theory), and the calculations show that, more often than not, the effect is to speed up the comet, and likely to make it escape from the Solar System.[4]

Indeed, it would seem that no calculation is needed to show that this must happen in the long run. For an encounter either sends the comet out of the System or it does not. If it does, that is the end of the story. If not, the comet goes around again, and there will be another encounter with the planets. There can be but one ending.

It is just the same as the way in which children, splashing in a wading pool, are sure eventually to empty it. For water which is splashed out is lost. That which is splashed, but lands back in the pool, is splashed again and again; until it is thrown out.

The conclusion to be drawn from all this is plain. If the Solar System were as old as it is claimed to be, how could any long-period comets be left? They would all have been thrown out of the System long ago. Again, there is no evidence for any reservoir. In fact, the very presence of comets, whatever be their periods, is thus good evidence for a young Solar System.

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NOTE AND QUOTES ON LINGUISTICS AND THE GIFT OF SPEECH

GEORGE F. HOWE*

In conversation some months ago with Mr. Robert Escudero (linguistics expert of La Canada, California) I learned that linguists hold two quite different positions about the origin and nature of human language — *empiricist* and *rationalist*. Empiricists believe that language is largely a learned or acquired response. They assert that the human has no special capacity for language as such but only a general ability to learn.

Rationalists, on the other hand, suggest that man has an inborn capability for language which makes him qualitatively different than the other creatures. Rationalists maintain that language is the outworking of what they call an "innate specification." The evidence favors the rationalist view.

Mr. Escudero further demonstrated that the language concepts of the rationalists fit closely with the creationist's understanding of man formed separate from the animals and biblically, "In the image of God." To demonstrate this, he forwarded a valuable quotation from the literature. Harcourt, Brace, and World, Inc., has permitted re-publication of the following excerpt. It is presented here without further comment as strong linguistic evidence favoring the special creation of man apart from any animal ancestry.

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EXCERPT FROM

Language and Its Structure, by Ronald W. Langacker, © 1967, 1968, by Harcourt, Brace & World, Inc., New York, pp. 237-239, reprinted with the publisher's permission.

The Evidence for Innate Specification

The evidence for the rationalist claim is very strong. Consider first the uniformity of language acquisition throughout the human race. We have seen that every human child learns a language unless he is the victim of extreme mental deficiency or isolation from language use.

There are all sorts of physical and intellectual skills that children can fail to master despite a considerable amount of instruction, but talking is not among them. This is precisely what one would expect on the basis of the assumption that language is innately specified almost fully, with linguistic experience serving mainly to activate the genetically specified system.

While the species uniformity of language acquisition fits in perfectly with the rationalist position, it conflicts with what we would expect on the basis of the empiricist viewpoint. If the acquisition of language depended mainly on the training the child receives, we would expect differences in training to correlate directly with differences in language acquisition (if general intelligence is held constant.)

In fact, however, this expectation turns out to be false. A child learns to talk regardless of whether or not his parents constantly pursue him, correct him, and put him through linguistic drills. Some parents do this, others do not, and some children don't even have parents—but they all learn to talk.

Despite wide variations in the amount of speech they are exposed to, all children acquire a full-blown linguistic system. There are no cases on record of children who have only learned half a language, who have failed to master any syntactic rules, who lack underlying phonological representations, or who have not picked up any complex lexical items. The vicissitudes of early linguistic experience are not matched by any comparable variations in linguistic structure.

A second argument in favor of the rationalist position is provided by the fact that only human beings learn to talk. The most likely nonhuman candidates, of course, would be the higher apes—chimpanzees, for example. They are anatomically similar to humans and are also reasonably intelligent; they can learn to use tools and to solve simple problems. The difference in intelligence between apes and human beings is thus not absolute, but only a matter of degree.

When we consider language, however, we find an absolute distinction. The progress that apes can make toward mastering a human language is not proportional to their intelligence—in fact, they can make no progress whatsoever. Experiment has shown that a chimpanzee, even when raised exactly like a child, acquires nothing that bears even the faintest resemblance to the linguistic systems that human children learn so easily.

Language is therefore peculiar to our species. Moreover, it is not directly tied to intelligence. These observations are perfectly compatible with the view that language develops in the human child because of a special, inborn linguistic capacity. Apes cannot learn to talk because they do not possess this innate structure.

This simple and natural explanation is not available if one adheres to the empiricist position. If language is a function of general intelligence and not of any special linguistic capacity, then other animals should, given proper training, succeed in acquiring language to a degree proportional to their intelligence. Experiment has shown that this is not the case.

There is absolutely no evidence to indicate that anything even remotely resembling the complex system of rules and abstract underlying representations of a human language can arise in other species.

The relative perfection of language acquisition is a third argument for innate specification. If language reflected general intelligence and not a special linguistic capacity, we would expect differences in intelligence to correlate directly with differences in language acquisition (if training is held constant). We would expect bright children to do better than stupid ones in mastering a linguistic system. We would also expect some children to fail miserably at acquiring language, just as many children fail to learn geography or the procedure for extracting square roots. We would expect some children to wind up with linguistic systems so deficient or so distorted as to be unrecognizable.

These expectations are not borne out, however. Bright children, average children, and stupid children all learn to talk. They are all successful at mastering a linguistic system that is virtually identical to that of their models, one which is neither distorted nor deficient.

Regardless of general intelligence, a child succeeds in mastering a complex system of rules and underlying representations that specifies an infinite set of sentences. Children may vary on minor points such as volubility or size of vocabulary, but they do not vary with respect to the significant structural features of linguistic organization. If the role of learning is minimal, serving only to activate the innate system and to fill in some details at the structural fringes, it is impossible for radical structural errors to arise.

The abstractness and structural complexity of languages is a fourth strong argument in favor of the rationalist view. We know a great deal about language, but despite centuries of serious investigation, we would be at a complete loss to describe exhaustively the structure of any language, even the most intensively studied.

But this is essentially what the child does. He masters the entire set of lexical items and structural principles that constitutes a linguistic system. He does this on the basis of indirect and fragmentary evidence, and at an age when he is not yet capable of logical, analytical thought. This remarkable phenomenon can be explained in terms of the rationalist view, but hardly in terms of the empiricist position.