Animal Language in the Quran: The Application of Charles Hockett's Design Features

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Abstract---The present paper aims at analyzing those Quranic verses which talk about the fact that animals, in general, ants and birds in particular, like humans, have their communication system. It also tries to investigate the applicability of Charles Hockett's design features for human and animal communication system in a Quranic perspective. In order to achieve these aims, the researchers have quoted the verses which narrate the events in which the non-human creatures talked, or better to say, communicated in a way that resembles to human language. It has been hypothesized that the design features proposed by Hockett are fully applicable to animal communication system as far as Quran is concerned. In the end, the researchers suggest that it is quite safe and sound to call the system by which animals interact with each other a language, like human language, not "animal communication system."

Keywords----Quran, human and animal language, Charles Hockett's design features

I. INTRODUCTION

In the following subsections, the researchers provide a short overview about Quran as text and concentrate on the fact that Quran has paid much attention to creatures other than humans, in general and animals in particular.

A. A Short overview of Quran

Quran, also spelled as Koran, or as القرآن *Qur* 'anin Arabic, here *Quran* is preferred, is regarded, a long side with the Ahadith, the Prophet Muhammad's sayings (Allah's peace and blessings be upon him), as the most Holy and sacred text in Islam. To have the belief that Quran is from Allah sent down to His slave and prophet, Muhammad, is one of the Islamic basic doctrines. Thus all the followers of Islam, i.e., Muslims, believe that Quran is the absolute truth and whatever is mentioned there is accordingly true (1,5, 8).

Quran was revealed and sent down to Allah's prophet Muhammad (Allah's peace and blessings be upon him) in Arabic language over 23 years, beginning from 610 AD[4].Philipp Stranzy (2005, p.75), the editor of the *Encyclopedia of linguistics*, states that "the language of the Qur'an is commonly held by Muslims to be that of God. [...] All Muslims are expected to recite scripture and pray in Arabic even if they do not understand what they are saying or reading."

The Quran has been divided into 30 chapters. These 30 chapters are also subdivided into further sections called Suras. There are 114 Suras. Each Sura consists of a different number of verses with various lengths. The total number of the Quranic verses is 6236 [6].

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B. Animals in Quran

Narratives about animals and insects and other creatures pervade the Quranic texts. In many occasions and events animals and insects are mentioned here and there in the stories of Allah's messengers. In the Suras of Quran, reference has been made to so many birds, mammals, pets, etc. Not surprisingly, there many Quranic Suras named after some animals and insects. Al-Baqara(the *Cow*), Al-An'am (the *Cattle*), An-Nahl (the *Bee*)An-Naml(the *Ant*), and Al-'Ankaboot (the *Spiders*) are some examples.

Recounting and discussing the different sorts of animals mentioned in Quran is not the concern of the present paper, butthe researchers rather try to concentrate on two stories in which two of the above creatures are narrated to have talked in An-Naml Sura. The two creatures were the ant and the hoopoe of Solomon. These two Quranic stories will be analyzed in the light of the Design Features proposed by Charles Hockett (1960) [3].

II. PREVIOUS STUDIES

To the best of the current researchers' knowledge, no previous studies have checked the applicability Charles Hockett's Design Features to the language of animals in the Quran. Thus, the present work can be considered as breakthrough.

III. DATA COLLECTION AND METHODOLOGY

"What are the properties of human language?" How is the system by which the non-humans communicate? Are there any differences between the language of humans and the language of animals?" these are some of the questions that the linguistic theories try to answer. In series of attempts to provide an answer to these questions, Charles Hockett, the American linguist and anthropologist, could propose set of 13 properties for spoken human language, called design features. Healsop in pointed that some of these design features are unique to human language and some are shared with non-humans. The following points sum up the design features:

(1) *Auditory-vocal channel*: Sound is used between mouth and ear, as opposed to visual, tactile, or other means.

(2) *Broadcast transmission and directional reception*: A signal can be heard by any auditory system within earshot, and the source can be located using the ears' direction-finding ability.

(3) *Rapid fading*: Auditory signals are transitory, and do not await the hearer's convenience.

- (4) *Interchangeability*: Speakers of a language can reproduce any linguistic message they can understand.
- (5) Total feedback: Speakers hear and can reflect upon everything that they say.
- (6) Specialization: The sound waves of speech have no function other than to signal meaning.

(7) *Semanticity*: The elements of the signal convey meaning through their stable association with real world situations.

(8) *Arbitrariness*: There is no dependence of the element of the signal on the nature of the reality to which it refers.

(9) Discreetness: Speech uses a small set of sound elements that clearly contrast with each other.

(10) *Displacement*: It is possible to talk about events remote in space or time from the situation of the speaker.

(11) *Productivity*: There is an infinite capacity to understand meaning, by using old sentence elements to produce new sentences.

(12) *Traditional transmission*: Language is transmitted from one generation to the next primarily by a process of teaching and learning.

(13) *Duality of patterning*: The sounds of language have no intrinsic meaning, but combine in different ways to form elements that do convey meaning.

([3]; cited in [2])

As Crystal (2010, pp. 421-2) explains, according to the design features put foreward by Hockett (1960), except for the first two ones, all the other features are unique to humans.

In the light of the Quranic verses which talk about the animals in two narrarives pertained to Sulaiman (Soloman) in An-Naml Sura, the researchers try to explore the applicablity of these 13 designs features. the next section will be allocated to this issue. In order to do that they quote the verses from the Quran.

IV. FINDINGS AND DISCUSSIONS

As we mentioned earlier narratives pervade the Quranic text. In many Suras, Quran tells the stories and events taken place during the eras of the prophets and and messengers prior to the Prophet of Islam, i.e., Muhammad(peace be upon him), sent to the people byAllah.

One of the stories narrated is the story of the Prophet Sulaiman (peace be upon him) with two non-humans, an ant and a hoopoe. It is necessary to mention an out standing properties of Prophet Sulaiman is that he learned the lanaguage of birds, and insects, as we will refer to the verses manifesting these facts. This story is narrated almost at the outset of An-Naml Sura. Actually, this story is of two parts. One part is about the ant and the other is about the hoopoe. In both parts these two nonhumans talk and Sulaiman understands them and communicates with them. Here, the researchers analyse the design features of Charles Hockett in the light of the story of Sulaiman with the ant and hoopoe. First we will quote the verses in Arabic, below which their English translation is provided, and then we will discuss each focal point that serves our arguments in detail.

Allah says:

And We had certainly given to David and Solomon knowledge, and they said, "Praise [is due] to Allah, who has favored us over many of His believing servants."

And Solomon inherited David. He said, "O people, we have been taught the language of birds, and we have been given from all things. Indeed, this is evident bounty."

And gathered for Solomon were his soldiers of the jinn and men and **birds**, and they were [marching] in rows.

Until, when they came upon the valley of the ants, an ant said, "O ants, enter your dwellings that you not be crushed by Solomon and his soldiers while they perceive not."

So [Solomon] smiled, amused at her speech, and said, "My Lord, enable me to be grateful for Your favor which You have bestowed upon me and upon my parents and to do righteousness of which You approve. And admit me by Your mercy into [the ranks of] Your righteous servants."

And he took attendance of the birds and said, "Why do I not see the hoopoe - or is he among the absent?

I will surely punish him with a severe punishment or slaughter him unless he brings me clear authorization."

But the hoopoe stayed not long and said, "I have encompassed [in knowledge] that which you have not encompassed, and I have come to you from Sheba with certain news.

Indeed, I found [there] a woman ruling them, and she has been given of all things, and she has a great throne.

وَجَدتُهما وَقَوْمَهما يَسْجُدُونَ لِلشَّمْسِ مِن دُونِ اللَّهِ وَزَيَّنَ لَهُمُ الشَّيْطَانُ أَعْمَالَهُمْ فَصَدَّهُمْ عَن السَّبِيل فَهُمْ لَا يَهْتَدُونَ ﴿24﴾

I found her and her people prostrating to the sun instead of Allah, and Satan has made their deeds pleasing to them and averted them from [His] way, so they are not guided,

[And] so they do not prostrate to Allah, who brings forth what is hidden within the heavens and the earth and knows what you conceal and what you declare -

Allah - there is no deity except Him, Lord of the Great Throne".

[Solomon] said, "We will see whether you were truthful or were of the liars.

Take this letter of mine and deliver it to them. Then leave them and see what [answer] they will return."

([7], [An-Naml 27: 15-28])

In verse 15, it is clearly stated that Allah bestowed Dawood (David) and Sulaiman knowledge. That knowledge is explained in the next verse, i.e., verse 16, where Sulaiman states that he was taught the language of birds and later the language of insects is also included." منطق الطير" (*mantiqat-tair*) means the *language of birds*. The noun "نَطْقَ" (*nataqa*) which has the following synonyms in an Arabic-Arabic dictionary:

Arabic Synonyms of "نَطَقَ" (<i>nataqa</i>)	English Translation
أنْبَا	to state
بَاحَ	to announce
تَكَلَّمَ	to speak, to talk
ڝؘڒؖڂ	to express
قال	to say
أفظ	to utter, to pronounce
تَلَفَظَ ب	to tell something

(Almaany Arabic-Arabic Dictionary, 2016)

These are only a small number of the synonyms of the verb"أنطق"(nataqa). They are all related to the verb to say, to speak, to state, to utter, etc. which are about speech, saying, pronouncing, i.e. using sounds.Syntactically speaking,the verb "أنطق" (nataqa) is intransitive and its transitive counterpart is "المنطق" (annataqa) which means "to make someone (or something as to our case), speak. The transitive form is used in other places in Quran referred to later in this section. Thus, one can say that animals use their own language similar to humans, as we have noticed in verses17 and 18 when Sulaiman and his army, consisting of humans, jinn, and birds, arrive at the valley of ants. Sulaiman heard that one of the ants, more accurately, a *she-ant*, because the ""(t) and the "s" "at" are feminine markers attached to the verb "فالت" (qalat) and the noun "iuli" (namlat), saidto her ant colleagues and called upon them and warned, with the use of vocative "'(ya) "O" them that the soldiers of Sulaiman would smash them if they, the ants, would stay in their whereabouts. This happens to to the hoopoe in verse 22 when it narrates that the hoopoe said where it was. These are all evidence of animals having a language. This matches with the first two criteria of the design features, i.e., Auditory-vocal channel and broadcast transmission and directional reception. In the same token, both the hoopoe's and the ant's speeches contain the third feature rapid fading.

The *interchangeability* feature is clear in the two uses of the verb "وجد" (*wajada*), "*to find*" by the hoopoein two successive verses, 23 and 24, "إِنِّيَ وَحَدتُ الرَّاةَ" and "وَحَدتُها وَقَوْمَهَا". The same holds true for the use of the noun "قَوْمَهَا" (Imra'at) "*a woman*" and its counterpart" (ha) "*her*" in both "وحَدتُها (*inter a woman*" and its counterpart "المرَّاة" (qawmaha) "*her people*" where one idea or sense has been interchangeably expressed by the hoopoe.

The *total feedback* feature is found in both the ant talking to the ants and warning them to take shelter and hoopoe narrating what he found in his journey in Sheba to Sulaiman. The two speakers heard and reflected upon what they said. The reflection of the ant is that she had already saw Sulaiman and his army by means of this reflection she called her people to enter into their houses. The feedback of the hoopoe is his impression by the scenes he saw in Sheba and his comment upon the bad thing the queen and her people were doing, i.e., worshipping the sun instead of Allah. The hoopoe had his opinion about what he witnessed there.

To apply the *specialization* and *semanticity* features, one can say that if we visualized the two scenes expressed by the words of the creatures we can notice that the sounds used are only utilized to signal meanings

highly connected with their real world situation. Thus, it is crystal clear that these two features are found in the speeches of the ant and hoopoe.

The same is true for *arbitrariness* feature. There is no systematic but arbitrary relation between each single items or notions expressed by both the bird and the insect. For example, the relation between uttering the word " (masakinakum) "your dwellings" and the places where the ants take refuge in in the real ground is. Examples of this arbitrary relation are many, just like our language. As a result of this fact, one can notice that each single sound in all the speeches by both non-humans contrasts one with another. Thus, their speeches, likewise humans, are *discreet* and subtle. Each sound in the utterances by the two creatures has a feature which is different from the rest of the sounds.

The probability to talk about remote events in space and time from the current situation and moment, known as *displacement*, is unsurprisingly found in the stories. The ant's speech of warning is based on two facts: her past knowledge of Sulaiman and his army; her speech presupposes her past experience in one way, and she also thought of the result of the future mishap if the ants would have had been probably trodden by the army. Thus, this encompasses past, present and future. Accordingly, her speech has gained displacement. More surprisingly, the story of the hoopoe is completely characterized with this feature. The hoopoe narrates what he had witnessed in Sheba. When the hoopoe narrates this he was with Sulaiman in Jerusalem. The distance between these places is hundreds of miles.³ So, this bird was able to talk about a past event in a remote place in relation to the current situation.

Like the interchangeability examples mentioned earlier, the verb""(yasjud) "to prostrate" has been for producing two different sentences in verses 24 and 25. The participation of this verb in producing the two sentences tells us that this verb provides hoopoe's language with the **productivity** feature.

The *traditional* (or *cultural*) *transmission* and *duality of patterning* features cannot even be always found in human language. Adam, the father of humanity, (peace upon him) is narrated to be the first one who was taught the names of all the things, as Allah says in Quran:

And He taught Adam the *names* - all of them. Then He showed them to the angels and said, "Inform Me of the names of these, if you are truthful."(Al-Baqarah, [2: 31])

Al-Qurtuby (1930, pp. 283-4) states that the word *names* includes all languages. Thus, Adam was taught all the language. In the same way, Sulaiman was taught the language of birds and insect by Allah. This was a special type of teaching but still it is teaching. Thus, animal language is taught and can be learned.⁴We have other opinions about human language which support the idea that human language similar to animals genetically equipped with language. A linguist like Chomsky has a belief that animals are genetically enabled to learn the language that they are exposed [9]. In this case, the existence of the feature of will be a matter of controversy. In both cases humans and animals have been taught and equipped with ability to use, understand their languages.

³According to google map website the distance is between the two countries is 2,919.3 km by car.

⁴ This has been proven by modern scientific experiments. The same is also proven that animals learn from each other as well.

Regarding duality of patterning feature, as mentioned earlier, it is not all the time true that the sound are meaningless in isolation but gain meaning only when they are combined. This is because sometimes in human language we have meaningful sounds like, /m/, /f/ and onomatopoetic words. Still if we try to find this feature, all the verses narrating the two stories of prophet Sulaiman with the hoopoe and the ant will provide numerous examples. Any particular words you take there consists of some sound which are meaningless in the sense that they only give meaning when they are assembled in morphemes, or better to say words.

One might say that these verses of the Quran talk about something which is a matter of the unseen issues (ghaibiat), which we do not comprehend them fully while Hockett's is about something seen and observed by humans. It is true but the state of not comprehending something unseen does not mean that the unseen thing or status does not exist. Allah refers to this fact in a verse and says:

تُسَبِّحُ لَهُ *السَّمَاواتُال*سَّبُع وَالأَرْضُ وَمَنْ فِيهِنَ وَإِنْ مِنْ شَيْءٍ إِلا**َ مِسَبِّحُ** بِحَمْدِهِ وَلَٰكِنْ لَا تَفْقَهُونَ تَسْبِيحَهُمْ إِنَّهُ كَانَ حَلِيمًا غَفُورًا ﴿44﴾

The seven heavens and the earth and whatever is in them exalt Him. And there is not a thing except that it exalts [Allah] by His praise, but you do not understand their [way of] exalting. Indeed, He is ever Forbearing and Forgiving.

(Al-Isra 17:44)

Another support for our argument is another verse from Quran that say:

وَمَا مِنْ دَائَةٍ فِي الأَرْضِ وَلَا طَائِرٍ يَطِيرُ بِجَمَاحَيْهِ إِلَّا أَمُمَّ أَمْثَالُكُمْ ۖ مَا فَرَّطْنَا فِي الْكِتَابِ مِنْ شَيْءٍ ثُمَّ إِلَى رَبِّحِمْ يُخْشَرُونَ\$3%

And there is no creature on [or within] the earth or bird that flies with its wings except [that they are] communities like you. We have not neglected in the Registera thing. Then unto their Lord they will be gathered.

(Al-An'am 6: 38)

More particularly, Quran talks about a creature that will come out of the earth in the future and it will talk to the people. Allah will bring this creature out of the earth as sign for the day of the Judgement:

وَإِذَا وَقَعَ الْقُوْلُ عَلَيْهِمْ أَخْرَجْنَا لَهُمْ دَابَّةً مِنَ الْأَرْضِ تُكَلِّمُهُمْ أَنَّ النَّاسَ كَانُوا بِآيَاتِنَا لَا يُوقِنُونَ ﴿82﴾

And when the word [i.e., decree] befalls them, We will bring forth for them a creature from the earth speaking to them, [saying] that the people were, of Our verses, not certain [in faith].

(An-Naml 27: 82)

The Quran records a scene of the Hereafter in which the wrongdoers' and disbelievers' bodily organs, other than their mouths and tongues, talk and witness against their owners:

Until, when they reach it, their hearing and their eyes and their skins will testify against them of what they used to do. (20) And they will say to their skins, "Why have you testified against us?" They will say, "We were

made to speak by Allah, who has made everything speak; and He created you the first time, and to Him you are returned 21>

(Fussilat 41: 20-21)

The above and the other examples shown earlier are all evidence of the fact that humans have a system, like humans, they communicate with each other and that system is called language for both animals and humans⁵.

V. CONCLUSIONS

To conclude, as it has been explained during the previous section, all the elements of the design features developed by Hockett for describing the nature of spoken language of human beings are also applicable to the animals mentioned in Quran, in general, and particularly, to the stories of the bird, hoopoe and the insect, ant with Sulaiman. Though, Hockett only worked on the nature of animals and insects to the degree that he could understand only depending on what he observed and heard, there are things that are not in the scope of our understanding. Unless in special cases, as with David and Sulaiman and in other case referred in the end of the previous section, humans cannot fully figure out what is going on in the realm of other creatures. Thus, no one can fully describe their means of communication only Allah and, of course, those who are bestowed by Allah. To the viewpoints of the researchers, according to verses quoted earlier Allah is the one who gives the ability of speaking to every creature, humans, animals and etc. As confirmed throughout the previous section, according to the analyses done animals have language, and their language has all the 13 design features proposed by Hockett. Because of that, it is wrong to say that what distinguishes humans from non-humans is language. This is because each of them has their own language.

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⁵ In authentic hadiths (Prophetical Sayings) it was narrated that even inanimate beings like stones, rocks and trees greeted Prophet Muhammad (Peace be upon him), and camels and wolves talked to and about him.