Instead of presenting a thorough analysis of various claims related to "animal languages," we will instead consider one additional claim (among the most famous) made by the advocates of this notion. Many readers doubtless recall being taught at some point that bees truly have a language among themselves; for example, one bee "does dance" to deliberately instruct another about where and how to find a certain flower. In fact, this story is a fairy tale.

Scientists as far back as Aristotle (†322 BC) knew about the "dance of the bees," but rightly refused to accord to it any sort of rational communicative value. In modern times, however, a closer analysis observed patterns in this dance. This should not have been surprising—animals always exhibit patterns by virtue of their instincts which are always to some degree predictable. Instead of this sober analysis, however, modernist thinkers quickly insisted this must be a hidden language; full of intentionality and at least some degree of reason. Such propositions as these display the standard response of certain modern empirical scientists to their own data. They know the interpretation they want their data to support, therefore they surreptitiously promulgate this mere interpretation of the data as a "conclusion of the study," failing to recognize (or refusing to acknowledge) that they have slipped a philosophical interpretation into the supposed objective description of the study itself.

In the same book quoted above, *Doctor Dolittle's Delusion*, Dr. Anderson dared to ask the obvious questions about these bees that the animal-language-advocates refuse to ponder:

> Does the original forager ''intend'' to communicate and thus to recruit others? Why does the dance correlate with the location of the food in the way it does? That is, where does the behavior come from? Do the bees ''learn'' how to dance, or is the behavior innate? Is the information communicated in the dance really what leads the others to the food? Or is the connection between the properties of the dance and the location of the food source something human scientists can determine, but not the other bees? Is their subsequent flight to the same source guided in some other way? If it is indeed the dance that provides the information, which of its properties are meaningful to the other bees, and how do they extract the information they need?[i]

After posing these questions, he explained:

> Despite the seductive nature of the correlation between dance properties and location, **we cannot simply assume that the dancing bee ''intends'' (at any level) to communicate anything**. The dance **might be nothing more than an automatic response, an expression of the bee's internal state after returning from her foraging**. To see this, consider another potentially informative insect behavior pattern. A human observer can get quite an accurate idea of the temperature outside by listening to a cricket's chirping. Count the chirps during a period of 14 seconds (some say 15), add 40, and the result is the temperature in Fahrenheit. Despite the straightforward information conveyed, there is no reason to interpret the cricket's behavior as ''intending'' to communicate the temperature to anyone. The rate of chirping depends on the insect's internal state alone… **It is consistent with this ''deflationary'' story that the dance system is completely innate and involves no learning at all.** This is apparently the case with most bee behavior. For instance, bees that smell of oleic acid (a product of decay released by dead insects) elicit a preprogrammed behavior pattern. Other bees presume that any bee emitting this aroma is dead. They pick up the presumed corpse and carry it toward the hive entrance, eventually ejecting it. This phenomenon is fairly easy to understand, since a large number of bees die within the hive at any time and must be removed. Yet even a bee that is alive and kicking will be treated in this way if dabbed with a bit of the chemical that produces the behavior in the other bees. As for the potentially communicative parameters of the dance, several factors show the innateness of the system. One is the fact that **bees raised in isolation,**

> **lacking any experience of dancing by other bees, will nonetheless dance correctly as soon as they are introduced to the hive**...When bees with a different ''waggle factor'' are introduced into a hive (after appropriate precautions to keep them from being killed), their dances are interpreted in the wrong way and recruits arrive too far away or too near. Under these circumstances **neither the dancers nor their audiences ever learn either to modify the dance or to interpret it correctly. For any given bee, the relation between dance properties and location of food is cast in stone as a result of the dance's genetic basis**...

Here we have arrived at the crux of the matter: *everything* that *any* mere animal--from the most complex, such as dolphins or monkeys, down to the simplest insects or bacteria—can *ever* do is nothing but a consequence of instincts that are built into its nature. They can be actualized in various ways due to circumstances, and the more advanced animals can be trained by having their instincts steered; but in no case is any actual learning, understanding, or reflection taking place. Dr. Anderson continues, contrasting this to human language:

> The power of human language derives from our ability to use it to say (and understand) things that are novel. If the set of messages were limited and fixed in advance, this possibility would not exist. A bee language in which only two things could be said would be qualitatively (as well as quantitatively) different from human language...Many communication systems found in the animal world are far more limited than that of the bees, in that they can express only some fairly small finite number of distinct messages. What is formally the same message may have different force in different contexts, but bird calls and vervet monkey or prairie dog alarm calls convey in themselves one of a small number of messages.

Before leaving this matter aside, we should note that bee-dance-theory is not settled. While there is certainly no language or rational communication evident (no matter what approach is taken to its scientific interpretation), it also remains possible that there is no communication at all contained within it. Dr. Anderson compares the findings of several scientists who studied the bee dances. He says:

> Wenner and Wells suggested that the actual way recruits find their way to the food is through odor. The cues include specific pheromones released by foragers who happen upon a rich food source, faint trails of smell the initial forager may leave behind in the course of her return to the hive, and the general odor of the relevant neighborhood, detectable from the forager herself during the dance along with the smell of the food source. Bees have an extremely keen sense of smell, so the possibility that odor is what leads them to return to the source exploited by the dancer cannot be excluded. One piece of evidence invoked to show that the dance cannot be as informative as von Frisch thought is the fact that the recruits take several minutes to arrive, much longer than their speed of flight requires. Wenner and Wells's experiments suggested the predominant role of odor and the ineffectiveness of the dance.

Although Dr. Anderson continues to side with the view which interprets the dance as the instructive thing, we should not discount other possibilities. Whichever is the correct understanding of the "bee dance," (a question I do not intend to contribute to, much less settle, here) we should certainly grant that bees—and all animals, plants, insects, etc.—are unbelievably intricately designed masterpieces of God's handiwork. We will never stop learning more about their operation, and we should continue to scientifically study them—including their communication methods. They are each vastly more capable and intricate than the most powerful supercomputer that will ever exist, or the most "deeply learned" AI system that will ever be designed. We will always learn from creation.

Nevertheless, they can essentially be compared to the execution of a program whose programmer is God. They *cannot* independently reason about *any* situation since they do not have the spiritual faculty of intellect, and they *cannot* freely choose *anything* (but can rather only act on instinct), since they do not have the spiritual faculty of will.

[i] Page 75-76