



## DEVORAH THE BEE-SPEAKER

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### FROM THE EDITOR

Here is a quote from Yehuda haLevi, a 12th century Spanish rabbi, philosopher, and sage.

"As it is said in the Torah ' . . . and whatever Adam called each living thing, (that remained) its name (forever).(Gen. 2: 19)' That is to say, that the animal was right and befitting to its given name, and that its given name was harmonious with the behaviour of the animal and its applied nature."

(from *Al Kuzari* Ch. 4, Lesson 25, translation D. Gil)

If each Hebrew letter has an intrinsic, natural meaning, then Yehuda HaLevi's words are more than just a good story. Stan's essay below, and the graphic on the last page of this pdf, connect a primary Hebrew word-root, real-world observations of nature, and one of the most important geometric forms in our research. —Ed.

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### DEVORAH, THE BEE-SPEAKER

by Stan Tenen

I have something really elegant, beautiful, and in its small way, quite spectacular to report.

I came upon this reference in the May-June 2006 issue of *American Scientist*, the Sigma Xi science honor society magazine, in an article titled *Group Decision Making in Honey Bee Swarms*, by Seely, Visscher, and Passino. (American Scientist subscription information is available at <http://www.americanscientist.org/>.)

Look at the poster on the last page of this essay. The graphic at the upper left (adapted from figure 3 from the above article shows how a honeybee communicates the location of flowers with nectar to other honeybees. The bee makes a so-called "waggle dance" in order to *point* to the direction of the food, and provide a measure of its distance.

As the poster shows, what the honeybee scout does is **exactly** what I'm proposing for the Hebrew alphabet, except in 2-D instead of 3-D.

The graphic of the waggle dance is just a "2-lobed" version of the torus knot with the central "wagging column".

This central column is where our thumb goes in the "tefillin" hand model. It is **our** pointer, **and** it is the bee's pointer.

Here we have an example from a very simple part of the animal kingdom of the use of exactly the same sort of gesture-language we are proposing for the Hebrew letter-gestures, based on exactly the same elements -- the sun, a tree, and flowers.

For us, of course, the sun is the source of our mind. The tree is our spinal column. And the flowers are pointed to by, and thus are in, our hands.

The bee uses the same model as we use. But the bee doesn't have intelligence like ours. Thus the model must be intrinsic, even to small creatures like bees.

And there's more. Our theory requires that the idiomatic meanings of Hebrew words derive in some reasonable way from the functional meaning of the word as spelled out by reading it as an acronym, letter by letter.

The root word for "honeybee" in Hebrew is based on the letters D-B-R. It's the common name, "Devorah", or "Debra".

The "D" refers to dividing something.

The "B" literally means "in" or "with", and

The "R" literally means "head", "headwater", or "heading".

So the Hebrew word means something like "A piece of (a small division of) 'in a heading'". In other words, "picking a direction".

Hebrew names for creatures and other things are based on their function – and this fits perfectly. For example, the letters that spell the Hebrew word "horse" literally mean "to sustain and carry".

So, a honeybee is a D-B-R.

And there is still more.

I've been struggling with this root for the past 20 years, because it has two primary meanings which seem to have nothing to do with each other. Until about ten days ago, I hadn't a clue as to how it could be that the root D-B-R means both "honeybee" and "word".

Now, here's a bit more from the dictionary.

The Hebrew word D-B-R, vowelized to be pronounced "Dee-bear", means literally, "speak".

The Hebrew word D-B-R, vowelized to be pronounced "Dah-Bear", means literally, "word".

The Hebrew word D-B-R, vowelized to be pronounced "Devorah", means literally, "speaker". (In this case, the "h" at the end indicates it's a feminine speaker -- which of course, a "scout" honeybee is.)

The Hebrew word D-B-R-*im* means "writings", and is one of the books of the Bible. (The "-im" suffix is the masculine plural suffix.)

D, of course, is the letter Dalet, and it means "to divide" or "to disperse" or "to dispense." In the sense of words and letters, it means "to parse" or "to pick".

B is the first letter of Genesis, and represents a housing -- in this case, indicating the "bit" of what is to follow.

R is the second letter of Genesis, and represents a head, a headwater, or, in this case, a heading. (The honeybees take their "headings", their directions, from the scouts' waggle dance.)

So, D-B-R is "to parse a unit of direction", or, in better English, "to pick a direction".

And finally, of course, in Hebrew, the Ten Commandments are the "Ten Devarim", i.e. the "Ten Directions" (so to speak).

The behavior of honeybees was of major interest in the ancient world, because their well-being is essential to agriculture.

The waggle dance of the honeybee can be observed with the naked eye. After all, we can easily see honeybees, and when they dance, they dance against the symmetrical background of the honeycomb, just as the "wagging flame" dances inside the tetrahedral "meeting tent" in our 3-D model). In fact, the honeycomb itself *is* the hex map on a 2-torus [see the poster at <http://www.meru.org/Posters/hextorus.html>] and a 2-D "triangle" version of our 3-D "tetrahedron-meeting tent" [see the archive poster at <http://www.meru.org/Posters/ColorLightinTent.html>].

So if the waggle dance is good enough for bees, why shouldn't it be good enough for us to find our way by the same means? It seems to me that this is one natural, non-miraculous element that may have gone into the realization of the universal nature of hand gestures.

And further, since honeybees can't intellectually *know* to do this waggle dance (as I mentioned above), their behavior must be intrinsic. In this sense, the honeybee "waggle dance" is a perfect embodiment of the "shape of information". [For more on the "shape of information" as I mean it here, see <http://www.meru.org/Noetic/ShapeofInfoA3Higraf.pdf> ]

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