The world of animals and birds: Their feelings, thoughts, consciousness, and their language.

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Abstract:

We have our world, but most people think that we are alone. Are we really alone? Did nature forget to create a whole world for animals and birds like humans or we are just not able to discover their world and their life? Most birds and animals have feelings and thoughts like us, they are able to know their friends are, and who their enemies are. The world of animals and birds is really big and complicated. There are many documented stories for conscious animals. You like birds' songs right? Well, these beautiful songs are birds' language, their own way to communicate, understand, and deal with nature. Scientists think that discovering the language of birds, their way of communicating will help a lot in discovering the origins of humans' language. They discovered that FOXP2 is the gene that is responsible for language creating, and it's found in both humans and birds. So, simply, the world is not restricted to humans..!

Keywords: Communication; thoughts; feelings; language; FOXP2

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1. Introduction:

Our world is very big, there are humans, animals, and birds, even there are some creatures we don't know anything about them. There is more than one situation that proved that animals are conscious, have feelings, able to determine their enemies from their friends, and in their paper, we discussed these situations and analyzed them. But If animals are able to feel and able to be conscious, are they able to communicate in a language like English or French? To answer this question we need to know what is language first which is explained simply, to let us finally determine the language of animals and birds.

2. Do animals have feelings and thoughts?

When we check out the human brain, we see that it's an elaboration on earlier brains. An elaboration that comes from a long sweep of evolution. If you check out the human brain and therefore the chimpanzee brain, you'll see that the human brain is a very big chimpanzee brain. And there's a dolphin brain, bigger, more convolutions, what's it doing thereupon brain? We are

able to see brains -We can't see minds, but we are able to see the workings of the mind within the logic of behaviors.

Some elephants shaded a patch under big trees because that's an honest place to let the babies attend sleep. The adults are resting, too. But they're just dozing which they're staying slightly bit vigilant all the time. We understand that because they understand the sense of the world in similar ways. They seem relaxed because they're relaxed. They've chosen the shade for an equivalent reason we'd choose the shade. It seems that, if you record any speech of tourists and herders who sometimes hurt elephants, then you play it through a hidden speaker, the elephants ignore the tourists, but they bunch up and flee in fear from the conservations of herders. They put differing kinds of humans in several categories. They know what's happening. They know who their friends are; they know who their enemies are; they know who their relatives are. They have the same imperatives that we've. Whether ashore or within the ocean, it is the same: Life is extremely vivid. They have ambitions for seniority. They compete. Their lives follow the arc of a career as our lives do. We both plan to stay alive, get food and shelter, and lift some young for the subsequent generation. Animals are not any different from us in this regard which I feel that their presence here on Earth is tremendously enriching.

2.1 Are animals conscious?

People sometimes still ask; "But are they conscious?" well, when you get general anesthesia, you become unconscious. It means that all of your sensory input is stopped. You have no sensation of the world around you. That's unconscious. When you have a sensation of the world around you, you are conscious. Consciousness is very widespread. In 2012, the Cambridge Declaration on Consciousness crystallized a scientific consensus that humans are not the only conscious beings and that 'non-human animals, including all mammals and birds, and many other creatures, including octopuses' possess neurological substrates complex enough to support consciousness.

2.2 Do animals have empathy?

Some people think that empathy is a very unique thing that only humans have. But, simply, empathy is the mind's ability to match the mood of your companions. The oldest kind of empathy is named contagious fear. If you are a bunch of companions, and suddenly they all startle and leave, then it isn't very good for you to keep staying there asking " Hey, I wonder why everybody has just left ?" and that is what happens with a group of birds when you look at the sky and see a set of bird migrate. There are many stories of elephants finding people who were lost, and they are documented. In one case, a blind old woman got lost and was found the next day with elephants guarding her. They had saved her in sort of a cage of branches to protect her from hyenas. That seems supernaturally to us but it comes naturally to elephants.

A group of people has also seen humpback whales help seals that are hunted by killer whales. There is a documented story of a humpback sweeping a seal on its back out of the water away from the killer whales. These things seem weird and new to us because these incidents were documented recently. But they have been doing these kinds of things for millions of years, we just didn't recognize them. Therefore, it's empathy!

Fig 1. Elephants' sympathy with an old woman

3. What is language?

Every day we see the world is running by the English language, Arabic language, body language, sign language, formal language, informal language. The question comes here, what is language? "Language" is the word that we use in English, Arabic, French, German, or any other of 7000 variations that we call language. I can say I love you indifferent and in different ways. I can say I love you like getting pulley of you, I can say I love you and my purpose is to make you a joke, And I can say I love with all the feelings of love and I really mean that I adore you.

The signs we do with our mouth, face, arms, legs, etc, when we speak tell a lot about what we want to say. So, Language is not just what we say, but, how we say it. Simply "It is a communication". Therefore, Language is the way we communicate. It is the way we can understand, interact with each other.

Let me tell you a story, Once upon a time, There was a baby called kenzy; She was adopted and adjusted to life in her new home. Her mother was learning some English with a language coach, and Kenzy usually came along, though, she didn't appear to pay much attention. But, the language coach noticed that he seemed to be picking up on how to communicate, just by watching her mother's lessons. Kenzy was picking things up faster than her mom. For example, the two phrases " you tickle " and "tickle you" mean two different things and Kenzy's mom was spending a hard time understanding this syntax, but kenzy was able to pick it up faster than his mom just because of unbaptized observations. One day, Kenzy was playing with stuffed animals, the coach asked her to make the dog bite the snake. Kenzy put the snake in the dog's mouth like it was not a big deal. But actually, it is a big deal because Kenzy is like a Bonobo, a language superstar, even among the elite research primates like Koko, the Gorilla.

Kenzy demonstrated that language can be acquired spontaneously through observations. No observations, No planned training. She was the first to show a rudimentary understanding of Grammer, Syntax, and Semantics. Big deal, especially because for years humans have been proclaiming that language is what sets us apart from animals. But are we really alone?

We define language as a set of words that are spoken written or even signed and the way we combine them to communicate. Once this definition changes to include complex grammar, then maybe we are alone, but is it language? Definitely no, with few words, language is the ability to communicate through a sequence of symbols that are meaningful and make sense. Maybe language is the signs I do while asking for a restaurant in India, or what Kenzi does when she is asking for a bathroom.

We communicate by engaging our brains and bodies to make sounds that let us transfer thoughts from our brains to other people's brains. But of course, language is not a vibration of sounds. I can communicate by moving my hand or by using visual symbols, or by touching dots like braille. All of these are forms of language that allow us to comprehend things and exchange information between us simply and quickly to get a new job, have a date, or even read this paper.

There are about 7,000 different languages for humans. No matter how different they sound because we can break down their structure, in the same way, using 3 building blocks:

Phonemes: They are very short, distinctive sound units like – a, t, ch, sh.

phoremes: Phonemes join together to make phoremes which are the smallest units to carry meaning, these can be words or parts of words like a prefix or a suffix. For example, the word "speech" is a phoreme that contains 4 phonemes which are "s,p,e, ch".

Grammar: A system of rules that allows us to communicate with, and understand others.

The word "infant" comes from the Latin." infans "means "not speaking". Latins began to recognize the difference in speech and started to read lips matching mouth movements with their corresponding sounds. And that markets the beginning of Receptive language which is the ability to understand what is being said both to, and about us. And that receptive language blooms to accommodate the productive language, instead of just understanding the other people, they begin to develop their abilities to produce words. And it takes a while of practicing which is called Babbling like when your child starts to say ba-ba or ma-ma. So now you know enough about human language, What about birds?

4. The language of birds:

We knew that most animals and birds have thoughts, sympathy, and consciousness, it's time to know how they communicate. People thought that joining sounds together to create a meaningful language is a human characteristic, but new research was published in PLoS Biology found that blabber birds also developed their own phonetic language, just like what humans did! Researchers also believe that studying these birds could give us a chance to know why and how our language developed to what it is today. Biologists studying these wonderful birds learned that they can arrange meaningless sounds to form messages. Their discovery may reveal a step in the emergence of the complicated language systems we use today. By now you're maybe asking – don't parrots do the same thing? Well, that's a rational question, but the answer is no, parrots don't do the same thing. Parrots are good at imitating, but they don't understand what they're saying and it's not clear that they can create new messages with the sounds they do. So, what makes these birds special? First, babbler birds have fifteen different sounds that they use for specific situations.

To make things more interesting, they sometimes use these sounds in pairs for more specific situations, and they also use the same sounds but with slight changes to send a very different meaning. In other words, they have sounds which they use to send a meaningful, genuine, and effective message. Lead author Sabrina Engesser said: "Although studies show that animals, especially birds, are capable of stringing different sounds together as a complex song, these songs generally miss a specific meaning, and changing the arrangement of sounds within a song does not seem to change its overall message."

Fig 2. A babbler bird

Just to clarify things – they emit sounds, but they don't sing. "In contrast to most songbirds, chestnut-crowned babblers do not sing. Instead its extensive vocal repertoire is characterized by discrete calls made up of smaller acoustically distinct individual sounds." she added "We think that babbler birds may prefer to rearrange sounds to code new meaning because doing so through combining two existing sounds is quicker than evolving a replacement sound altogether." said co-author Professor Andy Russell who has been studying the babblers since 2004.

Scientists have long looked for clues like this elsewhere within the Animalia, and they've found them here and there. Studies on Campbell's monkeys revealed that they need two specific predator alarm calls which will become a general distress signal by adding one suffix. However, this signifies that they're still within the very early stages of developing a language.

Let's take an example: say you've got three sounds: A, B, and T. you'll arrange them in several ways, you'll say TAB, BAT, AT, and even things like BABA to mean various things – this is often how languages are formed, and babbler birds seem to be very good at it already. this is often the primary time any animal has demonstrated language.

"To our knowledge, this can be often the first demonstration that animals have the essential capacity to use phoneme-like contrasts to derive qualitatively new meaning, a basic component of phoneme structuring," the authors wrote. Today, there's growing evidence that humans and birds have more in common than the straightforward ability to supply many different sounds. In fact, we share brain structures and genes that are related to speech. The idea of knowing the origin of the sound of birds would open a replacement gate to understand the origin of human language was

suggests in 2013 by Shigeru Miyagawa. He and his colleagues recommended that human language relies on two different systems, both of which had previously evolved in simpler animals. the primary system creates words. This "lexical" system is utilized by our primate relatives, like chimpanzees. The second system is "expressive". It creates patterns that don't include words, such as a tune that you hum. It's this system that Miyagawa says is similar to those underlying birdsong.

Birds like zebra finches learn their songs once they're young, usually from their fathers, and still sing those self-same songs throughout their lives. These songs don't contain words: they're just tunes with a definite pattern. Even nightingales, which are renowned for the complexity of their music, don't express meaning by singing. "The nightingale can sing up to 200 different songs," Miyagawa said. "But the aim of these songs is pretty limited, usually to mate and also to mention territory… So each song doesn't have a selected meaning."

"In humans, these two systems work together," said Miyagawa. The lexical system holds something like 60,000 words. Then the expressive system assembles them into patterns. He calls his idea the "integration hypothesis "As far as we all know, there are not many animals, aside from citizenry, that have the 2 systems integrated," Miyagawa said. He and his colleagues have suggested that humans may even have begun with the ability to sing, just like birds, and later turned words into songs. But the mixing hypothesis is debatable. Birds and humans have quite disconnected on the evolutionary tree: our last familiar ancestor with birds lived over 250 million years ago before the dinosaurs developed. So when linguists try to get the origins of human language, they need to bring specialize in our closest relatives, to primates.

According to many linguists, "Humans basically began with a lexical system, like monkeys, which use remote utterances like 'snake', 'leopard' and 'eagle'," Miyagawa said. The idea is that these individual words got joined into two-word sentences, and at the end into the long wordy sentences we use today.The problem with the "protolanguage" idea is in leaping from single words to sentences is a big one. We don't just string words together unspecified way: actually, the meaning of words can change counting on how they're utilized in a sentence.

"That's what makes human language special," says Miyagawa. There appears to be a huge jump from what primates can do to what humans can do. He believes that the mixing hypothesis, by introducing the element of birdsong, through an expressive layer, may help bridge this gap. However, the hitch with the mixing hypothesis may miss the scientific proof. this is often a problem for any concept that purports to elucidate where language came from. Unlike fossils which will tell us how our bodies evolved, there are not any physical remnants of early language.

Instead, we need to look for analogs to human language elsewhere in the animal kingdom. If we can find biological traces of them, this could provide very strong evidence to support or disprove your ideas about how language developed. The clearest link between humans and birds is that both are able to learn new sounds from others. As Darwin noted, young birds learn their songs from adults by simulating and develop them into a song or repertoire that belongs to them. Human infants show exactly the same process of vocal learning, first by babbling and then developing this into meaningful words and sentences.

Songbirds are obviously good at learning new calls, consistent with a 2009 study, they are able to learn the calls of other species, becoming "bilingual" or maybe "trilingual". These remarkable abilities are underpinned by specialized genes.

4.1 The language gene:

In 2001, Simon Fisher, the director of the Max Planck Institute for Psycholinguistics in Nijmegen, Netherlands, helped discover the FOXP2 gene. it had been later dubbed "the language gene" because its absence in some people coincides with speech problems. It's since been shown that birds and humans have this gene in common. Consistent with a study published in December 2014, birds and humans may share quite 50 genes connected to speech and vocal learning.

However, birdsong expert Johan Bolhuis of the University of Utrecht in the Netherlands is skeptical that the origins of human language can be explained this way. He and lots of linguists, including the influential American intellectual Chomsky, think language comprises much more than speech. They remarked that, in the absence of speech, humans use language in other ways – sign language, for instance. These linguists believe that an evolutionary change within the human brain between 70,000 and 100,000 years ago sparked the birth of the complex, sophisticated sort of language we use today. It coincides with the appearance of abstract thought, the production of jewelry, and cave art. As such, it is uniquely human. The special thing that the majority clearly sets apart human language from the calls or songs of other species is grammar. Chomsky stated that grammar is innate to humans in his theory of "universal grammar", that means even very young children instinctively grasp the principles, even once they don't understand the words in sentences.

It seems like birds and humans have developed vocal learning independently. This is named "convergence", and it's quite common. For example, birds, insects, and bats are only very distantly related to each other, but each group has separately developed the ability to fly.

The convergence towards vocal learning in birds and humans could also be partly explained by genetics. Fisher says the FOXP2 gene, far away from being restricted to humans and birds, is present in many other species.

"FOXP2 has been around for a very while," says Fisher. "One of the items it does are some things within the brain that relates to sequencing of movements. "FOXP2 has existed for a very while," Fisher said. "One of the items it does are some things within the brain that relates to sequencing of movements. So the idea is that FOXP2 was within the right place to be ready to help these sorts of vocal learning processes to appear." This transformation only happened in some species. Studies showed that something must have pushed those species to use FOXP2 differently. It may be something to make with the way birds and humans live. "Usually vocal learning develops in groups where individuals are long-lived and there's a transmission of data from one generation to the next," ten Cate said.

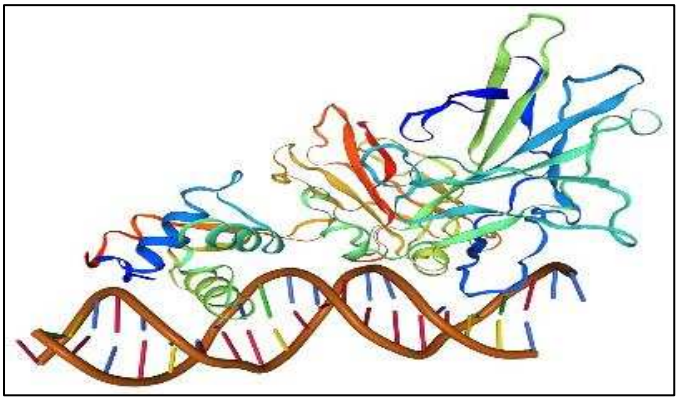

Fig 3. FOXP2 gene

5. Conclusion:

Animals and birds are sharing the world with us. We have feelings, thoughts, and consciousness, so, they are, and they can know when they’re in danger and when they’re safe. If animals feel, do they talk to each other with their own language? First, the definition of language is simply communication. And, yes, animals and birds do communicate. Scientists have discovered a gene called FOXP2, people who aren’t able to speak miss that gene and that gene is responsible for forming language in our minds and make us speak it with our mouth or even make a motion to represent anything. This gene is found in both animals and birds. So, Finally, We should respect those other creatures sharing the earth with us, but we just can’t discover their world.

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