

What is the main feature of human language?

		Human	Great ape		Small ape		Monkey								Songbird		Bird	Rodent			Bat			Dolphin	Dog	Honey bee			
	ANIMAL	Human	Chimpanzee	Bonobo	Gorilla	Lar gibbon	Silvery gibbon	Grivet	Campbell's	Putty-nosed	Black-fronted titi	Diana	Marmoset	Tamarin	Japanese macaque	European starling	Zebra finch	Japanese quail	Parrot	House mouse	Brown rat	Chinchilla	Brazilian free-tailed	Free-tailed	Nathusius pipistrelle	Oceanic	Dog	Honey bee	
General	FEATURE																												
	Partial asymmetric cerebral areas	✓	✓	✓	✓	✓	✓									✓	✓		✓										
	Awareness of others' mental states	✓	/	?	?																						?		
	Sensitive period of learning	✓															✓	✓		X									
	Vocal learning capacities	✓	X	X	X	X	X	X	X	X	X	X	X	X	X	X	✓	✓		✓	/	/	/	/	/	/			
	Fast mapping	✓																		?								/	
	Displacement	✓	/	/	/															?							?	✓	
Purpose	Turn taking	✓	?	?	?	?	?	?	?	?	?	?	✓	?	?					?							?		
	Innate predispositions	✓	/	/	/	/	/	/	/	/	/	/	/	/	/	✓	✓		/	/	/	/	/	/	/	/	/	/	
	Functionally referential	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	✓				✓	✓	✓	?	✓	
	Reference of abstract entities	✓	?	?	?																			✓	✓	✓			
	Mating, defending and alerting purposes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Social purposes	✓	?	?	?												?	?		?				✓	✓	✓	✓		
	Intentionality	✓	/	?	?	?	?	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	?	X	X
Perception	Flexible vocal comprehension	✓	/	/	/	/	/	/	/	/	/	/	/	/	/	/			?					/	/	/		✓	
	Isochrony discrimination	✓	?	?	?	?	?	?	?	?	?	?	?	✓	?	?	?	?		✓	✓	✓							
	Detection of predictive dependencies between elements	✓	?	?	?	?	?	?	?	?	?	?	?	?	/	?	?	?	?		?	?	?						
	Words recognition in the speech signal	✓	?	?	?	?	?	?	?	?	?	?	?	?	/	?	?	?	?		✓	✓	✓						
	Extraction of algebraic rules in the speech signal	✓	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?		X	X	X						
	Phoneme discrimination	✓	?	?	?	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓						
	Vocal combinations	✓	/	/	/	✓	✓	/	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	/	/	/	✓	✓	✓			
Production	Sign combinations	✓	✓	✓	?																								
	Duality of patterning	✓	?	?	?	?	?	?	✓	?	?	?	?	?	?	?	✓	✓		✓									
	Dialects	✓							?	?	?	?	?	?	?	✓	✓	✓					✓	✓	✓				
	Tail recursion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓									
	Center-embedded recursion (*)	/	?	?	?									X		/	?												

Have	✓	Ongoing / Possible research	?
Have-Restricted	/	Empirical data existent	
Have not	X	Plausible generalizations / assumptions	

What is the Main Feature of Human Language?

Some theorists believe that human language has an exclusive feature called *recursion*. In plain words, recursion is a process of adding items in a sequence, as many times as needed to create a longer sequence. There are at least two kinds of recursion, *tail recursion* (TR) and *center-embedded recursion* (CER). In TR items are added in the extreme of the sequence, as in the following example (from Corballis, 2007):

This is the house that Jack built. → This is the malt that lay in the house that Jack built. → This is the rat that ate the malt that lay in the house that Jack built.

In CER items are added in the center of the sequence, as in the following example (from Corballis, 2007):

The malt that the rat ate lay in the house that Jack built. → The malt that the rat that the cat killed ate lay in the house that Jack built.

Despite the existence of empirical evidence on certain songbirds' capacity to process CER, the mainstream academic opinion is that all the non-human communication systems can be explained in terms of TR. Nevertheless, apparently CER is very difficult to process, even for humans. Some theorists have claimed that CER is not present in the children's speech, and that in the adult's speech is very rare and has serious restrictions. So, if it turns out that CER is not the main and exclusive feature of the human language, which one could it be? Just look at the table above and pick your favorite!

[Corballis, M. (2007). Recursion, Language, and Starlings. *Cognitive Science*, 31(4), 697–704]