Some years ago in New England I attended a public debate on the age of the earth and the origin of species. Defending the current scientific consensus was a young zoology professor at the university; his opponent was an advocate of “creation science” from California. They took turns at the podium, illustrating their remarks with slides that were projected on a large screen.

The debate was an entertaining affair, and both speakers performed very well. Drawing on results from astronomy, geology, biology, genetics, carbon dating, paleontology, and much else, the zoologist marshalled an impressive array of evidence showing that the earth is billions of years old, and that life evolved over a vast time scale. The creation scientist matched him field for field, slide for slide. His argument was that the evidence was not conclusive, that scientific theories were riddled with contradictions and counterexamples, and that the evidence could just as well support the claim that the earth is only six thousand years old. He suggested that these conclusions were based on purely scientific criteria which, as it turned out, happened to be in accord with the account presented in the book of Genesis.

The debate was not entirely symmetrical, though. Only the zoologist was trying to show that the different types of scientific evidence converged. The arguments of the creation scientist, by contrast, did not add up to a coherent position. At one point, for example, he cited a paper by two MIT mathematicians who showed that stars that appear to be millions of light years away would only be several thousand light years away under the (clearly counterfactual) assumption that the universe is a certain kind of non-Euclidean space. He did not return to this hypothesis in the rest of the debate, because of the many absurd consequences that would follow from taking it seriously as a model of the universe.

In the late twentieth century, it is no longer possible to simply ban the teaching of theories that appear to contradict the Bible, as in earlier times. These days, even doctrines motivated by religious beliefs must appear to play by the rules of science. But having the trappings of science does not guarantee a coherent research program. A hypothesis can be empirical in a technical sense without leading to any position that can be incorporated into the structure of modern thought.

Imagine a theory that claimed that a certain language, say Dutch, did not develop in the usual way, but was a special gift from extraterrestrial aliens in the year 1150. As proof to future generations of this special origin of Dutch, the aliens had implanted in its structure hidden codes, whose existence could be revealed by performing various permutations and transformations on the words and sentences. Now this is an empirical hypothesis, in the sense that it is either true that aliens brought Dutch to this planet in 1150, or it is not. No doubt the Special Originists would mount a great battle against the “Low Franconianites,” the entrenched academic orthodoxy that holds that Dutch developed as a branch of Germanic, or some such nonsense. The academics would be forced to admit that the origins of Dutch are shrouded in mystery. They would have to explain away the fact that Old English and Old High German are well attested, but the putative *Old Dutch has never been found. Why? The answer is obvious—it never existed! Obvious to all but an academic linguist.

The real fun in the special origin theory would be in finding the hidden clues. What if they found things that no other language has—for example, certain patterns in the structure of Dutch
phonology, when analyzed using just the right version of feature geometry? There is little doubt they would find something. Would GLOW be willing to organize a special workshop devoted to these findings?

Of course, the whole idea sounds absurd, and I am not aware of any such claims in connection with Dutch. But Biblical Hebrew, and the text of the Hebrew Bible, have long been the subject of esoteric speculations. Jewish mystical traditions have developed various techniques for manipulating the plain text of the Bible to uncover hidden meanings or associations. One such technique involves assigning a numerical value to each letter of the Hebrew alphabet, and then performing calculations on the numbers to reveal unexpected connections between words; e.g., the Hebrew word “life” adds up to 18, which is thus a good number. Another method is to look for hidden words by computing equidistant letter sequences (ELS’s). Starting at some letter in the text, derive a new sequence of letters by skipping \( n \) letters, for some \( n \). More generally, if we write out the text as a continuous string in lines that are \( n \) letters long, then letters at distances of multiples of \( n \) from each other will form vertical columns. Scanning these columns will turn up words and phrases whose existence would be otherwise hidden. The mainly consonantal Hebrew text of the Bible and the root-and-pattern nature of Semitic morphology ensure that one will find lots of words by any such method.

In 1994, three Israeli scientists—physicist Doron Witztum, mathematician Eliyahu Rips, and computer scientist Yoav Rosenberg—published an article in the journal *Statistical Science*. Here is the abstract:

> It has been noted that when the Book of Genesis is written as two-dimensional arrays, equidistant letter sequences spelling words with related meanings often appear in close proximity. Quantitative tools for measuring this phenomenon are developed. Randomization analysis shows that the effect is significant at the level of 0.00002.

The experiment Witztum et al. conducted is as unlikely as its results are unexpected. They looked up the names of 64 medieval rabbis who have significant entries in the *Encyclopedia of Great Men in Israel*, and the day and month of their birth or death, all of which postdate the Bible text by well over a thousand years. With a computer they sought out minimal ELS’s for each name and date (Hebrew dates are commonly represented by letters). They then defined a notion of “distance” with which they could compute the proximity of any two ELS’s. They report that, after running a series of tests and computing probabilities, they found that the names of the rabbis are closer to their corresponding dates than would be expected if the distribution were due to chance. Moreover, they reported that similar experiments on a control text did not yield similar results.

Though some mathematicians have claimed to find the flaws in the methodology that escaped the journal reviewers,\(^1\) Witztum et al. based their conclusions on objective procedures that aspire to rigorous scientific standards. But the disciples of what we could call the “higher codology”—the view that the existence of ELS Bible codes must be verified by strict methods—are a minority among students of ELS codes.\(^2\) The vast majority of codes enthusiasts are adherents of the lower codology, a free-wheeling enterprise in which anybody with a computer and Bible codes software can commune with the Great Encoder.

The leading lower codologist, the one who made Bible codes a household word, is Michael Drosnin.\(^3\) Drosnin is an American newspaper reporter and author. He has stated repeatedly that he is not a rabbi, not a priest, not religious, not a Bible scholar, not a mathematician, not a scientist; that when he first encountered the Bible codes on a visit to Israel he did not even know Hebrew. So what does he know? He knows the meaning of “international bestseller,” and what it takes to write one. Drosnin’s main claim to fame, and the centrepiece of his book, is that some months before the assassination of Israeli Prime Minister Yitzhak Rabin, Drosnin saw his encoded name linked to the
words “assassin that will assassinate.” Actually, the latter phrase refers, in its context, to someone who slays his neighbour unawares, not in hatred, so hardly an “assassin.” This is one of many places where Drosnin’s ignorance of Hebrew enabled him to decipher codes that would have escaped those looking for well-formed words or phrases with their usual meanings. Drosnin has found allusions to many other grim events, including world wars, economic collapse, fires, annihilation, and an atomic holocaust that appears to have been scheduled for 1996 but was inexplicably averted.

The serious Bible codes researchers have dissociated themselves from Drosnin’s book. But even the most rigorous research into codes is irreconcilable with post-Enlightenment thinking, including modern linguistics. The hypothesis of ELS codes presupposes an original unified Bible text that has been copied and recopied faultlessly for over three thousand years. It thus poses a direct challenge to several hundred years of study of the history and transmission of the biblical text. The rise of textual criticism is closely related to that of historical linguistics; the two fields share philological and linguistic concerns, and use similar methods. By performing a kind of internal reconstruction on the text of the Bible, for example, the Documentary Hypothesis posits that the Bible text results from the interweaving of three or four separate documents. Though elements of the Documentary Hypothesis remain controversial, there is no doubt that this type of research has shed much new light on the Bible text.

Why are there two versions of the story of Noah’s ark in Genesis, and why are they intertwined the way they are? The answer of the Documentary Hypothesis is that the text is an amalgamation of two separate accounts told from two points of view. The particular answer may be wrong in its details, but it leads to a rich realm of inquiry. The answer of the codologist is that the text has to be that precise way so that the encoded name of Rabbi Shelomo of Chelm and his birthday could appear closer to each other than we should have expected. Baffling, certainly; empirical, apparently; a momentous discovery, perhaps; but we Low Franconianites know that, as a research program, it leads nowhere.

Notes

1. For some reactions, see the article by Hal Cohen in *Lingua Franca*.
2. Satinover (1997) generally fits this description, though with some lapses.
3. Submit “Drosnin” or “Bible codes” to your favourite web search engine if you have some free time.
4. For an entertaining exposition and synthesis of this approach, see Friedman (1987).
5. This column contains 1818 words.

References