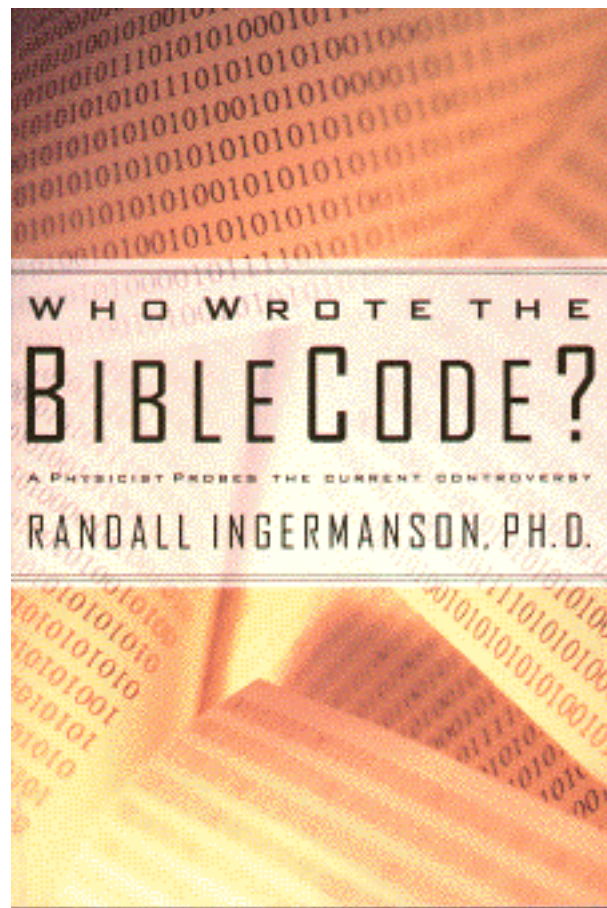


Who Wrote the Bible Code?

A Physicist Probes the Current Controversy

by

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Reading Between the Lines

Reading between the lines can get you in trouble.

I discovered this when my wife, Eunice, confronted me about a nude model named Denice.

“I found this note on your desk,” Eunice said. “Who’s Denice? Where did you meet this nude model?”

Mystified, I grabbed the sheet of paper and stared at it. My own hand scribbling — no doubt about it.

I should mention that I’m a computational physicist, and I’ve spent the last year writing a large software system to analyze networks of interacting devices.

I jabbed my finger at one of the words. “That letter is a *v*, not an *n*,” I said. “The word is ‘Device,’ not ‘Denice.’”

Eunice’s mouth twitched, a sure sign that she was trying not to smile. “Okay...maybe. But what about the nude model?”

“This word is ‘node,’ not ‘nude,’” I said. “These notes are all about networks — devices, nodes, models. Besides, Denise is spelled with an *s*, not a *c*.”

At that point Eunice broke out laughing and quit teasing me about my bad handwriting.

Which brings me to the topic of this book.

In the last few years, a number of good souls have concluded that God writes between the lines — that He has hidden a “Bible code” in the text of the Hebrew Bible for us to find.

At first glance this seems an absurd notion. Why would God do such a thing? What’s the point?

A second glance only compounds the absurdities. The methods used by some of these folks look naive in the extreme. Patterns? What patterns? You can see any pattern or message you want if you look long enough. For example, “nude model Denice.” Unlike my wife, though, these people aren’t kidding.

But several prominent mathematicians have taken a third glance and decided that

the matter isn't so simple. True, some of the "evidence" for the Bible code looks so flimsy that it's hardly worth taking time to demolish. And yet...

And yet scientists have claimed, after obtaining startling results from a set of computer experiments, that there can be no natural explanation for them. Could God be behind this?

It's an excellent question, and it will occupy us for the rest of these pages.

Is the Bible Code Authentic?

My purpose in *Who Wrote the Bible Code?* is to answer two questions: Does the Bible really hide some intentionally encoded patterns? And, if so, who wrote them? At present, people have suggested three possible answers to these questions:

1. The Bible code is without validity or substance, and at worst it is a hoax; therefore nobody wrote it.
2. God wrote the Bible code.
3. Space aliens wrote the Bible code.

Does it really matter? you may be asking. Isn't this just goofiness?

Yes, it really matters, despite the fact that some of the Bible-code people have gotten rather carried away. It truly matters for two reasons:

1. The Bible code is being touted in some quarters as a "proof of God's existence"—the ultimate evangelistic tool.
2. Others are using the Bible code as a high-tech Ouija board, finding predictions of imminent disaster or apocalypse.

Both approaches are wrongheaded and dangerous, I believe.

Let's take the prediction aspect first. Everyone agrees that if the Bible code is real, then it must have been put there by superhuman intelligence. This implies that the message of the Bible should be taken seriously. But the Bible expressly forbids divination (Leviticus 19:26; Deuteronomy 18:10,14)! On the other hand, if the Bible code is not real or authentic, then its predictions are worthless. In either case, using the Bible code for fortunetelling doesn't make sense!

One misguided Bible-coder found this out the hard way when he predicted the Rapture on May 31, 1998. His apology after that date was admirable for its honesty but painful to read. I can't believe that God approves of these kinds of prophetic high jinks.

But what about the evangelists using the Bible code to bring people to God? What's wrong with that?

What's wrong is that the evidence for the Bible code is weaker than these people claim. Much weaker.

Suppose the Bible code is a hoax. Then people are being deceived into believing in God. That's wrong! If you think that the end justifies the means, please think again. Eventually, the hoax will be exposed. Then what will happen to all those converts?

On the other hand, suppose the Bible code is real. Suppose a pattern underlies the text of the Bible. Suppose we can find this pattern and prove that it was put there intentionally. Suppose this pattern encodes knowledge far beyond the abilities of any ancient peoples. Proof of the pattern would be the most remarkable discovery in a century of remarkable discoveries. If the proof is there, let's find it! But we need strong proof, not the flimsy evidence we've seen so far.

We're cheating ourselves if we accept the half-convincing evidence that's been given to date. We're allowing the whole issue to be muddied with a number of naive and weird ideas, giving God and the Bible a bad name.

Understand that I'm not afraid of weird ideas. I'm a physicist. We're the people who believe that space and time are curved; that everything from electrons to eggplants to elephants is fuzzy probability waves; that the theory of the universe may be best expressed by one-dimensional superstrings that live in ten dimensions and curl up into four. We physicists unlocked the secrets of semiconductors and superconductors, of black holes and wormholes, of lasers and masers and quasars.

The universe is a weird place and we might as well get used to it.

But the ultimate test of any theory is the experimental evidence. Physicists don't buy into strange theories simply for the sake of weirdness. We buy into them only when we can find indisputable evidence that they're correct.

So what about the Bible code? Weird but unproved, right?

Yes, so far. I believe that we can settle the authenticity question using a completely new test that I've developed. Actually it's not one test, but four. They're simple but subtle. Simple enough that I can explain them to my nonmathematical friends in an evening or so. Subtle enough that it'll take a book this size to work out all the details.

Once we've decided whether the Bible code is real or not, we can more easily answer the question of authorship. I'll present answers to both questions in this book.

That's a fairly tall order for one thin book. Here's what we have to do to succeed:

- We need to understand what people have already said about the Bible code.
- We need to develop an arsenal of objective tests to determine the Bible code's authenticity.
- We need to write some software to do the hard work of running those tests.
- We need to apply the tests to the Bible, using the software.
- Based on the test results, we need to evaluate whether the Bible code is real, then decide how to respond to what we discover.

We're going to do all five of these in this book. I hope you like a good mystery, because that's what we have here. If you're the type who reads the last page of mysteries first to see whodunit, then I'll tell you right now that the answer is in chapter 13 of this book. But you wouldn't peek, would you? The fun is in figuring out the puzzle.

I invite you to play the role of Dr. Watson in this mystery. There is an answer, and

we're going to find it. I guarantee the search will be more rewarding than trying to figure out the identity of "nude model Denice."

What Tools Do We Need?

You may be wondering what skills we'll need to solve this mystery. Do we need to know Hebrew? Do we need a Ph.D. in rocket surgery? Do we need a year's time on a Cray supercomputer?

No, no, and no.

I do happen to read Hebrew, but on this project we're going to make the computer do all the reading. I also have a Ph.D. in physics from the University of California at Berkeley, but we won't need any mind-bending mathematics for this puzzle. Nor will a Cray supercomputer be necessary — the calculations will run on a home computer in a few hours. I'm posting my software for free on the Internet so you can check the results for yourself. If you have Java on your computer, you can run this software. (See Appendix E for the details.)

A few comments on our methods are in order.

First, we're going to run a careful, sober experiment here. The Bible code has been wildly sensationalized. Many people have formed an opinion based more on emotion than evidence. This seems to be as true of the skeptics as of the believers.

Second, I want to clarify that I don't have a strong emotional investment in either side of the argument. I'm interested in finding out the truth, and I'm sure you are too. (By the way, most of this book — including the parts describing the tests we must develop to determine the Bible code's authenticity — was written *before* the tests were actually run.) If we find that the Bible code is real, then that will be extraordinary, exciting news. If we discover that it's not real, then it'll be a great relief to settle the issue once and for all, so we can get on with our lives. Either way, truth will win. Isn't that the important thing?

Our Plan

Here's the plan for our investigation.

In the next three chapters we're going to do our homework on the Bible code. We need to find out what's been done already so we don't waste time following paths that have already been walked. We also need to critically evaluate what others have said. Do these people make sense? Or are there holes in their logic or approach? Are they blowing smoke?

Once we understand the Bible code, we'll need to think a bit about the relationship between language and math. It turns out that languages have mathematical properties that we can measure. Most people already have some intuition about these, but we'll define them precisely. If you have a technical background, you'll probably want to see the equations. I'm going to hide those in Appendices A through D. The math isn't really very hard, but neither is it necessary in order to understand the principles. If you don't care for math, don't read the appendices.

With this background in linguistic measurements, we'll be ready to devise a set of

four different tests for the Bible code. Any one of these tests would be enough, but it will be reassuring to find that all four give the same results. We'll spend several chapters developing our tests and checking that they work on "control texts" — nonbiblical texts that certainly don't carry any secret coded messages from God. We'll first apply our methods to a sequence of fifty thousand random numbers, then to Dr. Seuss's children's book *The Cat in the Hat*, then to an English translation of Genesis, and finally to a Hebrew translation of Tolstoy's epic novel *War and Peace*. Only this last text is written in Hebrew, but that won't cause us any problems. Our methods will work with any language that uses a phonetic alphabet.

Once we have an arsenal of tests, we can work on the Bible code. It'll take only two chapters to solve the main mystery. After that, we'll wrap up all the loose ends.

Are you ready? Let's get started.

2

Alphabet Soup

My daughter Amy's birth was prophesied thousands of years ago, and I can prove it.

Suspicious?

Good. There is such a thing as healthy skepticism.

Here's the "proof" that Amy is a prophetic child. The alphabet is thousands of years old, and Amy is only five. Yet her name is embedded in the text of the alphabet at an interval of twelve letters. You can see it plainly by writing the alphabet in rows of twelve. For easy identification, I've capitalized the letters of her name:

A b c d e f g h i j k l
M n o p q r s t u v w x
Y z

I've written the alphabet in rows of twelve letters solely for convenience, so that Amy's name runs down the first column. This was not essential though. Had I used rows of a different length, say eleven letters, her name would still be there, but it would run down a diagonal. It's simply easier to spot when the length of the rows is the same as the interval between letters.

We've found what people call an Equidistant Letter Sequence, usually abbreviated ELS. Like any ELS, this one can be uniquely identified by three numbers: 1, 12, and 3. The number 1 is the letter position where the ELS begins within the text (the alphabet, in this case), 12 is the interval between letters, and 3 is the length of the ELS.

Now note this amazing fact. Amy was born on January 12, that is, 1/12. Furthermore, she is the third daughter in my family. There you have it: 1, 12, and 3 — precisely the numbers that uniquely define her ELS!

What are the odds of such an amazing coincidence? Doesn't this prove that Amy's birth was prophesied long ago?

Your intuition should be shrieking right now: This is absurd! There must be a simple explanation.

You may think that I've lied to you. Perhaps I don't really have a daughter named Amy. Or maybe she wasn't really born on January 12. And is she really my third child?

I assure you I haven't lied. And yet I don't believe there's anything more here than random coincidence. I happened to notice that "Amy" was an ELS in the alphabet while testing some of the software I wrote for this book. Then it occurred to me that I could assign "meaning" to the numbers 1, 12, and 3 by determining how each applied to Amy. Had she been born on December 1, I'd have reassigned the "meaning" of 12 and 1 to fit those facts.

This little exercise provides a warning for us. Life is full of coincidences, but coincidences don't always mean something.

Sometimes, however, they do. For proof of that, turn to Psalm 46 in the *King James Version* of the Bible. Count down to the forty-sixth word in this chapter. You'll find the word "shake." Count backward forty-six words from the end of the chapter, ignoring the "Selah." You'll find "spear." This passage was translated in 1610, the year William Shakespeare turned forty-six!

Are all these forty-sixes a meaningless coincidence? Probably not. The translators appear to have taken a little liberty with the text to honor the Bard.

We conclude that a coincidence may or may not be meaningful. In this book we're going to define very carefully how to tell when a coincidence is meaningful and when it isn't.

Why do we have to go to such trouble?

Because that's what the Bible code is — a set of coincidences involving one or more ELSs, coincidences that may or may not be meaningful.

But before we get into our study of coincidences, let's discuss what has already been written about the Bible code, beginning with an overview in this chapter. Chapter 3 will explain the details of one very famous experiment. In chapter 4, we'll kick the tires on the experiment a bit, probing for weak spots.

We're going to be very thorough in these three chapters, very nitpicky. By the time we've finished thrashing things through, we'll be ready to do some real research.

A Brief History of the Bible Code

People have been finding amusing patterns like my "Amy" ELS in the text of the Hebrew Bible for centuries. Until the 1980s, however, they remained just that — amusing patterns that could be dismissed as accidents. Coincidences.

Then Eliyahu Rips became interested in the Bible code. Rips, a professor at the Hebrew University in Jerusalem, has an international reputation in a branch of mathematics known as "group theory." When he immigrated to Israel from his native Lithuania, he was an atheist. But in Jerusalem he began to hear about strange mathematical patterns in the Torah, the first five books of the Bible. Ultimately, he joined the thriving Orthodox Jewish community. Since then he's been a major force in introducing the Bible code to other mathematicians and physicists.

In the mid-1980s, Rips was joined by Doron Witztum, a young Israeli graduate student who had left physics to "study Torah." Witztum is widely described as "the leading Bible-code researcher in the world." Between them, Rips and Witztum put the

analysis of the code on a much sounder mathematical footing. They not only looked for coincidences, but they also tried to compute the probabilities of those coincidences.

Together with Yoav Rosenberg, a computer scientist from the Jerusalem College of Technology, Rips and Witztum wrote an article in the British *Journal of the Royal Statistical Society* on the patterns they had discovered. They followed this up with a second article, which appeared in August 1994 in an American journal, *Statistical Science*.

This second article underwent intense scrutiny by several referees before it was accepted for publication. It was carefully prepared and has been widely studied by both believers and skeptics. In essence, the paper presents evidence that the author of Genesis intentionally encoded information about future events into the text.

Several prominent mathematicians have gone on record as saying that this is serious research that deserves a careful look. These men are not endorsing the interpretation, of course. They're simply saying that the Bible code has not been disproved, but neither has it been proved.

A few American and Israeli scientists have gone further though. They've seen the evidence, and they're convinced.

On the other hand, quite a few scientists have denounced the Bible code. Some of them have written articles worth reading. We'll review their work next.

Critics of the Bible Code

Persi Diaconis, a statistician from Harvard University, was one of the original referees who reviewed the article by Witztum, Rips, and Rosenberg. He made a number of objections to the original version of the paper and suggested an elegant way to compute the probability that the alleged Bible code was just a coincidence.

Witztum, Rips, and Rosenberg say that they used his method when they rewrote their paper, and they still claim a remarkably low probability of coincidence. According to them, this proves that the Bible code is not due to chance — it was put there *intentionally*.

However, Diaconis is not convinced. According to him, Witztum, Rips, and Rosenberg used only one of the two suggestions he made. Had they used both, their “remarkable results” would look a lot more ordinary, he believes.

Another major critic of the Bible code is Professor Brendan McKay, an Australian mathematician. He has posted several serious critiques on his Web site. (You'll find addresses for this and other Web sites I mention in this book's bibliography.) In an article coauthored with Dror Bar-Natan, Alec Gindis, and Arie Levitan, he attempted to reproduce the results of Witztum, Rips, and Rosenberg using a somewhat different method. The team found very ordinary results and concluded that there is no Bible code.

In another article McKay purported to find numerous remarkable “codes” involving his own name in the Hebrew translation of Tolstoy's *War and Peace*. McKay isn't claiming that *War and Peace* contains a secret message about him; he's saying that you can find whatever you want if you know how. Doron Witztum published a response

on his Web site showing the tricks McKay used to get his excellent results.

The question remains, of course, whether Witztum, Rips, and Rosenberg might have used the same tricks in their own study.

I don't believe they would have done so intentionally. Every scientist knows the danger in fiddling with the data. If you're caught doing that, your career is over.

But could they have manipulated their results unintentionally? That can happen when you're looking for a certain result. If you ignore failures and record only successes, you stand an excellent chance of seeing the pattern you want to see.

The article in *Statistical Science* took great pains to argue that the authors could not have accidentally manipulated the results. But the majority of scientists who've looked at the data are skeptical. Professor Barry Simon, an Orthodox Jewish mathematician at Cal Tech, has posted an article on his Web site explaining why.

We'll look at the arguments of the skeptics more fully in chapter 4.

Other Work on the Bible Code

In the meantime other researchers have joined the battle. The most prominent of these is Harold Gans, also an Orthodox Jew. At the time he learned of the code, Gans was a senior mathematician with twenty-eight years of experience at the National Security Agency. Like most scientists who hear of the code, his first reaction was to dismiss it as nonsense.

Unlike most scientists, Gans decided to do something about it. He programmed his home computer to do an experiment similar to that of the Israeli researchers. The experiment would, he thought, demolish the code once and for all.

Instead his experiment confirmed the work of Witztum, Rips, and Rosenberg. Gans is now director of research for Aish HaTorah (Flame of Torah), a rabbinical college in Jerusalem. Aish HaTorah is known for its popular lecture series, the Discovery Seminar, aimed at strengthening Jews in their commitment to their heritage. Part of the Discovery Seminar discusses the Bible code. Some skeptics have criticized Discovery's coverage of the topic, but I've browsed their Web site and found it a valuable resource. I've also attended a Discovery Seminar. Their lecturers appear to be trying to avoid the sensationalism that dogs the subject.

Books on the Bible Code

Speaking of sensationalists, journalist Michael Drosnin published his book *The Bible Code* in June 1997. Remarkably, it reached number three on the *New York Times* bestseller list.

Drosnin claims to have predicted the assassination of Yitzhak Rabin in November 1995 and the date of Comet Shoemaker-Levy's impact with Jupiter. He also predicts a shattering earthquake, an economic collapse, and a nuclear holocaust in the coming decade. Dramatic stuff!

But is it true?

Drosnin implied that he had a close working relationship with Eliyahu Rips for several years. However, Rips immediately issued a press release on the Internet stating that he has done no joint work with Drosnin and that he does not support Drosnin's work. Doron Witztum and Harold Gans posted their own releases saying that they don't believe the Bible code can be used to predict the future.

The August 1997 issue of *Bible Review* carried articles by Professors Ronald Hendel and Shlomo Sternberg, each denouncing Drosnin's book and the whole Bible-code movement.

There are a number of warning signals in Drosnin's book that something is amiss in his approach. He claims to know Hebrew, but native Hebrew speakers have pointed out some gross misreadings in his book. For example, the mistranslation "assassin who will assassinate" on the cover, next to Yitzhak Rabin's name. He also gets some of his facts wrong. For example, he says on page 38 that all Hebrew Bibles are letter-for-letter identical. In fact, there are differences, though remarkably few. On page 189, he says that Witztum, Rips, and Rosenberg reported odds of four in a million, but they actually reported sixteen in a million. Drosnin, who does not believe in God, concludes that space aliens dictated the Bible to Moses over three thousand years ago.

Drosnin's book is heavy on scary predictions of the future but light on hard statistical evidence. I don't know of a single scientist who has endorsed his work.

Nonetheless, Drosnin is the best known of several popular authors who have written on the Bible code. Another is Grant R. Jeffrey, an evangelical Christian author of a number of books on Bible prophecy, end-time events, and apologetic evidence, including *The Signature of God* and *The Handwriting of God*, each of which contains some chapters on the Bible code. Recently, he has treated the topic more fully in *The Mysterious Bible Codes*. Jeffrey provides a broad overview of the subject, including the findings of Witztum, Rips, and Rosenberg. He believes the Bible code provides powerful evidence that God exists and inspired the Bible.

Another figure in the debate is Yacov Rambsel, a Messianic Jewish rabbi who has painstakingly searched the Hebrew Bible by hand over the last forty years, looking for hidden patterns. His first book, *Yeshua*, detailed his findings that the name "Yeshua" (that is, Jesus) is embedded in the text of nearly every prophecy considered by Christians to be messianic. (Mainstream Jews don't agree that the majority of these passages refer to the Messiah.) Rambsel followed this up with a second book, *His Name Is Jesus*, which documented his discovery of the names of many other New Testament persons in the same messianic passages. Like the Israeli researchers, Rambsel is a deeply pious man. Unlike them, he has done no scientific statistical calculations to demonstrate that these findings are anything but random chance.

Needless to say, most Jews were not amused by Rambsel's "proofs" of Jesus as the Messiah. Many Israelis have copies of Bible-code software, and some of them have countered with their own "proofs" that Jesus was a false messiah. Several well-known Bible-code researchers have also critiqued Rambsel's findings on the Internet.

In October 1997 yet another book on the Bible code appeared. *Cracking the Bible Code* is by Dr. Jeffrey Satinover, a psychiatrist currently working on a degree in physics

at Yale University. This is a well-researched and entertaining book with lots of history and personal glimpses into the lives of the main players. It's the most thorough book I've seen yet on the Bible code.

Satinover believes in the code — mostly. That is, he wants to believe, but he acknowledges that the proof is not quite watertight. The book has a few minor errors (for example, in his account of Max Planck's discovery of quantum mechanics). However, Satinover is generally careful with his facts and presents a well-reasoned case for the Bible code. A weakness of the book is that he presents *all* the evidence he can find for the Bible code, and some of it is pretty thin, which dilutes the strength of his best arguments. (See his Appendix A, "Details of the New Moon.") Dr. Satinover is also the author of an article in the October 1995 issue of *Bible Review*, introducing the Bible code to many American readers.

Dr. John Weldon, an evangelical Christian, published a book in early 1998 in collaboration with Clifford and Barbara Wilson. *Decoding the Bible Code* takes a common-sense stance. Urging us not to get too excited, Weldon states that the Bible code may turn out to be true but will more likely turn out to be a hoax; the evidence isn't all in yet, but we'll find out in due time.

A healthy strain of skepticism runs through Weldon's book. What about copyist errors? What about the Kabbalistic leanings of so many Bible-code proponents? Is it logical that God would write a code so unintelligible? The book presents no new research, but it summarizes very well the state of the Bible code as of the end of 1997.

Weldon, who has a Ph.D. in comparative religion, expertly skewers a number of logical problems in Michael Drosnin's book, and he summarizes well the Internet discussions of problems in the work of Yacov Rambsel. But he is less strong on mathematical issues.

What Does It All Mean?

What shall we make of all these claims and counterclaims?

I suggest that we examine first the very best evidence for the Bible code — the work of Witztum, Rips, and Rosenberg, and the related work of Gans.

These men report the consistent results of several intriguing experiments. They claim that each experiment reveals patterns that could not happen by chance even once in fifty thousand tries.

Either they have found something extraordinary, or they are wrong, or they are lying.

I don't believe that they are lying. Mainstream scientists are occasionally caught fudging the evidence. There's one small motive to cheat — the urge to be first. But the Bible code is not mainstream science. The Bible code is weird science. Scientists don't want to be first in weird science unless they really and truly believe it. So we can be sure these men believe their results.

Either Witztum, Rips, Rosenberg, and Gans have made a subtle mistake, or they have found a real code intentionally placed in the Bible.

As I promised in chapter 1, we'll pass judgment on their results in this book. But before we can do that we need to understand their experiments in a bit more detail. It will take the whole next chapter to explain what they've done. As you'll see, their work is much more sophisticated than finding "Amy" in the alphabet.

The Signature of God?

One Friday evening, a few months after I got married, the phone rang. I picked it up and said hello.

“Hi, Steve!” I didn’t recognize the woman’s voice, but I figured she must be a friend of my ex-roommate Steve.

“Um...no,” I said. “I’m not rooming with Steve anymore. Let me get you his new number.”

“Steve?” she said again.

“No, I’m Randy. Here’s the —”

“No, I recognize your voice,” she said. “You’re Steve!” She sounded a little annoyed.

“I am?” I gave a nervous laugh. Something wasn’t adding up here. Then it hit me. A prank phone call. Steve and I both loved practical jokes. It would be just like him to put one of his friends up to this.

“Steve,” she continued, “will you quit teasing me? This isn’t funny!” And she didn’t sound like she was joking.

By now, my reality meter was beginning to tilt. Any second now I figured the theme from *The Twilight Zone* would start playing. After a long silence I tried again. “This is a prank phone call, isn’t it? Steve told you to do this...right?”

“No!” Real anger colored her voice. “Steve, are you going to talk to me or are you just going to play games?”

I began feeling defensive. “Hey, I’m serious. I mean...really, I’m not Steve. Who are you anyway? How did I meet you? Are you sure you’re not playing a joke?” I realized I was babbling.

“Well, fine!” she yelled. “If you’re going to pretend you don’t know me, I don’t care. Good-bye!”

The phone slammed in my ear. I stood there, staring off stupidly into space until the recorded message from the phone company began, telling me what to do if I’d like to make a call. I hung up.

My wife, Eunice, came out of the kitchen. “What was all that about?”

I gave her a blank look. “I don’t know.”

I took that call more than fifteen years ago, and I still don’t know. I’ve got several theories. Maybe it was a wrong number. Maybe it was a prank phone call. Or maybe I have a second personality named Steve and a whole different set of friends.

Eunice is quite amused by this last theory, but there doesn’t seem to be much evidence for it. You can’t build a strong case on one phone call. On the other hand, the other theories have problems too. If it was a wrong number, why did the woman think she recognized my voice? And if she was a prankster, she was a terrific actress. She sounded absolutely authentic.

I’ll never know, but it’s not really important. Life is like that. Sometimes weird things happen, and no explanation makes sense.

Which brings us to the topic of this chapter — the Great Rabbis Experiment, first reported in August 1994 in the journal *Statistical Science*. Unlike my weird phone conversation, this is important. The proponents of the Bible code claim that the results of their experiment defy natural explanation. Consequently, thousands of people believe that *this is God’s signature*.

The Great Rabbis Experiment

The title of the article in *Statistical Science* was extremely boring: “Equidistant Letter Sequences in the Book of Genesis.” But its contents were stunning.

According to the authors — Doron Witztum, Eliyahu Rips, and Yoav Rosenberg — certain patterns had been found in the book of Genesis that suggested foreknowledge of the dates of birth and death for dozens of rabbis *who lived and died many centuries after Genesis was composed*.

Publication of the article had been delayed for six years while three referees evaluated it. Not content with the original experiment, the referees insisted on numerous changes, including an analysis of a completely new set of rabbis and much stricter standards for the probability calculations.

Could the effect be due to random chance? Using the “Monte Carlo” techniques required by the referees, the authors calculated the probability of a chance effect. It turned out to be tiny, less than 0.00002. That is, better than one in fifty thousand, which is roughly the odds of having your name pulled in a random draw at a professional football game. It could happen, but it’s not very likely.

The editor of *Statistical Science*, Robert Kass, then chairman of the department of statistics at Carnegie-Mellon University, prefaced the article with this note: “Our referees were baffled: Their prior beliefs made them think the Book of Genesis could not possibly contain meaningful references to modern-day individuals, yet when the authors carried out additional analyses and checks the effect persisted. The paper is thus offered to *Statistical Science* readers as a challenging puzzle.”

This is academic-speak for: “I don’t believe it, but the evidence is there. You figure it out, because I’m stumped.”

Even while the paper was still in the review process, the experiment attracted

interest in the academic community. As I mentioned in chapter 2, Harold Gans, a cryptologist at the National Security Agency, tried to debunk the claims by writing his own software on his own computer to run the same experiment. To his shock, he found that Witztum, Rips, and Rosenberg were correct. Later he tried a different experiment. This time, he would match the set of rabbis to their cities of birth and death.

Remarkably, he found that the effect persisted. He computed the probability that the results could be explained by random chance. The odds were again tiny—less than one in two hundred thousand.

Witztum, Rips, and Rosenberg say that they have run another seven experiments, which produced similar results.

This makes the whole thing truly extraordinary. It's conceivable that you could have your name drawn at one football game. After all, *somebody's* name has to be drawn. But you wouldn't expect your name to be drawn week after week. If that happened, people would demand an investigation — fast.

Proof of God?

The proponents of the Bible code argue that the effect they are seeing amounts to a proof that God exists. This line of reasoning is explained at length in my favorite book on the subject, Jeffrey Satinover's *Cracking the Bible Code*. I'll paraphrase the argument in the following fourteen-point summary. Please note that this summary is my own synthesis of Satinover's chain of logic; you won't find these exact fourteen points listed anywhere in his book. Also, be aware that this reasoning has been applied only to the Torah — the first five books of the Hebrew Bible.

1. An ancient Jewish tradition holds that God revealed the full text of the Torah to Moses on Mount Sinai in an unbroken sequence of letters written in black fire on a white background, without punctuation or spaces.

2. Because of this tradition, Jewish scribes took extraordinary care to preserve the exact text of the Torah as copies were made through the centuries.

3. As a result of this care, the text of the Torah used by religious Jews has been maintained with amazing purity. A comparison between different copies of the five books of the Torah shows only nine differences in letters in a work of over three hundred thousand letters!

4. A widely used edition of the Torah, published by the Koren Publishing Company in Jerusalem, is assumed to be a very near copy of the original version revealed to Moses on Mount Sinai.

5. With help from computers we can look for hidden ELS words (like “Amy” in the alphabet in chapter 2) embedded in the Koren text of the Torah at equidistant letter spacings. That is, we search for words by skipping every n letters, where n is some fixed number. ELSs encoded in this way have a good chance of surviving a few copyist errors without being lost.

6. Of course, we expect that a large number of ELSs would be embedded in the text purely by chance. But we are interested in ELSs that were intentionally placed there.

We begin with an observation that may or may not be significant, but it serves to focus our efforts. We notice that ELSs with “related meanings” are “often” found “near” each other in the text. “Often” and “near” can be assigned precise mathematical meanings. “Related meanings” is a fuzzier concept, which we seek to clarify.

7. Based on this observation, we devise an experiment in which pairs of “related” ELSs are chosen prior to searching the text. The experiment is defined as objectively as possible so that we don’t influence the outcome by choosing word-pairs that we already know will be near each other. We define in advance exactly what measure of “nearness” we will use.

8. The experiment we choose predefines a set of ELS-pairs in which one ELS is the name of a famous rabbi and the other is the date of his birth or death, using the Hebrew calendar. The list of rabbis is chosen as objectively as possible by an outside authority, and we consider only those rabbis whose dates are known accurately. All of these rabbis were born centuries after the Torah was written.

9. We can then write a computer program to measure the “nearness” of ELS-pairs and estimate the odds that our results could have occurred by chance.

10. As a check, we can run the same computer program on other texts that we do not believe to be divinely inspired.

11. It turns out that the book of Genesis shows an unusual degree of closeness between related ELS-pairs. The odds are tiny that random chance could explain the effect. Other Hebrew texts do not show the same effect. Nor do we see anything similar in rearranged texts of Genesis constructed by scrambling letters, words, or verses. We see no effect in the Samaritan version of Genesis, which is fairly close but not identical to the traditional Jewish text.

12. We conclude that the author of Genesis had knowledge of events that were future to him.

13. Since no human has such knowledge of the future, we deduce that God Himself must have provided it.

14. We surmise that God has encoded this information because He foresaw the day when modern science would begin to question the divine origin of the Torah. He also foresaw that modern science would provide computers powerful enough to detect the encoded information, thereby validating the literal letter-level revelation of the entire Torah on Mount Sinai.

Doesn’t That Prove It?

The above argument looks pretty strong to a lot of people. However, problems with this “proof” have been noted consistently by two groups of people: scientists and biblical scholars — the usual suspects when there’s a parade to be rained on.

If you look carefully at the complaints of each of these groups, you’ll find a lot of nitpicking.

That’s good.

Any far-out sounding idea *should* be nitpicked to death by smart and skeptical people. If scientists and biblical scholars eventually sign off on this thing, then maybe the Bible code is for real. And if it's all a hoax, then the folks most likely to debunk it will be the scientists and scholars.

So brace yourself for a chapter of give and take, push and pull, argument and counterargument. Some of it will seem pointless to nonacademics, but it's necessary if we want to understand the strong and weak points of the Great Rabbis Experiment. Armed with this knowledge, we'll be able to design a better experiment.

We'll get through it, or my name isn't Steve...um, I mean Randy!

Excerpted from:

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