Bible-Code Developments

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There have been several interesting developments in the Bible-code saga since my report "Hidden Messages and the Bible Code" in the November/December 1997 SKEPTICAL INQUIRER.

I have derived a formula for how many occurrences of given words you would expect to find in a text of a given number of random letters. One must calculate the probability of selection for each letter, which depends on the particular text being examined. This is just the number of occurrences of the letter divided by the total number of letters. Typically, the probability for getting an E is above 0.1, while that for a Q can be just 0.005. For a given word like "Roswell," you multiply the chances for an R with that for an O, then an S, and so on. The final product is multiplied by the total possible number of equidistant letter sequences for the word, which is roughly the square of the number of letters in the entire text divided by one less than the number of letters in the candidate hidden word.

This formula works quite well. I estimated that I would find 18.7 occurrences of "Clinton" in *War and Peace*, Book 1 (212,000 characters, 7.5 billion possible seven-letter equidistant sequences); the actual number was 21. I estimated I would find 128.1 matches for the name "Apollo"—and got 129. With each additional letter in candidate words, the chances fall, because you must multiply your product by another number invariably less than one. And rare letters reduce the expected matches greatly.

At a reporter's suggestion, I downloaded the chapter excerpt of Michael Drosnin's book, *The Bible Code*, from Simon and Schuster's Web site and began searching away. Even though the chapter was only about 4,000 characters in length, I was able to produce a number of hits. One puzzle held a lunar theme: "space," "lunar," "craft," and several "moon's," all authentic hidden words. I found the ubiquitous "Hitler/Nazi," even though the excerpt did not mention those words directly, talking instead mainly about the Rabin assassination. One puzzle has the hidden message "The code is a silly snake-oil hoax." And I even found "The code is evil" hidden in Drosnin's book (a mixed message he is sending us here).

Reporter Eric Zorn of the *Chicago Tribune* had me look for the name of a very recently disgraced Chicago alderman in Zorn's old editorials. Sure enough—the alderman's demise had been predicted years before. The Zorn Code was announced on October 27, 1997, in the *Tribune*.

Drosnin has been stumping Australia and the world, flattering code-buster Brendan McKay with compliments such as "clown," "liar," "fraud"; and me with, "Thomas appears not to understand the Bible Code at all." Drosnin accuses us of "counterfeiting" codes, even though McKay and I do not need to alter even one letter of various texts—either the puzzles are there, or they're not. (And to Drosnin's dismay, the puzzles continue to turn up *everywhere*). But Drosnin is also attacking us because our puzzles allegedly do not have "minimality." Not only must hidden words appear close together in a puzzle, they must also be the shortest skip distances for the given word in a fair-sized portion of the text. Drosnin only mentions minimality in passing, buried in the chapter notes at the end of his book: "All of the Bible code print-outs displayed in this book have been confirmed by statistics to be encoded beyond chance. The word combinations are mathematically proven to be non-random. . . . The computer scores the matches between words, using two tests—how closely they appear together, and whether the skips that spell out the search words are the shortest in the Bible. (For a more detailed explanation see Appendix.)"

Interestingly, some of Drosnin's own puzzles are not "minimal."

His match for "Clinton" has the largest step of all four "Clinton's" found

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in the Hebrew Torah, and the other three occur entirely within the chosen match. Each of these three serves to give the chosen "Clinton" a "domain of minimality" of zero. (In contrast, the close matches of "Hitler" and "Nazi" I found in Drosnin's own book are both minimal over the entire chapter, and the mention of "Roswell" I found in the King James Bible is minimal over the complete text of the Book of Genesis.)

I downloaded the Torah (Koren edition) from McKay's Web site, and modified my program to handle the Hebrew characters via the Michigan-Claremont transliteration scheme (in which, for example, the Hebrew letter "Shin" is represented as "$"). I have since reproduced a number of Drosnin's puzzles to the letter, including his nonminimal "Clinton/President" match. I also contrived a method for printing the puzzles out in the actual Hebrew characters. (Pretty good for someone who doesn't "understand the Bible Code at all.")

Amazingly, Drosnin found "Shoemaker-Levy" (transliterated as $WMKRLWY, eight characters), not in the five books of the Torah, but in Isaiah. Eliyahu Rips used Isaiah as a control, an example of an ancient Hebrew text without the "code," and found no unlikely codes therein. Drosnin also found "computer" in the book of Daniel. Perhaps he forgot that the code is supposed to occur only in the five books of Moses: Genesis, Exodus, Leviticus, Numbers, and Deuteronomy.

McKay is vigorously pursuing a response to the 1994 *Statistical Science* article by Rips et al. that gave the "code" its first big boost. Rips studied the Genesis "code" by finding names of post-Biblical rabbis linked to birth/death years, appellations (titles), etc. But using the very same rules restricting choices of names, appellations, and so forth, McKay was able to find an "impossible by chance" result—in the Hebrew text of *War and Peace*. Full details can be found on the Internet at http://cs.anu.edu.au/~bdm/dilugim/torah.html.

A new book written by Jeffrey Satinover has appeared, published by William Morrow. The book, called *Cracking the Bible Code*, strongly supports the code phenomenon. Interestingly, most of the true-blue code promoters despise Drosnin as the proverbial bull in the china shop—Satinover alludes to him, but won't even mention him by name.

In the September 1997 *Notices of the AMS* (American Mathematical Society), Harvard mathematics professor (and Orthodox rabbi) Shlomo Sternberg blasted the code phenomenon. In particular, he pointed out that the elaborate "codes" found by both Rips and Drosnin would collapse even if just a few letters were added to or dropped from the text they used.

And Sternberg notes, "but any serious student of the Talmud knows that there are many citations of the Hebrew Bible which indicate a differing text from the one we have. . . . One of the oldest complete texts of the Bible, the Leningrad codex (from 1009) (also available electronically) differs from the Koren version used by Rips and Witztum in forty-one places in Deuteronomy alone. In fact, the spelling in the Hebrew Bible did not become uniformized until the sixteenth century with the advent of a printed version that could provide an identical standard text available at diverse geographical locations."

The search for the truth about equidistant letter sequences goes on. One thing I am looking at is how "clumpiness" of letters in real texts sometimes produces many more or fewer matches than would be expected for a purely randomized text. I found one 934-letter chunk of a book about science by Isaac Asimov that produced an amazing seven matches for the word "Nazi," even though only one was expected. This result is apparently "beyond chance," with odds of at least two thousand to one against. But it is not really that surprising—the chunk of text happened to contain several instances of the word "generalization." And inside every instance, at a step of three, lurks a Nazi: *geNerAliZatIon*.

It looks like we have to be more careful about what we write! □

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We can't read these messages yet. Maybe we never shall, for their language is indirect, as befits a recipe rather than a reversible blueprint. But it's still true that our DNA is a coded description of the worlds in which our ancestors survived. We are walking archives of the African Pliocene, even of Devonian seas, walking repositories of wisdom out of the old days. You could spend a lifetime reading such messages and die unsated by the wonder of it.

We are going to die, and that makes us the lucky ones. Most people are never going to die because they are never going to be born. The potential people who could have been standing in my place but who will never see the light of day outnumber the sand grains of Sahara—more, the atoms in the universe. Certainly those unborn ghosts include greater poets than Donne, greater scientists than Newton, greater composers than Beethoven. We know this because the set of possible people allowed by our DNA so massively outnumbers the set of actual people. In the teeth of these stupefying odds, it is you and I that are privileged to be here, privileged with eyes to see where we are and brains to wonder why.

There is an appetite for wonder, and isn't true science well qualified to feed it?

It's often said that people "need" something more in their lives than just the material world. There is a gap that must be filled. People need to feel a sense of purpose. Well, not a *bad* purpose would be to find out what is already here, in the material world, before concluding that you need something more. How much more do you want? Just study what is, and you'll find that it already is far more uplifting than anything you could imagine needing.

You don't have to be a scientist—you don't have to play the Bunsen burner—in order to understand enough science to overtake your imagined need and fill that fancied gap. Science needs to be released from the lab into the culture. □