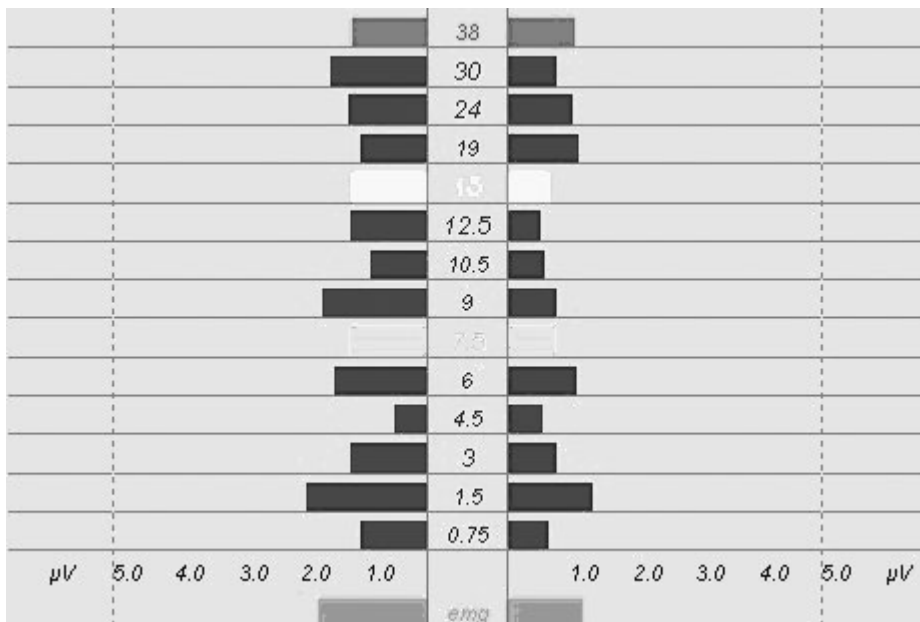
In this next picture, we see what happens when I have an intense “aha” moment as I figure out some puzzle in rabbinic literature that I was mulling over in my mind. The brainwave pattern is virtually identical with the “oneness/bliss” pattern that occurs during my meditation sessions. This suggests that these experiences are the same as far as the brain is concerned. All that differs is the path that can take us there. In one case, a meditative path culminated in this experience, while in the other case, it was the creativity of intellectual study that resulted in a state of supreme joy.



The “Aha” moment

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And in this final picture, I'm in what I call "neutral." Here I am just observing the world without thought or judgment. As you can see, the amplitudes of all the brainwave frequencies are low. I'm just letting perceptions flow without trying to manipulate them in any shape or form. I am just being. My state is very pleasant, but this is not a typical brainwave pattern for most people. It's just something I do from time to time.



The neutral observer

A brain machine can be a very useful tool when used correctly. Also, we might associate the higher brainwave frequencies with being a particle and the lower frequencies with being a wave. At the higher frequencies things seem concrete, and

we can get trapped in that concreteness of form. At the lower frequencies we feel more like a wave that can extend and blend with other waves.

Once we have freed up our brain, we can do extensive traveling and there will be few restrictions upon what is possible. One restriction, though, depends on what level of development you have attained in your personal life. To explain, you need to first understand that according to Jewish mysticism each person has five souls. Or if you prefer, five levels to a single soul. So which is it? Five souls or one soul? In many respects it's like asking, when we look over the spectrum of our life, are we just one person or several people. It just simply depends on your point of view. We might prefer to say that the teenage us is a different person from the child which in turn is a different person when they become a mature adult. Or you might like to say that it has always been the same person, but at different levels of development. It's exactly the same with this five souls/one soul stuff. We can mature spiritually as well as physically as we go through life, and as a result experience distinct levels of our overall being. In Judaism, the five souls are known as the *nefesh*, the *ruach*, the *neshamah*, the *chayah*, and the *ychidah*. The *nefesh* is the soul we are born with. By and large, it's a greedy little thing! It is concerned primarily with its own wants and needs, and it is also the basic life force within the body. Nevertheless, it can be cute. That's also what little kids are. They're all *nefesh*, cuteness and greed rolled into one.

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If we develop good habits and grow spiritually, then eventually we begin to think more of others and develop a greater sense of compassion. As a result, we move into our *ruach* or moral soul. If you are righteous, then as an adult you will have a good *ruach*, and you will know that there is within you a quality that is different from that of you as a child. Once the *ruach* is established, then if you continue to live right, other abilities and depths of understanding will unfold.

As righteousness draws more spiritual light into your being, your *neshamah* will begin to make its appearance. The *neshamah* is the spiritual soul that allows us to live in that higher light, and if we have attained this level, then many more things will be possible for us.

The other two levels of the soul are so large that they can't be contained within the physical body, and contact with them is rarer. The *chayah* is the "living soul" that surrounds your body. If you have attained your *neshamah*, then you may be able to sense the presence of this soul. From our perspective, it is much higher up and much more remote from this earthly experience. Nonetheless, that is where much of the programming for this lifetime is contained. If you are able to, sit down in a comfortable chair and relax, and see if you sense this living soul. If you can, talk to it and ask it whatever questions you would like. Why am I here? What is my purpose

in this life? Am I on track? If you've become sufficiently anchored in the level of the *neshamah*, then you may hear from within a response from your *chayah*.

The very last level of the soul is the *yechidah*. This is the “unified soul.” This is the part of us that has never left its unity with God. It is the part that is eternally standing there saying,

Holy, holy, holy, is the Lord of hosts. (Isaiah 6:3)

As I've said, if you have reached the level of your *neshamah*, then many more things will be possible to you. At this level you sit or recline and travel to spiritual realms just by wanting to. All that it takes is your intent. For example, I pause from writing for a moment and go sit down. I immediately feel a spiritual light permeating my body. The joy is delicious. Energy is shooting up my spine and exploding in my cranium. My spiritual energy centers between the third eye and at the top of the skull are stimulated, and I feel oneness. I then turn my attention to my *chayah*. I have a sense of something immense surrounding me, but it is not yet time. I feel that everything is going well, but it is not time to merge with the *chayah*. Instead, I feel I should just remain in the light. As the light moves through my body it is like a magnet aligning everything that has gone astray. It restores me and fills me with joy. And then I return so that I can continue my writing. As for the *chayah*, all in good time.

The other thing, aside from not having integrated with your *neshamah*, that can be a restriction on your progress is your own belief system. This is why we spent so much time in Part 1 of this book discussing how our current views of reality are so very wrong. When your ideas of time and space are inaccurate, your own mind will create barriers to what you can accomplish. However, once you understand that past, present, and future all exist at once, that there are multiple parallel realities at each level, and that in your wave form you can be connected with all things and contain information of all things, then much more will be possible to you. For example, once several decades ago, I was at a really low point in life. I was struggling to survive and get it together. One evening, though, while meditating I suddenly felt the presence of a more enlightened being surrounding me with love, and that gave me the strength to go on. Several years later, I was in a much more balanced and enlightened state, and I sat down to meditate one evening. While meditating, it occurred to me that I ought to send some loving energy back to myself in the past. Immediately, I recognized myself as that more enlightened being that had visited me. My belief in these situations is that our consciousness is not limited by either time or space. Mentally, we can visit any time-space location. What we can't do, from our perspective, is undo what has already been done. Or can we? On the one hand, milk that has been spilled is not going back in the bottle, but on the other hand, we can undo in other ways that which has already happened. In Judaism this is called *tikkun olam*, repairing the world. Repairing damage that has been done in our lives is

essentially our way of undoing collapsed wave functions. Furthermore, we can add additional influences to what has occurred. This is like the delayed choice experiment in quantum mechanics where a choice in the present causes a wave function to collapse in the past. For example, if I send a loving vibration back to a point in the past, that simply collapses new wave functions and alters the original experience. You can help heal some wounds in the present by adding a healing vibration to the point of trauma in the past. Now all of what I'm talking about at this point is an extrapolation beyond what science can currently prove, but nonetheless, this is what I experience, and when we reach the limits of what science can tell us, we have to have faith in what our heart can teach us. Sometimes I like to have a meeting of all my different selves from all the different times of my life. In other words, I gather together my child with the me of my youth as well as the person of my old age. Each version of me has something to offer. My child has a purity within that has yet to be tainted by the sorrows of life. My child glows with my original instructions and purpose for this life. My youth has the vigor and energy that fades as we get older, and my elder has the wisdom and experience that it takes a lifetime to gather. In my mind I bring each of these parts of me together so that each one can share its particular gifts with the others. In this way, my whole being becomes more unified and complete, and my purpose becomes clear.

You can literally journey to anywhere your mind knows how to reach. As a wave, you are not limited by the boundaries of your body. For example, you can think of friends and family and people you love and be instantly connected with them. Many that read this will have had the experience of thinking about someone and then getting a call from them within the next day. I'm part Native American as well as Jewish, and when I was much younger I was good friends with a full-blood Kiowa medicine man that I would often assist. He would travel all over the country so that I would never know where he was at any given moment. However, if I ever wanted to get a hold of him, all I had to do was to start thinking about him, and then I would get a call in a day or two. Often times when people are thinking about me, I can feel it immediately. Again, we are not limited by space. We can also transcend our boundaries to give blessings to other people. Long ago I realized that if there was a tense situation of any sort at work, all I would need to do would be to visualize that situation and see it as permeated with love. Sometimes a single drop of love would be all I could manage, but that would be enough. The next day everyone would be more cordial, and the situation would be much improved. When you are communicating with people this way, however, always remember two things. Don't smother them and don't ever try to control them! People are meant to be free and make their own decisions without our interference. Giving advice, however, is okay. For example, consider the following from *Torah*.

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I call heaven and earth to record this day against you, that I have set before you life and death, blessing and cursing; therefore choose life, that both you and your seed may live. (Deuteronomy 30:19)

We learn two things from this passage. First, that it is okay to advise people, and second, that not even God is going to interfere with our free will. Often, we should touch people only lightly with our energy so that we don't interfere in an improper way with their ability to make their own decisions.

We can also give blessings to both things and animals. My wife and I recently spent a year building a new house. Tons of decisions were required in the process.

However, even before the building process began, I would go out weekly to the site and feel my *neshamah* connecting with heaven and earth, and I would pray and give thanks and fill the space with light and love. It seems to have paid off because our house is so much more beautiful than many of the others on the block, and we seem to have had far fewer problems to deal with. You can similarly bless spaces either at home or at work. Just try this exercise. Go into a room of your house and visualize it as being filled with a spiritual light. See the light emanating from your heart and from the palms of your hands and filling up the room in which you are standing. Put a feeling of love and of blessing into that light, and let it permeate the entire room. Now try the same thing with your work space, and also try it with people you know.

Many people we encounter are examples of what I call the living dead. They are so caught up in their own beta waves and the dramas in their own minds that they miss the spiritual beauty that surrounds them. If you visualize them being surrounded by light and love, then that may be all they need to open their hearts for just a moment.

Another experience I had when I was younger was that I knew a Seneca Indian who would regularly walk around and pet the dragonflies on his land. Gradually, through osmosis, I also learned how to pet dragonflies. Someday you might notice a dragonfly flitting about you. If so, just smile at it calmly and let love radiate from your heart to the dragonfly. This will help calm it down. Next, when it is calm, it will drop its wings in a show of trust. At this point, slowly reach over with one hand and then gently stroke its wings. Part of your success in this endeavor is the calmness of the dragonfly itself in response to your own state of calmness. No all dragonflies will endure this petting for very long, but I have had dragonflies that would follow me around and let me pet them for over twenty minutes. Also, you can merge your consciousness with a dragonfly. When I did this, I saw such light and clarity of sight. With its well developed eyes, the mere act of seeing brings great joy to the dragonfly.

In general, those things that we are most entangled with at the quantum level will be the things that are easiest for you to merge with. We can literally look through the eyes of another person and see the world from their perspective. When we do this,

we also start to realize that the person we experience as ourselves is just another one of those perspectives. It's not who we really are. We are just the awareness that is watching the movie. For instance, when I get up in the morning, I immediately put on the "Benton" suit because that is the one I am most familiar with. I've been working on that suit for a long time, and frankly, it "suits" me. Nonetheless, I can just as easily let my awareness merge with the program of another person and see what their perspective is and how they view the world. Sometimes when you do this you see a wound that you can help heal, but otherwise I stick to my plan of non-interference in other people's lives.

Just as we can merge with family and friends that we are connected with, we can also merge with those who have gone on to the other side. Some people are very talented at this type of endeavor and demonstrate remarkable abilities. Most of us, though, will simply be able to feel the presence or a message from someone whom we were close to in this life. In my opinion, it is quantum entanglement that makes this communication possible. For instance, there have been many times I have felt the presence of my departed father. I have particularly felt his presence since getting married and relocating to Arizona. It often felt like he was pulling strings behind the scenes to help me get a good job and get settled out here. More recently, I felt him helping us get a good loan for our new house and also helping us sell our old house. As I write this, the housing market is in the worst slump it's seen in years, and selling

houses isn't easy. Right after my wife and I moved into our new house, though, I felt him telling me, "Don't worry. The old house is already sold," and sure enough, within a couple of weeks we received a cash offer and sold our old house.

I should perhaps reiterate that most of what I'm writing about in this chapter are experiences that do not come with scientific proof of their validity. Thus, a certain amount of faith is involved. Nonetheless, every now and then we do receive external validation. For example, in an earlier chapter I wrote about how with my spirit I would visit my wife-to-be during the nineties and how I found out a decade later that she had felt my presence when I did this, and many people have experienced dreams where friends and relatives have come to tell them that they have departed this earthly existence. It's these sorts of conformations that we receive from time to time that teach us to trust the validity of our own experiences. And as for how science will someday explain it, I'm sure it will have much to do with all things existing at once, the presence of many dimensions, quantum entanglement, and our ability to simultaneously be both a wave and a particle. Until then, however, we must proceed on faith.

Because in addition to being Jewish I am also part Native American (Choctaw), I have a particular respect for those voices that talk about our connection with the

environment. For example, the following passage from the *Talmud* talks about what I like to call a “*Torah of nature*.”

Rabbi Johanan observed, “If the Torah had not been given we could have learned modesty from the cat, honesty from the ant, chastity from the dove, and good manners from the rooster who first coaxes and then mates.”
(*B. Eirubin 100b*)

Also look at *Psalm 19*. The first half of the *Psalm* extols the wonder of nature, and the second half praises the perfection of the *Torah*.

To the chief Musician, A Psalm of David. The heavens declare the glory of God; and the firmament proclaims his handiwork. Day to day utters speech, and night to night expresses knowledge. There is no speech nor are there any words; their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world. In them he has set a tent for the sun, which comes forth like a bridegroom leaving his chamber, and rejoices like a strong man when he runs a race. His going forth is from the end of the heaven, and his circuit to the ends of it; and there is nothing hidden from his heat. The Torah of the Lord is perfect, reviving the soul; the testimony of the Lord is sure, making wise the simple. The statutes of the Lord are right,

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rejoicing the heart; the commandment of the Lord is pure, enlightening the eyes. The fear of the Lord is clean, enduring for ever; the judgments of the Lord are true and righteous altogether. More to be desired are they than gold, even very fine gold; sweeter also than honey and the honeycomb. Moreover by them is your servant warned; and in keeping of them there is great reward. Who can discern his errors? Clean me from hidden faults. Keep back your servant also from presumptuous sins; let them not have dominion over me; then shall I be blameless, and innocent of great transgression. Let the words of my mouth, and the meditation of my heart, be acceptable in your sight, O Lord, my rock, and my redeemer. (Psalm 19)

The juxtaposition of these two themes shows their interrelationship. Additionally, don't forget that the *Torah* was given to Moses, not in a building or a stadium, but on a mountain top surrounded by the magnificence of the creation. This, too, is a hint that it is often easier to find God and spirituality in a natural setting, and such has often been my experience.

One example that comes to mind occurred some years ago on an isolated beach in Freeport, Texas, south of Galveston. During the summer months, I often liked to go out there at the end of the week either in the early morning or in the evening for a therapeutic swim. One evening that I went out there, everything around me was

magnificent and seemed perfectly in balance. A full moon was rising out of the water looking more gigantic than any I have ever seen since. The moonlight shimmered on the water, and as I stepped into the Gulf, my consciousness was transformed. So much of our usual stance with reality depends on our external perceptions, and when those perceptions change everything else follows suit. In this case, as I entered the water there was no longer solid ground to support my normal waking awareness. Instead, below me was an ever shifting floor of moonlight, and this immediately transported me into a more surreal state. Far in front of me were waves breaking on a sandbar, and as they did the moonlight seemed to be caught in each wave, and I would see a ball of light rolling toward me in a temporary encasement of water, and then, when the wave would break against my chest, the light would enter my heart and explode into a thousand surges. It was a wonderful experience! Sometimes you can feel great spiritual power in nature, and you can let that awesomeness carry you to places unimaginable.

A similar encounter with nature occurred just a few days ago at night at our new house in our own backyard. Our landscapers had recently finished their work, and part of the plan was to construct a “golden rectangle” patio at the far end of the yard.

This is a patio whose ratio of length to width is approximately 1.6 (or exactly $\frac{1+\sqrt{5}}{2}$).

Additionally, this is a ratio known as the *golden ratio* that many throughout history

have believed to be the most pleasing to look at. Also, as in the case of π and e , the golden ratio is yet another universal constant that occurs in many places throughout the natural world. And on this particular night, I believe it helped propel me into a higher state of being. I sat in a lounge chair on the patio facing the mountains in the east, and I felt a certain spiritual power in the air. There was definitely a wonderful sense of balance to things, and as the wind whipped about me I felt myself ascending higher and receiving communications from those higher parts of my beings. I suddenly saw that just as certain scents and smells can serve as keys to unlock specific states of consciousness, so too can particular shapes do the same thing, and I also suddenly realized why “magic carpets” always seem to have dimensions whose ratio approximates the *golden ratio*. The very shape, in this case, had a very profound effect on my consciousness as I entered into a state of oneness with the rest of creation. I went from being a particle on an Arizona patio to a wave that was connected to everything in the universe, and through that wave I could send everything a blessing. It was a marvelous experience!

Other journeys you can take involve connecting through time instead of connecting through space or merely ascending to higher states of consciousness. With the proper intent you can return your consciousness to places you’ve been in the past. In one respect, this is simply a more focused attempt at what all of us do when we sit and reminisce about places we’ve been. With respect to our journeying, though, you can

go to a past place just to visit a fond memory, or you can also go into the past and walk down the road not taken to see where that would have led you. I do that sometimes, but not too much because I realize where I am now is exactly where I want to be. You can also mentally travel to the past to give blessings to people and things and to try and heal wounded situations. The possibilities are endless, and I am sure you will come up with your own journeys of exploration.

In addition to those journeys we can make while in our waking consciousness, we can also travel during our dreams. My wife is a strong dreamer, but at my age, I am less so. As it says in the *Talmud* with regard to a passage in *Ecclesiastes*,

“One shall rise up at the voice of a bird (Ecclesiastes 12:4),” — even a bird will awake him from sleep. (B. Shabbath 152a)

Nonetheless, in the past I’ve had some extraordinary dreams. With respect to these, the *Talmud* says,

*A dream which is not interpreted is like a letter which is not read.
(B. Berachot 55a)*

Sometimes we have dreams that are different from our usual ones. A few of these have been given classifications such as “lucid dreams” where we wake up within the dream and can consciously direct the action. An even rarer type of dream is a “high dream” where we enter an ecstatic state of consciousness within the dream. And then there are other types which we simply recognize as different from our usual dreams. One recurring dream that I’ve had for several years involves me traveling by diving into holes in the earth. For this purpose the hole is always at the base of a tree, and I just dive right in and emerge elsewhere. I’ve always enjoyed traveling this way, and it was only after I had been doing it for several years that I discovered that this is a common mode of travel among shamans in many cultures throughout the world. The last time I was traveling in this manner, I decided to look to the side to see what was happening. What I saw was layer after layer of parallel worlds that I passed by until I reached the one I was destined for. Another time I had the following extraordinary dream. The experience began earlier in the day while I was at school teaching a math class. Halfway through the class, I suddenly felt something hit me during the middle of my lecture. It was like a negative energy that caused the bottom to drop out of me. I felt dazed and confused, but managed to finish the class okay. This was during that time that I was assisting my Kiowa Indian medicine man friend, and in the Native American world, psychic attacks on medicine men are not uncommon, and my friend had explained how these attacks sometimes bounce off of the medicine person and ricochet onto those who are close to him. Whatever it was, fortunately it was my last

class of the day, and by mid-afternoon I was at home in bed. I immediately fell asleep and had the following dream. The Kiowa medicine man and another medicine man I didn't know were working on me to relieve the problem. One of them pointed to something stuck inside of me and said, "Do you see that? That's where the problem is." Everything about the dream was different, by the way, from my normal dreams. The whole texture was different, and it felt much more real. Continuing, the two medicine men decided they needed to take me to a third medicine person to be healed. Thus, we all got on a bus to make the trip. Along the way, we stopped at a pow-wow, and it was there that I got separated from my medicine men. It was also there that I saw the evil ones who had attacked me sitting at a table grinning. They were sure they had trapped me. Fortunately, I found the bus again, but the medicine men were nowhere in sight. However, I did see a girl I knew sitting at the back of the bus, and so I went to give her a hug. However, when I hugged her, there was no life in her at all. I knew then that it was just a façade, and that I now had no way out. Suddenly, the bus driver stood up and came to the back of the bus. I was relieved when I saw that the driver was a powerful full-blooded and very righteous Cherokee medicine woman I knew. The entity looked up at the medicine woman and said, "Get away from me, you witch," to which the medicine woman replied, "I only witch those who do the witching." At that point the medicine woman held up both her hands, and a purple light issued forth that restrained the entity. She then took my hand and led me to the front of the bus. The front disappeared and transformed itself into steps,

and we stepped down into the medicine woman's living room. I looked at her and said, "Thank you for saving my life." Next thing I knew, I woke up at 2:00 AM in the morning drenched in sweat. I didn't mention any of this dream to my Cherokee medicine woman friend, but when I attended her medicine wheel a few months later and was standing in the center of the wheel being doctored, she just brushed me down with her Eagle feather fan and then looked me in the eye, and with a sly grin on her face she said, "Am I going to have any more trouble with you?"

Both conscious journeys and dream journeys can be enjoyable and enlightening. However, if you have trouble remembering your dreams, a good trick is to place a notebook and a pencil next to your bed. The very intent to keep a dream journal will make it easier to remember your dreams. Also, if you are not working the next day, set your alarm to awaken you around three or four o'clock in the morning. Wake up just long enough to turn the alarm off and then go back to sleep. The dreams that follow are usually more intense.

In addition to the enjoyable journeys one can take, the sad fact is that we will all from time to time inadvertently journey to a sad place. There are going to be times when things happen that suddenly make us sad or fearful or depressed. This is where it is important to know how to journey to a better place, and one of the best things you can do is to make happiness a habit. If you cultivate positive states of mind, you will find

it easier to return to them. Remember, too, that righteousness always stacks the deck in our favor. And furthermore, keep in mind that sometimes the only thing that life requires of you is to endure. As it said on Solomon's ring, "This too shall pass." Sometimes when negative emotions hit, all you need is a good night's sleep. Sleep is the body's way of rebooting and starting with a clean system. And finally, if all else fails, there's always that big bowl of chocolate ice cream waiting for you. Yum!

In the physical world, journeys often expand our horizons and teach us new things. We go on spiritual journeys for exactly the same reason. Furthermore, below are several examples of journeys you might try. They involve a variety of different skills from the simple movement of energy around the body to visualizations to advanced techniques of meditation and more. Enjoy!

Beginning

This exercise helps you realize that you can move energy from one point to another in your body. Feel free to make your own variations of it. To begin, lie or sit down in a comfortable position. Take note of where your consciousness seems to be centered in your body. Is it focused in your head? Your heart? Your abdomen? Once you've located where it is concentrated, begin to move it by focusing on your right foot. Feel a warm, energetic light flowing around your foot. Let your awareness become

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steadfastly centered in this location. Now let the warmth and the light slowly move up your right leg, swirling as it moves. When it gets to the top of your leg, let it go down to the left foot. Once you feel your consciousness has been firmly established in the left foot, let the warmth and energy slowly move up the left leg. When it gets to the top of the leg, let it continue moving up first through the abdomen and then the upper back and heart area. From the top of the back, let it flow down the right shoulder into the right hand and back up again. Do the same on the left side moving from the left shoulder to the hand and then returning. Now let the light and energy continue traveling up the neck and into the head. Feel the energy swirling in a circle around the head working its way up to the very top of the crown. Once you've reached the top, let the energy sweep down the front of the body to the feet and then return up the backside to the crown. Repeat this several times. Now continue this up and down flow while this time letting the energy this time swirl in circles around the body like tape wrapping around a mummy. And now pause for a moment and feel your whole body simultaneously filled with a radiant light. Finally, do the following breathing exercise. As you breathe in, feel energy being inhaled not just through your lungs, but through every pore of your body. And as you exhale, feel the exhalation, likewise, taking place through every pore of your body. Feel your entire body rhythmically inhaling and exhaling energy. Repeat several times and then relax.

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This simple exercise does two things. First, it helps rejuvenate and refresh every part of the body while removing tensions and blockages to the flow of energy, and second, it demonstrates to you that your consciousness isn't locked into one specific location. Also, as you become proficient in this exercise you might notice something else. Different experiences have different focal points within the body. For example, energy and vitality are felt in the abdominal and groin area. Love and several other emotions, however, are felt in the heart region. And intellectual and lofty spiritual states have their focal point in the head and cerebral cortex. By being able to consciously move our center of attention around, we can easily switch our focus from the physical to the emotional to the spiritual/intellectual as the need arises.

Space Projection

When my grandmother on my mother's side died back in the late seventies, my brother and I experienced her death very differently from the way our parents did. The night before the funeral we all went to the funeral home for a visitation, and when I walked into the room where her casket was, both my brother and I were astounded by how our grandmother's essence seemed to fill the room. It was so thick with her being you could slice it. We felt this same strong presence of her diffused essence during both the funeral service and at her burial. My parents, however, felt none of this, and I remember vividly the fear of death I saw in them as they held onto

each other tightly and cried uncontrollably. For my brother and me, though, my grandmother's passing was a dramatic lesson in how our consciousness is not synonymous with our body and how energy can extend beyond the physical body.

We've talked before about how we have two ways of experiencing ourselves. We can be in either our particle mode or in our wave mode. When we experience ourselves as a particle, we do tend to stop our awareness at the boundary of our physical body. However, when we are in our wave mode, we can extend far beyond those physical boundaries. This is essentially what my grandmother was doing after her passing. Her being was no longer confined to the small physical space of her body. Instead, she was a wave, and her presence covered a much larger area. What my grandmother did, we can also do as the following exercise illustrates.

For this exercise, simply move your awareness into that point in the center of your chest that is level with your heart. We'll call this the heart center of your body. Now fill your heart center with love. If you have trouble doing this, then just think of someone you love or something that makes you very happy, and let this energy fill your heart. Next, let this loving energy radiate out from your heart in such a way that it not only fills your physical body, but also the entire room in which you are standing. By so doing, you are creating a conditioned space that is filled with love and wholeness. In this manner, you are also blessing the space and making it a more

harmonious place to be. Try this now with every room in your house in order to make your entire house a place of peace and joy. This is not only a very simple, but also very valuable exercise to do. Just imagine what the world would be like if everyone focused on filling their physical space with love. It would change everything. Furthermore, while it may take awhile to get everyone to do this exercise, you can certainly let it begin with you.

Balance

Before going any further, we would be remiss if we didn't reemphasize the importance of being in balance. We've already talked quite a bit, for example, about commandments and how these can bring a moral and ethical balance to your life. We should also talk about other kinds of balance. In particular, you want to have a certain degree of physical balance in your life or else it will be difficult to focus and be successful with the exercises contained in this chapter. For the average person, this means getting some regular exercise, doing some stretching, and eating a healthy diet. When you are young, it is much easier to abuse your physical body and not be aware of the consequences. However, when you are older, the body's reaction to abuse is much swifter. For instance, if I eat a plate full of fatty meats, it affects me immediately. My brain, as well as my arteries, feels clogged, and it is much harder to concentrate on anything or to feel good in general. The bottom line is that you need

to maintain your physical well being so that the body doesn't become an impediment to your journeys.

Physically, there is a point an inch or two below the belly button that is our bodily center of gravity. In *Tai Chi*, this point is known as the *tan tien*, and when our energy and consciousness are focused here, we tend to physically feel centered and grounded. However, there are also some other points of balance within our being. We've talked previously, for instance, about the five souls that *kabbalah* says are within us, the *nefesh*, the *ruach*, the *neshamah*, the *chayah*, and the *yechidah*. The first three of these souls are contained within the body, and they correspond to our physical energy, our moral being, and our higher spiritual self. They also correspond to three distinct locations in the body, the abdomen, the heart center, and the cranium. For this particular triad, it is the *ruach* that is the midpoint between the *nefesh* and the *neshamah*, and in physical terms, it is our heart center that functions as the balance point between the physical body and the spiritual body. Consequently, try spending a day with your consciousness gathered in your heart center. By using this balance point, you will be able to easily move either down to the physical or up to the spiritual. If we now take all five souls into consideration, then we easily see that the middle or balance point is the *neshamah*. This is the higher spiritual self that we experience when our consciousness is concentrated on the energy centers within our head, and the *neshamah* stands between those parts of our being that are within the

body and those parts that lie without. When we use this as our balance point, it becomes much easier to shift in one direction or another. For example, one night I was in an exceptional state of consciousness, and I went outside to sit in my golden rectangle patio to journey to other realms. This time, unlike many others, I felt it fairly easy to slip upward to the level of the *chayah*, the living soul that surrounds our physical body. The first impression I had was one of great immensity. The *chayah* is something greater than our usual being. I also saw my particular life as a dream within the center of the *chayah*. I am a dream of the living soul, but as I fulfill my purpose, so also are the higher parts of my entire being enriched by my accomplishment.

So, once again the bottom line is that you have to maintain balance in your life. Choose that which enhances life so that the body doesn't become an impediment to progress. Additionally, the point below the navel is the balance point for our physical being. In terms of the *Tree of Life*, it corresponds to the *sefirah* of *Yesod*, Foundation. Our physical body is the foundation or interface between the physical world and our inner being, and by focusing on the point below the navel, we can move through the physical world feeling grounded and in control. The next balance point is in the heart center, and focusing here allows us to move through the world as a loving being. Furthermore, this balance point makes it easy to move back and forth between the realms of our vital energy and our higher, spiritual nature. Additionally, this balance

point corresponds to *Tiferet*, Beauty, on the *Tree of Life*. And finally, our higher brain is the balance point between those parts of our being that are contained within the body and those higher parts of the soul that are without. This point corresponds to *Keter*, the Crown, on the *Tree of Life*, and this is where you must go if you wish to ascend higher. As an exercise, spend some time with your consciousness centered at each of these three balance points (the belly, the heart, and the head), and notice how your state of consciousness changes as you shift its center.

Meditation

One of the most important exercises you can do is meditation. As we saw earlier in this chapter, meditation helps harmonize the two hemispheres of the brain as well as stimulate gateways between the slower and faster rhythms of the brain. There are types of meditation that focus on the *tan tien*, the physical center of balance, and there are types that focus on the heart center. The form of meditation that I'm going to discuss, however, is one that will focus energy in the crown and other energy centers of the brain.

Begin by sitting cross-legged on a cushion on the floor. You don't want to assume a posture that you have to strain to maintain as that will defeat the purpose. On the other hand, you want to be able to keep your back fairly straight so that energy can

flow freely both up and down your spine. Your hands can either rest in your lap or on your knees with the palms up. Some like to touch the tips of the thumb and the first finger. This basically completes an energy circuit, and touching the thumb tip to other fingers will complete different circuits. Experiment, and see what you prefer.

You may want to also do some breathing exercises to produce some initial relaxation. A very simple one is to breathe in slowly to the count of seven and then breathe out for the same count. Do this about twelve times. You can use your thumb to manually keep count by placing it in turn on each of the twelve digits of your four fingers.

When you are done with this, simply breathe in and out in a normal, relaxed way. As you breathe in, feel energy flowing up your spine into your cranium, and as you breathe out, feel this energy move back down your spine to its base. Additionally, turn your gaze upwards while keeping your eyes closed. These two things, the upward gaze and the upward flow of energy through the spine, will help concentrate energy in your skull. Furthermore, within your head there are two major energy centers, one between the eyebrows and one at the very top of the crown. As the crown center opens, you will feel more light energy entering you from without. This is the light that is hidden away for the righteous, and this is also the thread of light that enters the body as you properly meditate upon *Torah*. The final part of this technique is to mentally recite a mantra while meditating. There are many available, so take your pick. I generally use the *hamsa* mantra which is pronounced *hong-saw*

by some and more like *ham-sah* by others. I prefer the former pronunciation. As I breathe in, I mentally recite *hong*, and as I breathe out I mentally say *saw*. Over the duration of my mediation, this often mutates into other mantras such as *om* or *amen* (pronounced in Hebrew as *aw-main*), or else the mantra ceases completely and I remain breathless in a state of bliss. Either way, the objective is to move energy into the balance point in the cranium and to open yourself up to a higher light. From that point on, you can just let the light guide you in what to do.

The following verses from the *Sefer Yetzirah* have a particular bearing on the practice of meditation.

Ten sefirot of nothingness, ten and not nine, ten and not eleven. Understand with Wisdom, be wise with Understanding. Examine with them and probe from them. Make each thing stand on its essence, and make the Creator sit on His base. (Sefer Yetzirah 1:4)

Ten sefirot of nothingness, their vision is like the appearance of lightening. Their limit has no end. And His word in them is running and returning. They rush to Him like a whirlwind and before His throne they prostrate themselves. (Sefer Yetzirah 1:6)

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Ten sefirot of nothingness. Bridle your mouth from speaking and your heart from thinking, and if your heart runs, return to the place as it is written, "The living creatures running and returning." (Ezekiel 1:24). Regarding this a covenant was made. (Sefer Yetzirah 1:8)

Recall how we've previously talked about God riding on a cloud and giving the appearance of movement when in reality, God never changes. The movement is only an illusion created by the angels moving the throne of the Creator about. So it is with our conscious awareness. It appears to be in movement because its vision is always changing, but in reality it is standing still and everything else is rushing toward it. Consequently, as you meditate, let your awareness be still and let it cease the appearance of chasing after its desires. To achieve this state of equanimity is what is meant above by the verse, *"Make the Creator sit on his base."* In other words, be aware that awareness does not move, and experience your center as "centered" and still.

From time to time, your awareness will seem to resume its pattern of appearing to be in motion and moving from one topic to another. When it does this, simply bring everything back to that still point, to the eye of the storm. This going outward from the still point into the world of form and then back again is what is referred to in the

text as “*running and returning*.” Additionally, you don’t have to struggle with your mind to accomplish this. When it runs, just gently bring it back.

There may also be times during meditation when everything stops and you literally disappear into complete oneness, and then there will be other times when your awareness gravitates toward specific topics. In general, if your mind needs to go elsewhere, you don’t need to struggle against it so long as it is still heading toward a positive state. For example, if my mind is caught up in a rehash of conflicts experienced during the day, that’s not what I want it to be stuck on. In that case, I just do the breathing exercises and mantra to help the mind release its grip on those particular thoughts. On the other hand, if your mind is gravitating toward some other exalted state, then that’s fine. There may be an important message or lesson there for you to receive, or maybe just someone for you to think about and send a blessing to.

When I was young, I did a lot of very high powered mediation techniques that greatly over stimulated my higher centers, and as a result, I was pretty dysfunctional as far as the physical world goes. That’s not what you want to achieve here. The goal is simply to open these higher centers so that more light can flow into you and so that more options and knowledge will be available to you. The goal is not to get stuck in any particular place, and in my experience, with practice and understanding, it is entirely possible to attain absolute oneness with everything and still have a cup of

coffee and get dressed and get to work on time. It's all a matter of being able to shift your balance point to the position most appropriate for the task at hand. And finally, if you are having difficulty stimulating and opening up the energy vortexes in your head, then meditate on your heart center instead. Since most of us know the experience of love, focusing on this center can be easier for many, and when it is appropriate, the other flowers will also blossom in their own time.

Getting in the Mood

The most important journeys to take are not necessarily the most exotic ones, but rather the simpler ones that take us from a negative mood to a more positive one. Throughout the day we often say things to ourselves such as, "That disappointed me," or "You made me angry." However, if you tend to get upset as people cut you off in traffic, then the next time that happens, let yourself be aware of what is going on and react differently. Once you've done this a few times, you begin to realize that it's not the other person that made you angry. It is yourself that has chosen to react in that manner. The question now is this. Do you want other people and circumstances to control your every reaction to events, or do you want to be the one in charge? When we realize that we are the ones that are choosing to be upset, we can quit blaming others, and we can regain power over our own circumstances. So, the exercise in this section is to simply go through the day monitoring your reactions to things. And as

your awareness grows, realize that it is you who has the power to decide whether your reaction is going to be positive or negative. If you find yourself having a knee jerk reaction of anger or hostility, pause and ask yourself if this is what you really want. At every step, you have the power to determine what your state of consciousness should be.

That's Entertainment!

One of the most widely used methods by which people change their mood or state of consciousness is through entertainment. The whole purpose of television, movies, music, books, and so on is to transport us to a particular state of being. The process is simple and very effective. Many movies reinforce qualities that we often want to instill in ourselves. Devotion to what is right, the triumph of good over evil, the righteous being rewarded, true love, and many more. However, many other examples from these genres accentuate negative characteristics. Excessive greed, lack of concern for others, extreme violence, and the list goes on and on. I've often found it interesting how different people gravitate towards different themes in their entertainment. For example, I've generally been attracted to films that have a fantasy or surreal component. Such movies tend to reinforce my conviction that the world is much more magical and mystical than most people realize. I've known other people that are drawn to stories of conflict, and quite often the stories seem to reflect

conflicts that they are trying to resolve in their own lives. I am not trying to say with absolute finality that one type of movie is always good and another is always bad. I think it depends on the needs of the person. However, you do want to realize that these movies are programming you to some extent. They are invoking particular emotions and ways of being. Consequently, you want to ask yourself as you watch a movie if this is something you really want to be a part of your being. There are two exercises here. The first is to make a list of the titles and kinds of movies you like to watch, and then use that list as a mirror to give you greater insight into yourself. Ask yourself what you got from each movie and what it was that made you pick each particular film. The second task is to make a list of movies that you feel have been very beneficial to you. These are movies that you may want to watch again and again because of the positive programming and values they will instill. You can also do this same exercise with all other forms of entertainment, because the goal of each is the same, to shape our state of consciousness in some form or fashion. As a result, this is also a reminder of why it is good to study *Torah* or other inspirational text at the end of the day. Feed your soul with righteousness, not violence.

Climbing the Tree of Life

Another way in which we can make subtle alterations to our state of consciousness is through the actions and activities we choose to involve ourselves in. More

specifically, we can use activities related to the various branches of the *Tree of Life* to travel around that tree. This is a good exercise to consciously participate in because quite often we narrow the focus of our lives to just a few things. By traveling the entire breadth of the *Tree of Life*, we can ensure a more balanced existence for ourselves. For example, as a mathematician, I am often on the branch of *lamed* (learning) that connects *Yesod* (Foundation) to *Hod* (Glory, left brain). As I intensify my study and tighten my discipline, I climb higher upon the left pillar of tree until I reach *Binah* (Understanding), the place of higher understanding and depth of comprehension for the topic I've chosen. However, because of my proclivities towards mathematics, I may not spend as much time on the right side of the tree as I should. In other words, I shouldn't leave my right brain undeveloped as a result of accomplishing so much with my left brain. Thus, activities are also needed that involve the skills and qualities of that side of my being. Faith, meditation, art and music, and listening to our intuition all help transport us from the form side of our being to the formless side that the right hemisphere of the brain represents. In fact, anything that has indistinct boundaries, but which is also not harmful to us, can serve as a pathway into the right pillar of the *Tree of Life*. And finally, there are those activities that correspond to the middle pillar of the tree and which balance and synthesize the left and right sides of our being. For me, the most important activity on the middle pillar is the study of *Torah* and rabbinic texts. In my life, this provides the strong foundation upon which everything else will be built.

The exercise for this section is to think about the things you do and decide where they would be placed on the *Tree of Life* with respect to both the branches and the various *sefirot*. As you do this, you may discover that your experience of the tree is incomplete. You may be very advanced in some areas and very undeveloped in others. For example, this is something I have often seen in academia. I have seen countless examples of people who are brilliant in their particular discipline and complete fools in other areas of their lives. It often has amazed me how people can be so wise in one area and so bereft of common sense in others. In fact, that is why years ago I chose a path that was different from the one most of my mathematical colleagues follow. I wanted to grow in the discipline that I loved, but I also wanted to be a balanced person and have a lick of sense with respect to other things, too. As with many things, it's an ongoing struggle, but also one that is worth the effort. To give you an idea of how to complete this exercise, below is a list of some of my activities and where I might place them on the *Tree of Life*.

Studying mathematics – Whenever I need to travel that path from *Yesod* to *Hod*, or in other words stimulate the left side of my brain, then I usually just sit down and do a few math problems. If I am involved in deeper issues such as planning my lectures and my lesson plans, then this requires more left brain discipline and I ascend the left side of the tree from *Hod* to *Gevurah*. If, however, I am involved with mathematics at a more creative level such as developing new theorems or new proofs or

illustrations of existing theorems, then I am operating through the triad of *Keter*, *Chokmah*, and *Binah*. This triad represents the creative process where we begin with intent (*Keter*), receive inspiration (*Chokmah*), and then clothe that inspiration in form and structure (*Binah*).

Studying *Torah*, *Tanach*, and rabbinic literature – This endeavor covers the same territory as studying mathematics as well as many other branches of the *Tree of Life*. It begins on that branch *Tav* that connects *Malchut* (Kingdom) with *Yesod* (Foundation), and the first impact is the instillment of positive instructions into our being. From there, things can branch out in several directions. If we engage in critical study and analysis, then we utilize our left brains. If we let ourselves merge with the fervor and emotion found in many of the *Psalms*, then we enter into our right brain state of awareness. And if we let the message of the *Torah* stimulate our sense of compassion, then we travel directly upward on the path from *Yesod* (Foundation) to *Tiferet* (Beauty and Harmony). With a little thought, you will realize how the *Torah* (used here, by me, in the more inclusive sense of all *Biblical* and rabbinic literature) can be a vehicle for traversing the entire tree. Consequently, it is no wonder that in *Proverbs* we read,

Her ways are ways of pleasantness, and all her paths are peace. She is a Tree of Life to those who lay hold on her; and happy is every one who holds her fast. (Proverbs 3:17-18)

Exercising and eating a good diet – This is just another part of that path from *Malchut* (Kingdom) to *Yesod* (Foundation). By eating right and keeping fit, you are fulfilling the commandment to choose life (*Deuteronomy 30:19*) and helping to create a good foundation upon which to build. Additionally, eating properly is also part of *Mem*, the horizontal path that represents water and that may be used to balance the left and right sides of *Hod* (Glory) and *Netzach* (Eternity). We can conclude this because that path corresponds physically to the abdominal area where the stomach and digestive processes take place.

Meditation and journeys – This, of course, has been the whole topic of this chapter, and it is generally an endeavor that takes us along the path of *nehemah* (faithful) from *Yesod* (Foundation) to *Netzach* (Eternity). Through meditation and journeying, we enter the more formless right hemisphere of the brain where sequential time is no longer an issue and all things exist in eternity. From there we can ascend upward through *kavannah*, spontaneous prayers and devotions, and higher still through *berachot*, blessings and praises.

Music – All artistic endeavors tend to have a connection with the right side of the tree as faith and intuition often have to guide our steps. In the past, I've played French horn, guitar, and Native American flutes. More recently, though, I haven't spent much time on these activities. Consequently, I need to make more time for music to ensure that balance is restored.

Writing a book – The activity of writing a book such as this stimulates the creative triad of *Keter* (Crown), *Chokmah* (Wisdom), and *Binah* (Understanding). Inspiration, the muse, seems to come from without and is received in the right hemisphere of the brain as Wisdom. From there structure must be added by the left side of the brain known as Understanding. The combination of these two is *Daat* (Knowledge). The process involved in writing a book, however, is the same for any creative endeavor. It matters not whether it is scientific or artistic. The text below from *Genesis Rabbah* implies that we are meant to be co-creators with God, and consequently, it is important for everyone to go on creative journeys.

Whatever was created in the first six days requires further preparation, e.g., mustard needs sweetening, vetches need sweetening, wheat needs grinding, and man too needs to be finished off. (Genesis Rabbah XI:6)

Compassion – The path from *Yesod* (Foundation) to *Tiferet* (Beauty) corresponds to the letter *Resh* which stands for *rachamin*, compassion. This word in Hebrew is related to the word *rechem* which means “womb.” In other words, the love that a mother has for that child in the womb is the model or archetype of what is meant by compassion. As I look at my own personal tree and the activities I’ve placed on it, I realize that this is the next area for me to work on. I have developed the lower triad of *Hod* (Glory/Left Brain), *Netzach* (Eternity/Right Brain), and *Yesod* (Foundation) by acquiring personal learning and meditative skills and establishing a good foundation. I have also developed the creative triad/spiritual triad of *Keter* (Crown), *Chokmah* (Wisdom), and *Binah* (Understanding) by engaging in intense creative activities. However, so far I have spent less time developing the moral or compassionate triad of *Gevurah/Din* (Strength/Justice), *Chesed* (Love/Mercy), and *Tiferet* (Beauty/Harmony). Thus, this will become a particular area of focus for me in the year to come. As it says in *Michah* 6:8,

It’s been told to you, my friend, what is good, and what the Source of Life requires of you. Only to do justice, and to love mercy, and to walk humbly with your God. (Michah 6:8)

Space Travel

Back in Part I, I mentioned that I was particularly good at folding time and space. By negating the distance between you and another location, you can become one with that place. Some may use this for remote viewing, trying to see what is physically occurring at a location, but I generally use it to connect with people I haven't seen for awhile. In so doing, remember that there is etiquette and protocol on this spiritual level just as there is on the physical plane. When we greet someone on the physical plane, we usually smile and then if it is appropriate, shake their hand or give them a hug. In a similar manner, you need to respect people's boundaries just as much on the spiritual level. In fact, just in case you have doubts about whether such nonphysical connections with other people are possible, just review your own life to see if there was a parent or a spouse or other person in your life whose energy was always reaching out and smothering you. This illustrates the inappropriate way to connect. Also, if you yourself have experienced this sort of controlling energy net, then doubt removed!

Those people we are closest to and have an emotional connection with are the easiest to link with. Furthermore, it doesn't have to be someone you have necessarily even met in the physical plane. For example, few of us have personally met the top political personalities in our country, but nonetheless, they have spent considerable

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time making a connection with the general population. Because of this connection, we can merge with them and see through their eyes even if we haven't met them in the physical. The information is still there and available for us to access!

Additionally, we can unite not only with people, but also with pets or other animals and even with places. Here are a few experiments to try.

In this first exercise, think of someone you are close to that you want to visit. It could be a friend, a relative, or a lover, for example. Whoever you pick, just hold their image in your mind and open yourself up to the way their energy feels. Remember that physical distance makes no difference in this work. You simply eliminate the distance in your mind so that they are standing next to you as they would in a dream. The stronger the feeling bond, the more your wave form and theirs will be able to unite and communicate. Be careful only to touch them lightly, and don't overwhelm their energy with yours. You have to be polite and respectful, just as you are in the physical world. What is generally appropriate, though, is to surround someone with love from your heart and then give them a blessing before moving on. However, if you feel any resistance or push from them, then you can be sure that you've gone too far and that their energy is just trying to politely tell you to bug off! Respect their wishes.

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In this next exercise, you want to merge with a pet. If, however, you don't have a pet, then try merging with a plant or other object in your environment. Again, the exercise is simple. When I look at my dog, for instance, there is a lot of information my brain is receiving with regard to her. I just need to let my conscious mind process that information so that we can communicate better. We usually do this anyway, but at a more rudimentary, subconscious level. For example, we may consciously say that our pet can't talk with us, but don't we know when they are happy and when they are perturbed? Our animals are communicating with us constantly even though they don't use words in the way we do. By letting myself meld with my dog's consciousness, I can sense her communications in terms of images and feelings as opposed to words. As you improve at this, you will develop a greater and more satisfying bond with your pet.

If you don't have a pet, then try this exercise with a plant or a rock. Everything has a feeling tone to it, and consequently, everything has a message for you and a story to tell. For example, just step into any place in nature and open yourself up to how the place makes you feel. Does it feel harmonious? Peaceful? Or does it feel disorganized or unbalanced or scary? Does it feel like a safe, nurturing place? Or does it feel threatening? Whichever it is, if you reflect, you will realize that we are constantly receiving information about the quality of different places. We just usually filter out and ignore that information. Filmmakers, however, use that

information a bit more consciously in order to create the ambiance they want the movie to project. Also, I remember how for years I would get disoriented if I walked into a graveyard or a liquor store. In the former case, I could sense the lifeless bodies beneath me, and in the latter I would be overwhelmed by the spirit of intoxication contained in the bottles. I finally found a solution to the latter, though. I just quit walking into liquor stores! At the other end of the spectrum, you can find places that are very balanced and very spiritual to bond with. One such place that impacts almost everyone who goes there is the Kilauea Volcano in Hawaii. Regardless of a person's background or religion, most people who visit the volcano seem to sense immediately that there is something very awe inspiring and sacred about that site. In another part of the world, when my wife and I decided to build a house, I chanced upon a parcel of land that had an uncommon sense of balance and spiritual energy. My wife had no idea what I was doing standing in that field with my hands stretched out as I took in impressions. However, when I asked my wife to step out of the car and close her eyes and tell me what she felt, she immediately said, "Peace." The house we built is now finished, and when people come to our place, they not only remark on how beautiful the home is, but also on what a tremendous feeling of peace they get upon entering this domain. What I've described with places, you should now try with plants. Just let your awareness merge with the plants in your environment and let your left brain decode the information you are receiving. Most plants won't be that

loquacious, but there are a few varieties that have much to say. I'll let you discover that for yourself!

In the late nineties, an interesting movie titled *Being John Malkovich* was released. In this movie, a portal was discovered that allowed people to secretly spend fifteen minutes looking at the world through the eyes and the brain of actor John Malkovich. In this exercise, this is exactly what you will do, though with a different person. I recommend trying this exercise with a national political leader that you feel an emotional affinity with. Since most such leaders spend considerable effort trying to establish an emotional bond with people, this journey is, as a result, a fairly easy one. Hold an image of that person in your mind as you feel and blend with their energy. And now, instead of merely looking at them, allow yourself to look through them, to see the world through their eyes and to view events through the lens of their mind. Let yourself feel their feelings and comprehend their motivations. If you succeed at this experiment, the results can be very enlightening. Additionally, as you learn better and better to see the world through the personality mask that someone else wears, you will begin to realize that your own personality is just another mask to be worn. It is certainly the one you are most familiar with and the one you want to keep coming back to, but nevertheless, an important milestone is to realize that there is a “you” that exists beyond the mask. And that is a great lesson!

Time Travel

Just as space is something that may be eliminated by the mind, so can time also be eliminated. You can journey both into the past and into your future. To go backward, try this exercise. Think of a place or a person from your past that you want to visit. To go there, all you have to do is relax and have the proper intent. In your mind, rebuild the scene that you want to visit. If you have an emotional bond with that scene, then it will be easy to step into it. Generally, the only thing that holds us back is the belief that it is impossible. As you let the feeling bond between you and this past scene increase in strength, it will become easier to actually step into that scene and experience once again those places and people from your history.

However, you probably won't want to linger too long there. After all, you are here and not there. There is a reason why it is the past and not the present. For most people, unless you have made some terrible mistakes, you will realize that age has also brought you a degree of wisdom and wholeness that was less evolved when you were younger. If that is the case, then you will realize that the here and now is where you want to be. However, before abandoning the past, give a blessing of love to both yourself and to others that you are interacting with. In our youth, we often hurt people without meaning to. That, unfortunately, is part of growing up. But by adding love to a past situation, we are only adding something good to the past that can have a healing impact on the present.

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Another exercise you can do is to use your mind to journey back to some pivotal moment in your life when you made a decision that had a decisive impact on your life. Now try making a different decision and see what the consequences would have been. In so doing, you are traveling down a path through a parallel reality. Often times, when you do so, you will realize there were deeper reasons for the decision you made. Other times, you will discover that your current circumstances are an attractor that you would have been brought to regardless of the earlier choice you made. And in still other circumstances, by following a different path to see where it goes, you may wind up enlarging your own history in such a way that you are better led to where you're supposed to be.

In addition to past travel, you can also travel into your future. Again, balance, visualization, and intent are the keys. However, be aware that several possible futures are available for you, and that we constantly sift through them to choose the one we think is best for us. To do this exercise, though, just relax and intend to see where you will be one year from now, two years from now, or maybe at some further point in the future. Years ago, I saw my wife and myself together in a beautiful place in Arizona, and now thirty-five years later, here we are. The future is both something that exists and something that we choose and build, and just as there are many possible futures for us, there are also many pasts to explore. Those that embrace the

roads we took, and those that represent the road not taken. However, by using our will, we can explore all that the multiverse has to offer!

Guides

The Hebrew word for angel, *malach*, means “messenger.” Throughout the *Bible* there are frequent stories of messengers that are sent by God in various forms to both advise and challenge mortal man. For example, angels visit Abraham in the guise of men, and he offers them his hospitality. Joseph received messages in dreams pertaining to the fate of Egypt. And Jacob wrestles with an angel and receives both a wound and a blessing. This latter story is also a reminder to us that it is often the trials we have to go through that forge who we are. We can’t go through these travails without receiving some wounds, but at the same time, it is the struggle itself that makes possible the blessings that follow.

Many of us, too, have angels or messengers that assist us. We just have to be open to them. To attempt contact, wait until you are in a relaxed and balanced frame of mind and can feel the light reserved for the righteous nourishing your being. By being in such a state, anything negative or undesirable will automatically be excluded. When you are ready, just turn your attention to the issue of guidance, and ask if there is any guardian there helping you or that has a message for you. Sometimes a guardian will

be a higher part of your own being, and sometimes it might be the soul of someone departed or some other being that is close to you. Regardless, you don't want to fake it just for the sake of having a guide. Whatever you feel, it should feel genuine and safe. Otherwise, simply acknowledge that now is not the time to make contact. Additionally, if you do feel a genuine contact, keep the following in mind. While in any endeavor there will exist superstars, most of us must be content with being plain ol' average. So it is with contacting guides. I sometimes feel the presence of certain people and beings very strongly, and sometimes weakly. My messages, though, generally consist of either confirmation that I'm on the right track or subtle advice to go on a different path. It's not terribly detailed stuff such as, "Here's everything that will ever happen to you over the next fifty years." Some people will get information of that sort, but most of us must be content with just average results. And that's really all we need. The second thing, though, to watch out for is simply fooling yourself, and this is one of the reasons why you have to have a good foundation and be in good balance. Otherwise, when a personality is distorted, one tends to hear only the distorted chatter coming from within one's own head. One of the most painful and difficult passages in the *Torah* is when God tells Abraham to sacrifice his own son, Isaac, and Abraham, without complaint, says, "You got it!" We can be poetic and philosophical about such stories that occurred so long ago, but when we read more recent headlines in a paper about a mother who kills her children because she believed God told her to do so, we are appalled. In all situations, never give up your

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free will. Never give up your divine right to choose. By taking this approach, interaction with guides, angels, and messengers that you sense can enrich your life while at the same time, you keep everything in proper perspective by not abdicating your right to choose.

And finally, even if you don't feel the presence of specific messengers, there is one more voice you can listen to for guidance and advice. As it says in *First Kings*,

And, behold, the Lord passed by, and a great and strong wind tore the mountains, and broke in pieces the rocks before the Lord; but the Lord was not in the wind; and after the wind an earthquake; but the Lord was not in the earthquake; And after the earthquake a fire; but the Lord was not in the fire; and after the fire a still small voice. (I Kings 19:11-12)

Be still, and know the voice of God.

Dream a Little Dream of Me

A manner in which you can go on a journey every night is through dreams. As it says in the *Talmud* and as we mentioned previously in this chapter,

A dream which is not interpreted is like a letter which is not read.

(B. Berachot 55a)

Some people have very active dreams lives while others have far greater difficulty in remembering their dreams. In general, younger people often sleep more soundly while the sleep of the elderly is very light. Again, as we've previously noted,

“One shall rise up at the voice of a bird (Ecclesiastes 12:4),” — even a bird will awake him from sleep. (B. Shabbath 152a)

Nonetheless, in spite of one's age, one can generally improve one's recall of dreams through the simple intent to remember them. If you put a pencil and a notebook on an bedside table, this will affirm your desire to remember and record your dreams.

Dreams can be of vastly different quality and texture, and the nature and content will differ from person to person. Many dreams are of a more ordinary quality that seem to reflect the events and emotions of the day that has just passed. Some are common nightmares such as the one that many college students have that they've signed up for a course and have forgotten to attend class for the entire semester. When I became a teacher, this nightmare changed to one in which I had been assigned to teach a course and the whole semester has passed without me being present during a single class

period and suddenly it's the day that I'm supposed to give a final. Talk about being relieved to wake up! Other dreams we have are recurring dreams in which we continue to explore particular themes and adventures. These dreams often have important messages for us that we need to hear. Dreams will also be populated by symbols that are often personal, but at other times are near universal. For example, if you dream of a house or a car that you own, that often seems to symbolize the person's own body or life.

In addition to the regular dreams, there are often dreams one will have from time to time that have an entirely different quality. For most people, these dreams are rarer and intermittent. One such dream that we mentioned earlier in this chapter that has become part of popular culture is the lucid dream. These are dreams in which the dreamer regains a degree of waking consciousness while still within the dream state. As a result, the lucid dreamer can direct the dream action and experience a greater degree of unshackled freedom than what the physical world offers. An even rarer type of dream, though, is the high dream. These are dreams in which the dreamer goes into a transcendent state of consciousness while dreaming, and for me, these are more frequent than lucid dreams. In my most recent high dreams, I've found myself walking down crowded markets and narrow alleys in Israel. Emanating, though, from everything around me is a spiritual light that transports me to a higher state of

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consciousness. The light is also something I sense when I hold a piece of limestone quarried in Jerusalem. In the dream, this light is simply magnified many more times. You can see that many journeys and many discoveries are possible through dreams. What is above barely scratches the surface. To begin your dream vacation, though, simply have the intent to begin remembering your dreams. Again, a pad and pencil placed by your bed will reinforce this intent. And if you still need help, waking up briefly in the mid-morning hours and then returning to sleep usually intensifies one's dreams. However, once you get in the swing of things, you will learn that a dream journal can be a very effective mirror for you of what is going on in your life and what lessons you need to learn. As was noted above, "*A dream which is not interpreted is like a letter which is not read.*" May you read your mail often!

Nature

When I was growing up, I learned from my society that nature was a thing. Even though it is teeming with life, it was treated as lifeless and as having value only as a commodity. Even though it is connected with us, in our cities and towns nature was usually kept in those small zoo cages known as the front yard and the backyard. It was certainly not seen as something you could communicate with. When I was older, though, and met some traditional Native American medicine people, I realized that they had an entirely different way of relating to nature, and that their understanding of

the natural world was something very important that had been missing from my upbringing. Again, our beliefs about the world affect our perceptions and what we will allow ourselves to experience.

Once upon a time, Judaism was more connected with nature than it often appears today. Nature spirits were never worshipped in Judaism, and such worship is, of course, contrary to the tenets of Jewish faith, but nonetheless, there was a close connection in ancient times between Jews, God, and the natural world. For example, there were places that could be sacred such as the location known in the *Bible* as both Horeb and Sinai and that is referred to as “the mountain of God.”

And Moses kept the flock of Jethro his father-in-law, the priest of Midian; and he led the flock far away into the desert, and came to the mountain of God, to Horeb. (Exodus 3:1)

Exalt the Lord our God, and worship at his holy mountain; for the Lord, our God, is holy. (Psalm 99:9)

In ancient times, we, furthermore, find God associated with additional natural phenomena such as riding on clouds and speaking through thunder.

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Behold, the Lord rides upon a swift cloud. (Isaiah 19:1)

*Sing to God, intone hymns to His name; praise Him who rides on the clouds;
His name is the Lord, exult in his presence. (Psalm 68:5)*

*Who makes the clouds his chariot; who walks upon the wings of the wind; who
makes the winds his messengers (angels). (Psalm 104:3-4)*

*The voice of your thunder was in the whirlwind; the lightnings lightened the
world; the earth trembled and shook. (Psalm 77:19)*

*You called in trouble, and I saved you; I answered you in the secret place of
thunder; I tested you at the waters of Meribah. Selah. (Psalm 81:8)*

*At this also my heart trembles, and is moved from his place. Hear attentively
the noise of his voice, and the sound that goes out of his mouth. He directs it
under the whole heaven, and his lightning to the ends of the earth. After it a
voice roars; he thunders with the voice of his excellency; and he will not
restrain them when his voice is heard. God thunders marvelously with his
voice; he does great things which we cannot comprehend. (Job 37:1-5)*

Rav Huna said, "If you cannot comprehend the essential nature of thunder, can you comprehend the essence of the world?" (Genesis Rabbah XII:1)

Through the brightness before him were coals of fire kindled. The Lord thundered from heaven, and the most High uttered his voice.

(II Samuel 22:13-14)

Also in the *Bible*, we find messages that speak both to the interconnectedness of all things and to communication with the natural world.

Rab Judah said in Rab's name, "Of all that the Holy One, blessed be He, created in His world, He did not create a single thing without purpose. Thus, He created the snail as a remedy for a scab, the fly as an antidote to the hornet's sting, the mosquito crushed for a serpent's bite, a serpent as a remedy for an eruption, and a crushed spider as a remedy for a scorpion's bite."

(B. Shabbath 77b)

God has made all things for its own purpose; even the wicked for the day of evil. (Proverbs 16:4)

Rabbi Johanan observed, “If the Torah had not been given we could have learned modesty from the cat, honesty from the ant, chastity from the dove, and good manners from the rooster who first coaxes and then mates.”
(*B. Eiruvim 100b*)

Ask the beasts, and they shall teach you; and the birds of the air, and they shall tell you; or speak to the earth, and it shall teach you; and the fishes of the sea shall declare to you. (Job 12:7-8)

Additionally, the sanctity of the natural world is perhaps highlighted best by *Psalm 19* where the majesty of the nature is juxtaposed with the majesty of the *Torah*. We referenced this *Psalm* earlier in this chapter, but we repeat it again because of both its beauty and the importance of its message.

To the chief Musician, A Psalm of David. The heavens declare the glory of God, and the firmament proclaims his handiwork. Day to day utters speech, and night to night expresses knowledge. There is no speech nor are there any words, their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world. In them he has set a tent for the sun, which comes forth like a bridegroom leaving his chamber, and rejoices like a strong man when he runs a race. His going forth is from the end of the

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heaven, and his circuit to the ends of it; and there is nothing hidden from his heat. The Torah of the Lord is perfect, reviving the soul; the testimony of the Lord is sure, making wise the simple. The statutes of the Lord are right, rejoicing the heart; the commandment of the Lord is pure, enlightening the eyes. The fear of the Lord is clean, enduring for ever; the judgments of the Lord are true and righteous altogether. More to be desired are they than gold, even very fine gold; sweeter also than honey and the honeycomb. Moreover by them is your servant warned; and in keeping of them there is great reward. Who can discern his errors? Clean me from hidden faults. Keep back your servant also from presumptuous sins; let them not have dominion over me; then shall I be blameless, and innocent of great transgression. Let the words of my mouth, and the meditation of my heart, be acceptable in your sight, O Lord, my rock, and my redeemer. (Psalm 19)

When I was much younger, my Kiowa medicine man friend taught me many things. His main way of helping and healing people was through blessings. He would pray to Grandfather (God) with his ceremonial pipe that blessings be brought to the people. He would greet people with a smile and an open heart to bless them. And he would often stress to me the importance of giving people small gifts so that a physical blessing would be there in their lives. In addition to the importance of healing through prayer and blessings, though, he also taught me to be aware of our

connections with the natural world, and in this respect, his teachings were like the Judaism of old. Many a time we would both walk out at night and feel a spiritual power and presence in the wind. He would immediately look at me and say, “Do you feel that, son? Grandfather has something to tell us.” And finally, he taught me such things as how to listen to the voice in the thunder and how to read the coals of a fire. This is not as difficult or as mystical as one might think, because the truth is that we are always sensing the messages that things around us have for us. We just tend to suppress those voices and pay more attention to other things. Nonetheless, which of us has not at times glanced at a fireplace or a campfire and distinguished between a warm, comforting blaze and an angry fire? Which of us has not distinguished between and felt the difference between different kinds of storms and thunder? The truth is that God’s creation is speaking to us all the time. We only have to learn to listen.

The exercise and the journey for this section is to learn to connect to the voice of nature that declares God’s glory, and to sense that presence of God “*who walks upon the wings of the wind (Psalm 104:3).*” In doing this exercise, some people will have an affinity for the day, while others, such as myself, prefer the night. All that you need to do, however, is to find a place and time that fills you with beauty. A place and time that makes it easier for you to feel awe. In many, many places in the *Bible* we encounter the phrase “*the fear of the Lord.*” In English, such a phrase seems to

counsel us for some reason that it is good be deathly afraid of God, but in Hebrew the word *yirah* that is translated as “fear” has different connotations. It also means awe or reverence. The type of awe that overwhelms us. The awe that we feel when we are in the presence of something much larger than ourselves and that, consequently, humbles us and makes us tremble and our hair stand on end. This is what that word so poorly translated as “fear” actually means. There is no spiritual benefit in being overwhelmed with panic or anxiety. However, when we experience something through nature that fills us with awe at the scope of its magnitude and humbles us by comparison, then this is the beginning of contact with a deeper spiritual reality. This is the awe that is the beginning of wisdom (*Proverbs 9:10*), and this is the final journey and exercise of this chapter. Allow yourself to return to the natural world and to experience the awe of that which created the world. Simply pick a time and place that works best for you, and using your own intent, allow yourself to hear that still voice that walks in the garden.

Conclusions

In this chapter, we’ve focused on spiritual journeys. As a preparation for these journeys, we talked at length in Part 1 about how modern science teaches us that the world is not the way most of us think it is. This was so that we could have a conceptual framework in which things such as time travel and communications of a

spiritual nature might be possible. However, we are well aware that these beliefs pick up where science stops. To continue down this path, thus, requires a leap of faith, as do all strictly religious beliefs. Nonetheless, regardless of whether one is ready or not for this leap of faith, the exercises outlined above can still be of value. Even if one sees these things as only journeys within one's own mind, they are still psychological trips that can lead to greater wholeness, integration, and understanding of one's self. Ultimately, it will have to be one's own personal experience that decides what leaps of faith you will take, and in the end, you may even arrive at the same conclusions that I have.

CHAPTER 13

THE WORK OF CREATION

***Righteousness** – The quality or state of being righteous. The consequence of being ethically upright. Also, the state of consciousness in which a spiritual light enters you through the crown of your head as a result of living a properly balanced moral, emotional, and intellectual life.*

Like the *work of the chariot*, only scant information is available regarding that other branch of ancient Jewish mysticism known as the *work of creation*. In the *Talmud*, we find the following reference and not much else.

The subject of forbidden relations may not be expounded in the presence of three, nor the work of creation in the presence of two, nor the work of the chariot in the presence of one, unless he is a sage and understands of his own knowledge. (B. Chagigah 11b)

So, there is not much to say about the *work of creation* from within the *Talmud*, and the *Talmud* even forbids talking about the subject in the presence of two.

Nonetheless, there is quite a bit that we can say about the process of creation based on both rabbinic literature and personal experience. In particular, when it comes to

creation and controlling the course of our lives, two things are required – righteousness and intent. As we said earlier, it all begins with righteousness¹.

Rabbi Eliezer ben Jacob said, “He who performs one precept acquires for himself one advocate, and he who commits one transgression acquires for himself one accuser. Repentance and good deeds are as a shield against calamity.” (Pirkei Avot 4:13)

Rabban Gamiel used to say, “Do His will as if it were your own will, so that He may do your will as if it were His will. Set aside your will before His will, so that He may set aside the will of others before your will.” (Pirkei Avot 2:2)

Then what is taught by AND TO RULE OVER THE DAY AND THE NIGHT? It refers to the righteous, who have power over what was created to give light by day and what was created to give light by night, as it is written, “And the sun stood still, and the moon stayed... (Joshua 10:13).”
(Genesis Rabbah VI:9)

The implication above is that if you are righteous, then you can control your destiny, and if you are not, then life will control you. We have probably all seen examples of

¹ Chapter 7

this sort of thing. We see some people who work hard and make their own destiny, and when they have a setback, they just pick themselves up, dust themselves off, and continue on. Other people we know are stopped by even the smallest obstacle, and their lives become very predictable. It's easy to see where they are headed because they have no personal control over the direction of their lives.

Rabbi Judah expounded, "In the time to come the Holy One, blessed be He, will bring the Evil Inclination and slay it in the presence of the righteous and the wicked. To the righteous it will have the appearance of a towering hill, and to the wicked it will have the appearance of a hair thread. Both the former and the latter will weep. The righteous will weep saying, 'How were we able to overcome such a towering hill!' The wicked also will weep saying, 'How is it that we were unable to conquer this hair thread!'" (B. Sukkah 52a)

The original optimist in the *Talmud* was Rabbi Nahum of Gamzu. He was called "Gamzu," which means "also this," because no matter what happened he would say that this, too, is for the best. The story below relates how on the surface his life seemed to have the usual ups and downs. However, by the end we see that everything worked out for the best for him and not so good for the wicked. What made the difference, though, was Rabbi Nahum's righteousness.

Why was he called Nahum of Gamzu? — Because whatever befell him he would declare, This also is for the best. Once the Jews desired to send to the Emperor a gift and after discussing who should go they decided that Nahum of Gamzu should go because he had experienced many miracles. They sent with him a bag full of precious stones and pearls. He went and spent the night in a certain inn and during the night the people in the inn arose and emptied the bag and filled it up with earth. When he discovered this next morning he exclaimed, "This also is for the best." When he arrived at his destination and they undid his bag, they found that it was full of earth. The king thereupon desired to put them all to death saying, "The Jews are mocking me." Nahum then exclaimed, "This also is for the best." Whereupon Elijah the Prophet appeared in the guise of one of them and remarked, "Perhaps this is some of the earth of their father Abraham, for when he threw earth against the enemy, it turned into swords and when he threw stubble, it changed into arrows, for it is written, 'His sword makes them as dust, his bow as the driven stubble.'"

Now there was one province which the emperor had not been able to conquer, but when they tried some of this earth against it, they were able to conquer it. Then they took Rabbi Nahum to the royal treasury and filled his bag with precious stones and pearls and sent him back with great honor. When on his return journey he again spent the night in the same inn he was asked, "What did you take to the king that they showed you such great honor?" He replied,

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“I brought there the bag that I had taken from here.” The innkeepers thereupon razed the inn to the ground and took of the earth to the king and they said to him, “The earth that was brought to you belonged to us.” They tested it and it was not found to be effective, and the innkeepers were put to death. (B. Taanith 21a)

By engaging in righteous actions, by always endeavoring to do the right thing, we can gain more control over our own lives.

And now the other thing that matters is intent. Everything begins with will or intent, and this quality also corresponds to the topmost *sefirah*, *Keter* (Crown), on the *Tree of Life*.

“AND GOD CALLED THE DRY LAND ERETZ-EARTH (Genesis 1:10). Why ERETZ? Because she conformed (razethah) to His will (razon).”
(Genesis Rabbah V:8)

A mist went up from the earth, and watered the whole face of the ground.
(Genesis 2:6)

A MIST WENT UP FROM THE GROUND, to repair the deficiency below, by 'watering the whole face of the ground'. The rising of the mist signifies the yearning of the female for the male. According to another explanation, we supply the word 'not' from the previous clause after 'mist', the meaning being that God did not send rain because a mist had not gone up, etc., it being necessary for the impulse from below to set in motion the power above. So vapor first ascends from the earth to form the cloud. Similarly, the smoke of the sacrifice rises and creates harmony above, so that all unite, and in this way there is completion in the supernal realm. The impulse commences from below, and from this all is perfected. If the Community of Israel did not give the first impulse, the One above would not move to meet her, for by the yearning from below completion is effected above. (Zohar I:35a)

As we see from this last passage, just as the mist first had to rise before water came down to the ground, so does the impulse to change and to create change have to begin with us. Furthermore, since we are made in the image of God and since God is a creator, so are we meant to be co-creators with God. This is indicated in the following passage from *Genesis Rabbah* that we have encountered before²,

² Chapter 12

Whatever was created in the first six days requires further preparation. Thus, mustard needs sweetening, vetches need sweetening, wheat needs grinding, and man too needs to be finished off. (Genesis Rabbah XI:6)

This quotation shows that what God began is to be finished by man. We, too, participate in the Creation.

We've mentioned previously³ that there are two types of creation – *yesh m'yesh* or something from something, and *yesh m'ayin* or something from nothing. The “something from something” type of creation is talked about extensively in the *Sefer Yetzirah*, and I often refer to it as “Jewish Feng Shui.”

“Twenty-two foundation letters: He engraved them, He carved them, He permuted them, He weighed them, He transformed them, and with them, He depicted all that was formed and all that would be formed”
(Sefer Yetzirah 2:2)

“Twenty-two foundation letters: He placed them in a circle like a wall with 231 gates. The circle oscillates back and forth. A sign for this is there is nothing in good higher than delight (oneg), there is nothing evil lower than

³ Chapter 9

plague (nega).” (Sefer Yetzirah 2:4)

“He permuted them, weighed them, and transformed them. Aleph with them all and all of them with Aleph. Bet with them all and all of them with Bet. They repeat in a cycle and exist in 231 gates. It comes out that all that is formed and all that is spoken emanates from one Name.” (Sefer Yetzirah 2:5)

“Two stones build 2 houses, three stones build 6 houses, four stones build 24 houses, five stones build 120 houses, six stones build 620 houses, seven stones build 5040 houses. From here on go out and calculate that which the mouth cannot speak and the ear cannot hear.” (Sefer Yetzirah 4:16)

Mathematically, if you have 2 objects, then you can make 2 permutations of those two objects. If you have 3, then you can make 6 permutations, and if you have 4, then 24 permutations are possible, and so on. Here the *Sefer Yetzirah* correctly identifies the number of different arrangements that can be made from each set of objects. Also, if we begin with 22 letters and want to determine how many combinations can be constructed by first picking one of the 22 letters and then one of the remaining 21 letters, the answer is 231. Again, *Sefer Yetzirah* is doing the math correctly. Furthermore, by stating above that the Hebrew word for “delight” may be derived simply by rearranging the letters in the Hebrew word for “plague,” the *Sefer*

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Yetzirah is trying to tell us that we can change our environment simply by rearranging what is already there. Or as I like to say, the only difference between a clean house and a messy house is how you have arranged the contents. This is “something from something” creation, and the first step in changing either your house or your personal life is simply to clean up the clutter. A lot of improvement may be had simply by organizing various aspects of your life such as your time, your priorities, and your money. When I began graduate school in mathematics, by that time I was old enough to realize that I simply needed to schedule my time well so that I would make progress every single day toward completing assignments and mastering what was required for my ultimate goal. Thus, if your life is in shambles, a good place to start is by cleaning your house. From there, order and organization will tend to spread.

The other type of creation is the “something from nothing” type of creation. This is the type that we generally associate with God.

“He formed substance out of chaos and made nonexistence into existence. He carved great pillars from air that cannot be grasped.” (Sefer Yetzirah 2:6)

In ancient Greek and Roman thought, inspirations were thought to come from outside of ourselves. The source was identified as either a *muse* or *genius*. Today we don’t think of our genius as an exterior force, but the mystery still remains if we examine it.

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When we have a new thought or inspiration, where does it come from? Whatever the source, these inspirations are our way of participating in the “something from nothing” type of creation. Furthermore, every new thought we have changes the world. In many respects, this is akin to quantum physics where the choices we make can determine the reality that will be observed.

“How greatly is it incumbent on a man to study the Torah day and night! For the Holy One, blessed be He, is attentive to the voice of those who occupy themselves with the Torah, and through each fresh discovery made by them in the Torah a new heaven is created. Our teachers have told us that at the moment when a man expounds something new in the Torah, his utterance ascends before the Holy One, blessed be He, and He takes it up and kisses it and crowns it with seventy crowns of graven and inscribed letters. When a new idea is formulated in the field of the esoteric wisdom, it ascends and rests on the head of the The Righteous One, The Life of the Universe, and then it flies off and traverses seventy thousand worlds until it ascends to the 'Ancient of Days'. And inasmuch as all the words of the 'Ancient of Days' are words of wisdom comprising sublime and hidden mysteries, that hidden word of wisdom that was discovered here when it ascends is joined to the words of the 'Ancient of Days', and becomes an integral part of them, and enters into the eighteen mystical worlds, concerning which we read 'No eye hath seen beside

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thee, O God' (Isaiah 64:3). From thence they issue and fly to and fro, until finally arriving, perfected and completed, before the 'Ancient of Days'. At that moment the 'Ancient of Days' savors that word of wisdom, and finds satisfaction therein above all else. He takes that word and crowns it with three hundred and seventy thousand crowns, and it flies up and down until it is made into a sky. And so each word of wisdom is made into a sky which presents itself fully formed before the 'Ancient of Days', who calls them 'new heavens', that is, heavens created out of the mystic ideas of the sublime wisdom. As for the other new expositions of the Torah, they present themselves before the Holy One, blessed be He, and ascend and become 'earths of the living', then they descend and become absorbed into one earth, whereby a new earth emerges through that new discovery in the Torah. This is implied in the verse, 'For as the new heavens and the new earth, which I am making, rise up before me, etc.' (Isaiah 64:22). It is not written 'I have made', but 'I am making', signifying continual creation out of the new ideas discovered in the Torah." (Zohar I:4b-5a)

Intent creates our path for us, and if you think about it, everything creative you have ever done has begun with the intent to create. When I began graduate school in mathematics, I had the intent to learn and to obtain some higher degrees. For the most part, though, I had to put forth a lot of hard effort and follow through with my

intent. Nonetheless, there is a part of our subconscious that tends to work on things automatically once we have properly impressed our intent upon it. For example, as a graduate student, I solved most of my homework and dissertation research problems using what I called the “how the heck” method. I would simply look at each problem and then say, “How the heck do I do this one?” What was important, though, was that I had a strong intent to solve these problems, and so my subconscious immediately went to work on it, and invariably a few hours later an inspiration would automatically pop into my head. The only part of the process I was in control of was the actual expression of my intent, the intensity of desire to know. Another example of intent goes way back to my childhood. When I was very little, I would, along with most other Americans, watch the Miss America pageant every year, and I would wonder what it would be like to be Miss America’s boyfriend. Surprisingly, I got a taste of that experience years later. As a freshman in college, I had a professor who was a friend of the coach of one of the contestants in the Miss America contest. One day after class he walked up to me and said, “Benton, get ready! You’re taking Miss Michigan to lunch!” And so I got to escort a very polished contestant to lunch that afternoon at the Hilton Hotel in Dallas. A week later this woman was crowned the new Miss America, and I have no doubt that my childhood wish played a role in putting me in the right place at the right time to have a lunch date with Miss America. As it says in *Ecclesiastes*,

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Cast your bread upon the waters, for you shall find it after many days.

(Ecclesiastes 11:1)

At this point, let's try a few exercises in conscious creation. The first exercise involves *yesh m'yesh*, something from something creation. What you want to do here is simply clean up your house. The goal is to experience how a simple rearrangement of what already is can change the way you experience your world. You can begin either large or small. If your time and energy are limited, then focus on just a single room. Otherwise, expand your project to include the entire house as well as the yard and maybe even your office or work space as well. Additionally, the results will be proportional to the effort you make. You want to accomplish the creation of an environment that is comfortable, lean, and fluid and that allows energy to flow freely. As a start, this usually means getting rid of the clutter in your life at all levels – emotional and mental as well as physical. A good approach is to look at each space in your personal environment and ask yourself what needs to be changed. Ask yourself what would make the space more pleasing to look at, more functional, and enhance the sense of energy. Think about it and turn it over and over again in your mind. Spend not just an hour, but a few weeks on this project in order to do it well. And when you are done, bring in some friends and ask for their opinions. As it says in *Proverbs*,

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Without counsel plans come to nothing, but when the counselors are many, plans succeed. (Proverbs 15:22)

Once you have finished rearranging your external environment, now try and do the same with your internal environment. Look to see which thoughts and impressions are just extra baggage in your life. Look also at the patterns in your life that are not serving you well. Make an actual list of what changes need to be made in both your thinking and your feeling. Then, just as you have trimmed your physical environment, so can you safely jettison all your mental and emotional clutter. This can be an ongoing project, so you might pick just one internal characteristic at a time to focus on. Nevertheless, take note of what the results are over time.

This next exercise also involves *yesh m'yesh*, something from something creation. Recall how in our chapter on mathematics we saw that some processes can wind up creating a rut where you do the same thing over and over each day. If it's a good rut, that's fine, but for many people the rut is one that stifles future growth and creativity. To get out of this rut, you simply need to create a different starting point for yourself. You can do this by introducing a new element into your life, a new variable into the equation that you use to create tomorrow. By so doing, you shift and modify the pattern of your flow. For example, when I was young, I made it a point of acquiring one new skill each year. Again, as it says in *Ecclesiastes*,

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In the morning sow your seed and in the evening do not be idle, for you cannot know which will succeed, this or that, or whether both are equally good. (Ecclesiastes 11:6)

Consequently, each year I would find some new hobby or field of study to enjoy, and many of those efforts have born fruit that enrich me to this day. You can similarly make positive changes in the direction of your life by adding new variables. Try new challenges or join new groups to see where they take you. But at the same time, choose wisely. You only want to add things to your life that your heart tells you will be of real value and benefit to your existence. That is the litmus test. You don't want to wear yourself out with unnecessary activities or choose things willy-nilly. You want to choose things that will truly be life enhancing. Additionally, it is always good to try and find some sort of charitable or kindness activity to combine with your choice. As we read in *Proverbs*,

The soul who blesses will prosper, and he who waters shall be himself be watered. (Proverbs 11:25)

Now we are going to turn our attention to *yesh m'ayin*, something from nothing creation. When we say "something from nothing," though, don't think we are implying that we will or should get a free ride from the universe. That is simply not

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the way the world is set up. A basic law of physics is that every action has an opposite and equal reaction. Think of this as saying that everything in this world comes at a price, and you are not going to get unless you also give. In this world, for everything you get, you're going to have to pay the piper in some way or another. As it says in *Proverbs*,

Treasures wrongly come by give no benefit, but righteousness (charity) saves from death. (Proverbs 10:2)

Riches that come without effort shall dwindle, but he who gathers little by little by hand shall increase. (Proverbs 13:11)

Keep in mind that if you want to create, you always have to make a proper effort. Otherwise, you're just stealing.

Now on to the exercise! In this exercise what you want to do is to create happiness at your workplace and peace in your home. In trying to accomplish this, you will also have to contend with the creations of others which may not be so harmonious.

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Dead flies cause the ointment of the perfumer to send forth a foul smell; so does a little folly outweigh wisdom and honor. (Ecclesiastes 10:1)

At the place where you work, you may be surrounded by quite a few “dead flies.”

Nonetheless, I’ve found that a little kindness often goes a long way. Consequently, make this your plan. Every night before you go to bed, think of the various people you work with and surround them with a loving light. If this is hard to do with some people, then try and look beneath their actions to their basic humanity and love that. See love changing their actions for the better. And if this is still hard to do, then at least be neutral towards them in your heart. As *Proverbs* states,

Do not say, “I will do so to him as he has done to me.” (Proverbs 24:29)

Instead, follow the golden rule as stated by Hillel, Jesus of Nazareth, Confucius, and many others.

Hillel said, “What is hateful to you, do not do to your neighbor. That is the whole Torah. The rest is just commentary. Now, go and learn the commentary.” (B. Shabbath 31a)

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So always treat others as you would like them to treat you. This is the Law and the Prophets. (Matthew 7:12)

“Is there any one word that could guide a person throughout life?” The Master replied: “Reciprocity. Do not do to others what you do not want done to yourself.” (Analects of Confucius, XV.24)

Think about these words. The fact that they appear in these and so many other religions and philosophies says something about their importance. If you want to be happy, make others happy, and if you want to be treated right, treat others with righteousness.

Continuing with the “happiness plan,” you should next greet everyone you see at work with a pleasant smile. Additionally, go out of your way to compliment people on the good things that they do, and try to come up with specific ways in which you can help people throughout the week. In other words, don’t just show up for work and take everyone for granted. Consciously work to create harmony in your environment. Pay the piper. Do this every day for at least a week, and then assess the results.

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Now that you have had a chance to purposely create some things in your world both through the something from something process and through the something from nothing process, it's now time to try larger, long term creative projects. For this exercise, you will have to pick some project that you really want to accomplish. It might be a new skill you want to acquire, it might be that special, unknown someone you want to finally meet, or it might be some other goal you want to achieve. All that matters is that this be something you know in your heart that you should pursue. So begin by looking deep into your heart and asking what it is that you should do, for as it is written,

The resources of the human heart are like deep waters, and an understanding person has only to draw on them. (Proverbs 20:5)

Once you have decided upon what you want to do, the next step is, as Ben Bag Bag said, to turn it over and over again in your mind. This will help activate that creative triad of *Keter* (Crown), *Chochmah* (Wisdom), and *Binah* (Understanding), and then ideas and inspiration will begin to flow.

Ben Bag Bag said, "Turn it over and over again, for all is contained therein."
(Pirkei Avot 5:22)

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As the process continues, you want to formulate a plan for accomplishing your goal. Just as an architect first creates a blueprint, and then later the final physical product appears, so to do you want to flesh out your plans and the pathway for achieving your creation. By so doing, you are gradually, moving things on the *Tree of Life* from the creative level to the formation level of visualizations and ideas, and then finally down to the physical level where it becomes a concrete reality. For example, this book began as idea, the thought that I would create something that would give a modern spin on the ancient field of *kabbalah* and Jewish mysticism. Next, I spent several months planning the book and turning it over and over again in my head. I thought of topics that should be covered and passages from Biblical and rabbinic literature that should be addressed. And finally, I began typing and bringing the book into physical manifestation.

The initial ingredient was the intent to write this book, but the other essential ingredient for any creative activity we involve ourselves in is righteousness. As it says in *Proverbs*,

What the wicked fears shall come upon him, but the desire of the righteous shall be granted. (Proverbs 10:24)

Also, you should not be too attached to the final outcome. Just concern yourself with doing the work and leading a righteous life. Then you will be able to say along with Rabbi Nachum of Gamzu that “*This, too, is for the best.*” For example, my wife and I put our house on the market the very day that the worst housing slump in years began. We initially thought that we would sell our house within just a few weeks and for a handsome sum of money. Instead, it took months to sell the house, and we sold it for substantially less than what we originally put it on the market for. Nevertheless, in retrospect, it all worked out perfectly. We didn’t get as much money as we originally asked for, but we did get all the money we needed to pay our bills, do landscaping at the new house, and still have a large sum left over to put into savings. In fact, if we had sold the house any sooner, we would have had to endure much additional stress by having to find a rent house to move into temporarily, moving furniture twice, and accomplishing all of this during a time of the year when vacation days were not possible. Thus, in retrospect, it all worked out for the best. We sold the old house immediately after we moved into the new house, and we received everything we needed. Additionally, when in spite of our excellent credit, we could not get, due to the tightening of credit by financial institutions, a bridge loan to cover the closing costs associated with the new house, our mortgage broker graciously decided to loan us the money herself at a more than fair rate of interest. The results reminded of the following verses from *Proverbs*,

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A human heart makes the plans, but God gives the answer. (Proverbs 16:1)

A man's heart devises his way, but God directs his steps. (Proverbs 16:9)

We make the plans, but God often has a better timetable in mind for us. Our job is simply to live a good life as we attempt to create and formulate and bring to fruition our creative endeavors, and then have faith that the *Life of the Worlds* will give us what we need.

Creative endeavors are brought to fruition by intent and consistent right effort and by working hard to do the right thing. And as we've said before, the universe is not here to give us a free ride. You have to earn your own ticket and pay the appropriate dues. Nonetheless, righteousness seems to more often than not be rewarded and to help make things fall our way. Also, as we said above, it is always good to combine charity with any creative enterprise. This is because it is the flow of goods and energy that maintain prosperity in the world and make future growth possible. Thus, as it says in *Proverbs*,

Whoever is kind to the poor is lending to God, and God will repay him for the kindness done. (Proverbs 19:27)

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There is one who scatters his money freely and yet only adds to his wealth.

Another withholds what he should give and only grows poorer.

(Proverbs 11:24)

The final exercise to be done is maybe both the most important and the most difficult. It involves literally turning lemons into lemonade. In other words, when things have gone wrong, as they inevitably do, how we you turn a negative situation back into a positive one? First, as we've said before, there must be the intent to change the situation, and second, there must be righteousness on the part of both you and others. Whenever you find yourself in a negative situation, have the intent to surround that situation with love. And above all, don't react with anger. As it says in *Proverbs*,

The fool blurts out every angry feeling, but the wise subdues and restrains them. (Proverbs 29:11)

Additionally, kindness and civility will produce much better results than anger.

A soft answer turns away wrath, but grievous words stir up anger.

(Proverbs 15:1)

Also, in any negative situation, look, too, to your own actions. One of the hardest things for us to do is to admit that our actions may have also been at fault.

All actions of a man are right in his own eyes, but God weighs the heart.

(Proverbs 21:2)

Furthermore, when you find yourself in this type of situation, don't scheme either against others or against yourself. When you are in a funk, your own actions can be to your detriment, and you don't want to continue in a cycle that does harm either to others or to yourself.

A quick-tempered person commits rash acts, but a schemer is detestable.

(Proverbs 14:17)

Additionally, remember that everything is always in a state of flux. No negative situation is permanent, and you have the power to effect positive change.

Consequently, begin by surrounding the situation with love, examining your own behavior, and visualizing things being the way they should. In these instances, I'm often amazed at the impact of just the tiniest bit of love that I can find in my heart, and I am subsequently grateful for the roaring flame that this love grows into. And

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for all of this, one should always remember to give thanks and charity to both God and others.

Kindness to the needy honors the Creator. (Proverbs 14:31)

Rabbi Hanina ben Papa said, "To enjoy this world without a benediction is like robbing the Holy One." (B. Berachoth 35b)

And finally, remember that we are meant to be co-creators with God and that the world is meant to be completed by us. As we have quoted before,

Whatever was created in the first six days requires further preparation. Thus, mustard needs sweetening, vetches need sweetening, wheat needs grinding, and man too needs to be finished off. (Genesis Rabbah XI:6)

Whenever we successfully create something that is good and that benefits the world, it is a blessing. Sometimes our creations are for everyone, and sometimes they are just for ourselves, but whether they are acclaimed by others or not, we all still have the need to create. And the fulfillment of our initial intent and the creative process itself both enriches and blesses us. Thus, it is written,

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Hope deferred makes the heart sick; but desire fulfilled is a Tree of Life.

(Proverbs 13:12)

And now we want to address some of the tougher questions regarding the Creation and give what are, hopefully, some plausible answers.

1. *Why does God allow evil to exist?*

First, recall that all things come from the *Life of the Worlds*, including both good and evil. As it says in *Isaiah 45:7*, “*I form the light, and create darkness; I make peace, and create evil; I the Lord do all these things.*” Also, remember that God gives us free will. He advises us and presents us with choices, but then allows us to make the choice, “*I have set before you life and death, blessing and cursing; therefore choose life, that both you and your seed may live (Deuteronomy 30:19).*” Consequently, it is man’s choices that bring injustice into the world, not God.

2. *In my imagination, I can instantly do whatever I want. However, in the physical world, why does everything take so long?*

I once had the following vision. I was between lifetimes, and on this non-physical

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plane my intention would instantly create whatever I wanted. However, I then began to dream of my soulmate and how much I wanted to be with her. I wanted my dream of her to last and not just immediately be replaced by another thought. I wanted this dream to have some permanence and substance, and I held the dream more and more in my consciousness until suddenly I entered the dream and I was reborn. In other words, think of this physical world as a stable dream. Because we have created it for a purpose, we don't want it to fade too quickly. As a result, we build some constraints into the dream so that changes will take effort. We might think of these constraints as being the laws of physics. Laws such as "conservation of energy" and "to every action there is an opposite and equal reaction" prevent things from changing just willy-nilly the way they do in an ordinary dream. Also, consider the image of a wheel turning round. The point at the center is absolutely fixed. It doesn't change its location. Points near the center move, but the distance they can move around the center is limited. There are restrictions to the change that can occur. However, the points on the circumference of the wheel can move a greater distance around the center than any other point on the wheel. Those points on the circumference have the greatest latitude and freedom of motion. The dreams we have when we are asleep and the fantasies we have when we are awake are like the points on that circumference. We have the greatest amount of freedom in these realms. However, physical reality is more like a point close to the center. It can only move so much as the

wheel revolves. By being in a world that operates under constraints and requires effort to change, we gain automatic stability. This also means that we have to learn and grow in order to effect change, and as noted above, it is righteousness that facilitates our ability to control our environment.

3. *If I create my reality, how come it's always the other candidate that gets elected to public office? How come things aren't turning out the way I want?*

Remember that everything is both a particle and a wave, and we are never completely one or the other. We can experience ourselves at times more like the particle that is completely isolated from everything else, and other times we can be the wave. However, we are never 100% one or the other. That means that, like the wave, we are always connected with everyone else even when we are focusing more on our particle mode. Consequently, there is no such thing as a reality that doesn't include every other soul, too! In other words, this world is somewhat like those games that can now be played on the Internet where your character encounters characters created by other individuals, and the reality that occurs is a joint project. Likewise, the dream we call our physical reality is a shared, stable dream, and the choices of the entire group influence the outcome. The best we can do is to make good choices ourselves and to encourage others to

do the same.

Creation always begins with will or intent. The first step is always to have the intention to accomplish a certain task. Interestingly, even contemporary science has found evidence of the power of intent. For twenty-eight years a fascinating experiment was run at Princeton University as part of the Princeton Engineering Anomalies Research (PEAR) program. Essentially, a process was implemented to generate a true random sequence of zeros and ones. Next, volunteers were solicited and instructed, through intent alone, to try and increase either the number of zeros or the number of ones. After about 800,000 trials per intention, the results were statistically conclusive. In particular, the following conclusions could be drawn:

- The effect of human intention on random processes is very slight, but nonetheless, highly statistically significant. The probability that the observed results could have occurred by chance is only about 1 in 10,000.
- When pseudo-random sources are used such as apparent random sequences generated by deterministic mathematical algorithms, the effect disappears.
- The effect is idiosyncratic in that different individuals produce different results.

In other words, the effect of intention appears to be very minor in the sense that we can't just wave our wand and completely change the world, but on the other hand it is also very real in terms of statistical evidence.

Another demonstration of the effect of intent comes from Dr. William Tiller, professor emeritus of Materials Science and Engineering at Stanford University. His lab has created an *intention imprinted electrical device* (IIED) that produces a variety of amazing effects. In particular, solely as a result of the intention placed in the IIED, the lab was able to:

- Increase pH (acidity) of purified water by one full pH unit.
- Decrease pH (acidity) of purified water by one full pH unit.
- Increase *in vitro* thermodynamic activity of both alkaline phosphatase (ALP) and adenosine triphosphate (ATP) by 15% to 30%.
- Reduce larval development time to the adult fly state by 25%.

The likelihood of each of these last two demonstrations occurring by chance is less than 1 in 1000. Also, Dr. Tiller found that repetition of an IIED experiment over a period of 3 to 4 months seemed to actually “condition” the space so that the results were more robust. In other words, repetition of the intention altered the physical space making the dramatic results much more likely. This adds scientific credence to

our earlier exercise of using our intent to fill a room or a space with a particular harmonious vibration.

Again, after we've formed our intent, the advice of Ben Bag Bag seems apropos.

Ben Bag Bag said, "Turn it over and over again." (Pirkei Avot 5:22)

Recall in our chapter on mathematics in Part I how we talked about feedback loops. When the output of a process becomes the input again, slight mutations often occur in the next output such as when a sound is fed back through a microphone over and over again. In a similar way, when we work an idea over and over again in our mind, it grows and evolves and takes on more detail with each passing thought.

The creative process is often characterized on the *Tree of Life* by a lightning bolt that zig-zags from top to bottom. Everything begins with intent in *Keter* (Crown). Then we get an inspiration in *Chochmah* (Wisdom). Next, our higher mind, *Binah* (Understanding), begins to create thought and structure around that inspiration. A plan of implementation is formed. From there the creative process zig-zags back and forth from one side of the tree to the other, from inspiration to implementation and back again, until it finally manifests in *Malchut*, (Kingdom). Prior to its final manifestation, though, the plan is at the level of *Yesod*, (Foundation), and this is like

the astral or imagination level. In other words, by the time the plan has made it to *Yesod*, all the details have been worked out in our mind, the blueprint is done, and all that is left is to bring it into the physical world. And this is the creative process. If you think about things you have created in the past, you'll see that you have gone through a process similar to the one above.

Now let's address one more question.

4. *Some things in my life seem easy to create, but other things just don't seem to happen no matter how hard I work. Why is that?*

Remember that on the *Tree of Life* the letter *Hey* from God's most sacred name corresponds to both *Binah* (Understanding) and to *Malchut* (Kingdom). *Binah* represents our higher rational mind and *Malchut* our physical reality. As we mentioned previously, this is another clue that it is our minds that create our reality. However, *Binah* is also at a very high level. Consequently, if you want to change something in your life, then you have to find the level of your being at which the corresponding programming occurs. For example, when I was a child, my parents had a little more money than those of my friends, and as a result, I had more toys than them. Consequently, I felt guilty and when I grew up, for several years I felt like I didn't deserve a good salary. Once I realized that an internal

program was keeping me from a better paying job, I changed that program and quickly began making more money. Of course, it both is and isn't quite that simple. The other part of the plan to make more money was to get more education and develop more skills and create myself as a product that is marketable. It all takes the right kind of effort, too. Again, don't think the universe is necessarily going to give you a free lunch!

While there are some programs we can easily change within ourselves so that we are not blocking our own intent, other programs are not so easy to alter. For instance, suppose you are a wonderful person, but you just can't find the right life partner no matter what you do. In this case, the programming for this barrier probably exists at a much higher level of your being, and it is probably put there for a purpose. At these higher levels we create attractors and repellers for this life so that we will accomplish the destiny we have set for ourselves. For example, the late Christopher Reeve suffered a horrific accident resulting in a terrible paralysis, but as a result of that travail a tremendous spiritual personality unfolded. The light that radiated from him was palpable! I can't say for sure, but at the same time I can't help but wonder if at a much higher level of his being if this destiny wasn't chosen so that such a rapid spiritual development could take place allowing him to inspire millions of people as he engaged in his efforts to assist similar accident victims. This is only speculation, but at least in my own

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life I have no doubt that certain things are occasionally withheld for a purpose so that I will wind up in that place where I'm meant to be. To find that purpose for your life, the *work of the chariot* can be of assistance. In other words, use your will to merge with higher parts of your being and ask why certain things are the way they are in your life. In the Native American world, this process is described as “crying for a vision.” In the Jewish world, the *Psalms* give many examples of how David cried out for greater understanding of his situation.

Well, this concludes this chapter, and we are almost at the conclusion of the book. At this point, remember these two things. First, through meditation and imagination you can travel to the furthest reaches of reality and of your own being, and the fruits of such endeavors are at your fingertips. And second, through righteousness and intent, you can be a co-creator with God and create joy and happiness for yourself. All it takes is right effort. The universe is not a freebie, but it does respond to intent. As it says in *Proverbs 23:7*, “*As a man thinketh in his heart, so he is.*” Also as it is written, “*Abracadabra!*” Or, if we look at the original Hebrew of which this expression is just a corruption,

אברא כאדברא

abra k'adabra

I will create as I speak!

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May you have a joyous and magical life!

Epilogue

EPILOGUE

We've now reached the end of this book, and it's been quite a ride. Part 1 of this text delved at length into Zeno's paradoxes, Einstein's theory of special relativity, quantum mechanics, and higher mathematics. The whole purpose of this section was to show how even from the standpoint of modern science, the world is not what it appears to be. Reality is both larger and more magical than we imagine. At the conclusion of Part 1 we related some personal experiences that indicated ways in which we seem to mirror the results of current scientific theory. In particular, just as matter can exist as either a particle or a wave, so do we seem to also have both a particle mode and a wave mode. Whether these modes should be interpreted in the literal sense or just in the psychological sense is left up to each person. My religious belief, of course, is that we are literally both particles and waves, and that we alternate between feeling separated from the rest of the world and being connected with the entire universe. However, one can make a less bold hypothesis and still find value in the material that follows.

In Part 2, we stressed the importance of having a good foundation, and we tried to lay a good foundation in rabbinic literature, commandments, wisdom literature, the *Book of Formation*, and the *Tree of Life* so that one would be well prepared for what follows. If nothing else, this section should give people a good introduction to the

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literature of Judaism and the value to be found therein, and as with Part 1, this portion is dense with information. Consequently, we've simplified explanations as best we could.

And finally, in Part 3 of this book we reached the main portion, the purpose for which this tome was written. Explanations in this part were given on how to experience God in our daily lives, how to safely go on mystical journeys, and how to be a truly creative person. Several exercises were also included, and it is hoped that they were found to be of value. Furthermore, the importance of righteousness and charity were emphasized over and over and over again.

If we had to sum up everything we've wanted to say in just a few words, it would look like this. Above all, be a kind and giving person. Giving is what makes the world go round, and when the flow of energy stops, decay begins. Give of your time, money, and kindness to someone everyday. As it says in the *Talmud*,

Charity is equivalent to all the other religious precepts combined.

(B. Baba Bartha 9a)

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Acts of loving kindness are even greater than charity, for it is said, “Sow to yourselves according to your charity, but reap according to your kindness (Hosea 10:12).” (B. Sukkah 49b)

In three respects are acts of loving kindness superior to charity: Charity can be done only with one's money, but acts of loving kindness can be done with one's person and one's money. Charity can only be given to the poor, but acts of loving kindness can be done for both for the rich and the poor. Charity can be given to the living only, but acts of loving kindness can be done for both the living and the dead. (B. Sukkah 49b)

In summation, life's not about what you can get, but how much you can give, and as I once wrote in a song,

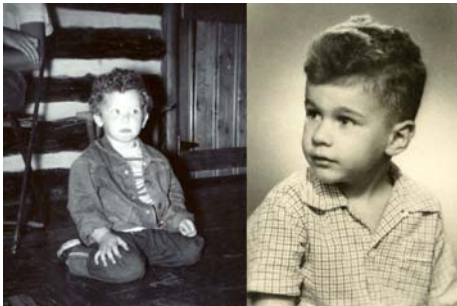
*Open up your heart,
Let your light shine through,
Life is good and so are you,
And you can give love, too.*

And finally, when all is said and done, remember that it's the love you gave and the love you made that made life all worthwhile. Get it? Got it? Good!

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good calculus book to read.

