

Koalas as Same as Apes Can Acquire Language?

Mehrnoosh Pirhayati

M.A. in English Language Translation, Department of English Language, Science and Research Branch,
Islamic Azad University, Tehran, Iran

Abstract Imagine you did not have the system of producing human language and only what you had were the numbers of one to ten. How would you thought that you might use them for communicating? one for hello? and two for bye bye? Now imagine you had only the system of songs, do, re, mi, fa, sol... So, you might probably use sol for saying hello? In here, some questions can be raised such as, does the language of animals can be assimilated to our understanding of sound ranges that human cannot comprehend them? For example, the sounds produced by ants, because what they produce are 1 kHz. How can be possible interpreting the language of them, even the ant? Does each types of animals have a particular recognizable culture which their languages, like human being were originated from it? Does this culture has overlaps with human's culture? - Does understanding their language can lead to appropriately employing them in human's life, instead of to working robots? Imagine you be able to talk with an animal by meaningfully using its language and telling him/her to do something for you and instead of psychologically accustoming them to work like this. That is the structure of this research to shed the lights on the language of non-human beings specially koalas, to probably kick the door of more investigation about them and make their lives easy in this modern world.

Keywords Animals, Communicative signals, Koala, Learning language, Non-human language

1. Introduction

By separating the species of human being, still can be seen that natural world contains different other species including dogs, birds, bears, etc. As can be observed, some animals that belong to different particular species can live individually, or as a group can live together. Everybody may have captured the scene of animals' fighting – from one or two different species, or their unification in hunting as, a joint effort. It is obvious that, they without having the system of human language can communicate with each other. As Yule [1] stated, bee with limited system of producing signals, by different kinds of dancing, can communicate with other bees. This range can be extended to the ability of chimpanzee in learning sign language, like Washoe, the female chimpanzee who learned 350 sings of American sign language. On the other hand, human's ability of learning language does not depend on its gene, like having brown eyes, yellow hairs, etc. Instead, it acquires language within a particular socio-cultural context in its relationship with other humans. That's why Korean infant who is born in the United States of America can be native in American language [1]. Human and animal both live in context, and make different

and various relationships with the other members of its or the other species. Sekhar Dash and Bhattacharyya [2], described Animal Communication System (ANICOMS) as the methods, ways, and models that a particular animal uses in communicating with the species that is considered as same as it or using for communicating with other species, like human, and also *the study* of ANICOMS that is known as *Zoosemantics*, with the aims of revealing particular inter and intra -communication patterns, and animals' meta-communications [2]. Generally, animals' communication can be appeared as what is brought in bellow:

- physically; through distinctive body parts,
- body movement,
- vocal communication
- olfactory communication
- electro-communication [2, p. 14].

He bolded two aspects that must be payed enough attention including, 1- the identification of selective pressures that provide suitable condition(s) for animal to develop its communication ability, and also 2- the identification of what that can be considered as the lacked features or behaviors that animal can learn it. So, the number three can be added to these points as, the identification of process/es that the animal gets the impact due to the normal environment and conditions as, feeling a sort of normality or desire by which without bearing any pressure tries to make communication and continue its relationship, like when a dog makes special relationship with its owner by producing

* Corresponding author:

mehrnoosh.pirhayati@srbiau.ac.ir (Mehrnoosh Pirhayati)

Published online at <http://journal.sapub.org/zoology>

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particular sounds and doing specific routine actions as showing its happiness. Based on Smith [3], the three levels must be taken into consideration by the scholars including, *syntactic level* that contains signals, like vision, scent markings, and hearings and he divided the signals into two different types of 1- discrete signals, and 2- graded signals, *semantic level* that is defined as the meaning and information that a particular signal contains. It was divided into two different types as 1- behavioral message that was described as its indications to what message that evolutionary was selected like attack, escape, or run, and how message that works as the supplementary and can show intensity, probability, directionality, etc., and 2- non-behavioral message that indicate to who message as what that point at the communicator like its sex, species, etc., and where message that shows the location of the producer or sender, and *pragmatic level* that shows the specific work of signal like it was produced to make threat, to warn, or to copulate.

Sekhar Dash and Bhattacharyya [2] bolded two types of interspecies communication as *prey to predator pattern* which its other name was brought as *interceptive eavesdropping*. However, some invariable communications of prey to predator cannot be named as interceptive eavesdropping like, warning coloration of some animals like wasps that acts as the modification of behavior of predator in such a way that, it instinctively, or as the result of its experience, avoid attacking it and *pursuit-deterrent signal* that can be comprehended as advertising the capacity of prey to scape in two aspects via *phenotypic condition* as *quality advertisement* which produces the 2- *perception advertisement* as the prey is detecting the predator. Predator to prey communication is happened to change the behavior of prey to deceive it and better catch it. Sekhar Dash and Bhattacharyya [2] further explained that, animals may not have human language communication system but, they send their desires, needs, and reactions through their sophisticated signaling systems of their own.

Hockett [4, pp. 89-97]; Hockett and Altmann [5, pp. 61-72] enumerated these four features that distinguished language system of human being from other species, 1- duality of patterning or double articulation, 2- prevarication, 3-reflexiveness (meta linguistic function of language), 4-learnability (learning and using more than one language) with mentioning that these four are completely unique as the properties of human's language system. The other features can be added to these four elements as, the ability of human in creating language at the both levels of lexis and syntax; by using a few fundamental laws of construction can produce a large number of meaningful and complete structures, the recursiveness of human as the ability of forming a sentence inside the other sentence without any limitation in length of the sentence, arbitrariness of human language as, the opposite of other species that are completely iconic and no signal can be broken in such a way that each part or signal separately presents a particular meaning or sense, redundancy and using ellipse, culture preserving/ culture

transmitting by human language as the opposite of sheer genetic inheritance or instinctively learning, and dynamicity of human language as it is changeable by the time, and space from the level of sound, meaning, sentence, idioms, to the level of discourse, and as the opposite of spatiotemporal stativity of other species [2]. So what can be named in here, the languages of non-human species that are used for their communication in comparison with the language of human, is de-language [2]. It can be comprehended that the overlaps and differences of these terms, language, speaking, and communicating have not been clearly pointed at by defining each of them. So, it brings the researcher to generally numerate the properties of human and other species in language as what exhibited in the form of this following table:

Table 1. Comparing human to non-human species

Human	Non-human species
1- Has language generated by the system of producing human signals	1- Has language , generated by the system of producing non-human signals
2- Also can communicate to non-human species; for example, by producing their similar and not their same signals; in this part they may also use some creative actual behaviors instead of, or as the complementary of other related oral signals.	2- Also can communicate to other species by producing signals (they can be creative or non- creative- understanding happens by its effect on the other species).
3- Can speak with his species	3- Can speak with its species

This table may can help to clarify the meaning of these three terms. Animals, due to their joint particular primarily-limited context, can talk with each other; by producing voices/ sounds or with actual and gestural behaviors. It seems that it can be enough for sending their messages, and understanding each other, like their expectations and aims. This research with focusing on koalas' behaviors tries to answer these bellow questions:

- 1- Are the ways of communication between two or a group of koalas that their lives get the impact by human in comparison with the condition that human and his life does not leave any impact on their lives changed? If yes, how?
- 2- Do koalas, due to getting such this impact, produce new sounds/patterns that can be regarded as different sounds, or as the new-advance level of speaking with each other?

This research aims to shed the lights on the language of non-human beings, like koalas to kick the door of more investigations about them and make their lives in this modern and industrial world easy.

2. Literature Review

Birchenall [6] through establishing a study compared the

ontogeny and phylogeny features of language to evaluate the capacities of human and non-human species. By his comparisons, the difference of human with other non-human primates (NHPs) was bolded via bringing this point, Planum Temporale (PT) within the Wernicke's area that engages in the process of non-linguistic voices, only in human-species also is sensitive to linguistic voices that can be found in the speech of human species. According to Geschwind and Levitsky [1968, as cited by Gage & Baars, 7] the asymmetrical prevalence form of PT, the location of it in auditory areas, and its closeness to Wernicke's area that is responsible for speech comprehension, grow this hypothesis that this part is the site for language processing. But, Neuroimaging researches responded to the role of PT in different classes of speech and non-speech sounds. Hickok [2009, as cited by Gage & Baars, 7] stated that, PT deals with so many classes of sounds for different varieties of tasks. Gage and Baars [7] explained that within the cytoarchitectural structure of PT, four distinct and different fields can be seen and each of them seems to correspond to different function of this area and so, this evidence can response to this question of why PT is activated for a wide variety of tasks and stimulus types, in so many neuroimaging investigations. Other scholars such as, Geschwind [8]; Wise et al. [9]; Karbe et al. [10]; Moffat et al. [11]; Nakada et al. [12]; Foundas et al. [13]; and Campbell et al. [14] also stated that, although a system of areas within the temporal cortex are important for the perception and comprehension of speech, particularly phonological processing is associated with the cortex of PT and inferior parietal lobe. This point sparks this question of so, what animals do with this part of non-human primate's area of language (PT)? [15;16]. These below figures can be helpful for more clarifications:

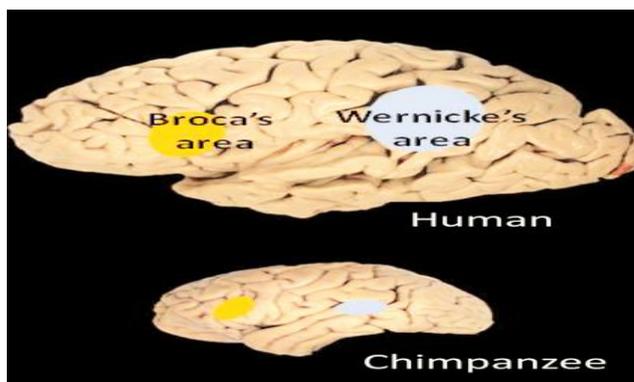


Figure 1. Broca's area and Wernicke's area in human's brain (upper), and Chimpanzee's Brain (lower) [17]

As Figure 4 proved, Wernicke's area, expands on the temporal lobe and parietal lobe. Cantalupo and Hopkins [21, Para, 3] reported the results of magnetic resonance images (MRI) on 20 from pan troglodytes or chimpanzee, 5 from pan paniscus or bonobo, and 2 from gorilla gorilla or gorilla, that proved the existence of a morphological human-like asymmetry in Brodmann area of 44 which is similar to that of human; left-hemisphere surface-area predominance of these

animals are similar to homologues cortical area of humans; mean left, 127.7 mm 2 ± 8.1 s.e.; mean right, 104.2 mm 2 ± 6.1 s.e.; $F(1,25) = 7.45$, $P=0.011$. This region plays a crucial role in the production of speech. They further explained that, the neuroanatomical substrates of left hemisphere in speech production are referred back to five million years ago and are not exclusive to be regarded as only the property of hominid [21]. The process of human's development can be viewed in two general different ways of *continuity theory* that argues, the process of development must be regarded as a cumulative and gradual process; and *dis-continuity theory* that defined the process of development as consisting of different stages, or is linear, or as like the steps of a stair; e.g., human child first of all is able to think literally and then, being able to do abstractly thinking [22]. So, in terms of considering the subject of cognitive and communicating ability of human and non-human ancestors, the followers of continuity theory such as, Gibson [23;24], and Armstrong et al. [25;26], believed that, although it must not be regarded as species-specific, it is innate. Continuity approach stands by assembling the pieces of a complex puzzle that are the results of scientific researchers, logical inferences, and empirical evidences [27]. This continuity approach that sees narrative pre-adaptation ("an anatomical structure, physiological process, or behavioral pattern in an organism that is by chance highly suited to a new habitat to which the organism migrates or that improves the chance of the organism surviving a change in environmental conditions" [28], and pre-narrative capacities started with apes and genetically and morphologically led to hominids and ended with modern human, unfolds in three major categories including 1- the evolution of cognition and narrativity: a. discussion over the structure of brain, and processes that marked as they underlie pre-narrative and narrative abilities, b. indicating to a cross-model of neuronal that do knowledge structuring processes and converting and transmitting the function from schemata or motor schemas (the representation of memory related to the parameters of movement which also known as recall schema or the sensory consequences of movement under the title of recognition schema; in schemata the relationship between the initial conditions, the generated motor commands, the sensory consequences of generated motor commands, and the outcome of the movement are represented [29].) to language, and c. gradual description and elaboration of narrative scripts from every day routines and over time into archetypal plot 2- the phylogeny of narrative as the continuity of gene from apes to hominids, and to modern human which taxonomically can be viewed or as cladistics that causes to establish the narrative evolution model as a phylogenetic model, 3-the ontogeny of narrative that shows an isomorphic mapping of pre-narrative abilities in apes and human children between the ages of 3 to 4 years old, and revealed that the act of recapitulation plays the most crucial role in comparison with the other factors in cognitive and language development of human children. [27, pp. 331-332].

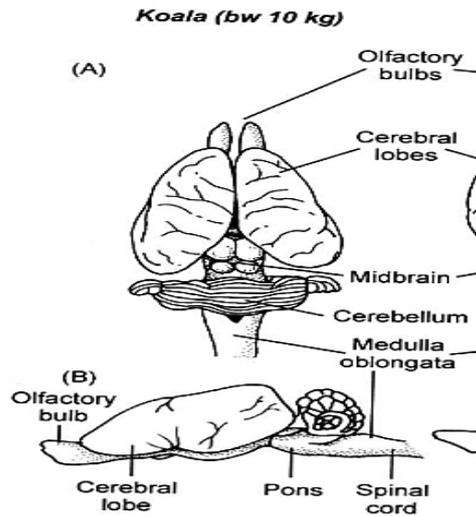


Figure 2. Koala's brain [18]

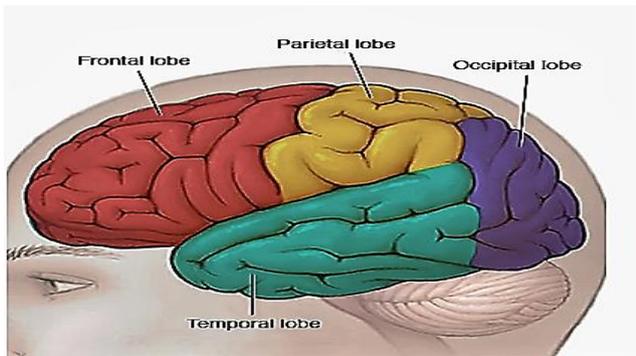


Figure 3. The location of lobes of human's brain [19]

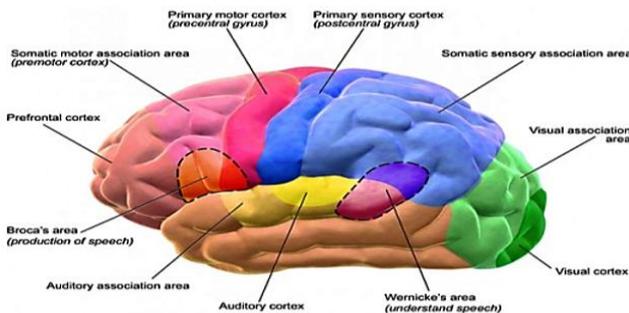


Figure 4. Motors and sensory regions of cerebral cortex [20]

Additionally, the results of comparative analysis of human and great apes revealed that there is no qualitative difference in the structure of their brains and the processes, that can be said, they both have same pre-narrative capacities, while the differences are quantitative such as the density of neuronal connections [27]. Contrarily, the followers of discontinuity theory, such as Chomsky [30;31], and Lieberman [32;33] emphasized on the uniqueness of human capacities in cognition and his capacities of communicating, which on the basis of this view, human primates and non-human hominids are separated from each other. Cantalupo and Hopkins [21] stated that, this part (brodmann's area 44), as the comparable homologue of Broca area, is under the study, with

considering the focal point of the existence of bridge or distance as a discrepancy between the sophisticated human speech and primitive vocalizations of great apes. This study is on the basis of the existence of mirror neurons in brodmann's area 44, that can be regarded as to subserve for imitation of hand grasping and manipulation, in such a way that they may be initially prepared for gestural communication and later for vocal communication [21]. They expressed that:

From an evolutionary standpoint, therefore, asymmetry in area 44 may be associated with the production of gestures accompanied by vocalizations in great apes, an ability that eventually selected for the development of speech systems in modern humans and perhaps generated more cortical folding in the IFG, leading to expansion of Brodmann's area 45 in the human brain [21, Para. 5].

So, generally the work of brain's language system can be described as signals goes to the auditory lobe which sound processing is done in this area, and then goes to Wernicke's area for making the plane of what the subject is going to say, and after, the created message moves to Broca's area that produces speech via the activation of motor cortex [34]. This transmission of message from Wernicke's area to Broca's area is by arcuate fasciculus [35]. Thus, Broca's area controls the functions of motor cortex in the process of producing articulate speech [34]. Destruction in this part of the brain, can lead to expressive aphasia, that the injured person knows what exactly want to say, but cannot find the suitable words to appropriately express it [36]. According to McNEIL [27], special centers of brain particularly, inferior parietal lobe (IPL) are important in schematization of conceptual experiences, like auditory, visual, and kinesthetic experiences) as image schemata. McNEIL [27, p. 333] continued:

Donald Norman describes schemas as 'flexible configurations' (by which we construct or constitute order), . . . continually in modification, continually adapting to reflect the current state of affairs. (They) are flexible interpretive states that reflect the mixture of past and present circumstances' (Norman 1995, p. 142; my italics and parenthetical inserts). Norman maintains that 'because the system configures itself differently according to the sum of all the numerous influences upon it, each new invocation of a schema may differ from the previous invocations. Thus, the system behaves as if there were prototypical schemas, but where the prototype is constructed anew for each occasion by combining past experiences with biases and activation levels resulting from the current experience and the context in which it occurs' (Norman, 1986, cited in D'Andrade, 1995).

According to McNEIL [27], the evolution of cognitive linguistics is viewed on the basis of two different ways: 1- *modular model* that emphasized on the innate and uniqueness of human structure for creating and producing

grammar and syntax as it is distinguished from the other cognitive functions, and 2- *functional model* that stressed on parallel processing and hierarchical organization of information. Researchers as Lakoff, (1987); Dean, (1991, 1992); Calvin, (1993); Gibson, (1993, 1994); Edelman, (1987, 1989); and Lock (1983, 1993) as cited by McNEI [27], believed that, manual dexterity as making tools and using them, and language as gestural, and vocal talks developed in similar ways and in synchrony, because of the shared neural circuitry.

She bolded three steps of pre-human's or hominid's narrativity as schematization that was mentioned in above, creating the understanding of recurrent situations by fitting them into structured frameworks or scripts, conventionalization of pre-narrative, probably initially gestural narrative scripts [27, pp. 332-336]. Kanzi, a male bonobo, learned to control his breathe and inflate balloon, and with using keyboards can show different human words in lexigram, when doctor Savage Rumbaugh wanted to do this work for her, and she told to the interviewer that she teaches him like the same way that teaches her son; talking to Kanzi as same as talking to her son [37]. He also can make fire by collecting sticks, breaking them and using the lighter, like what human does and performs mimic human speech [38]. He can enter the communication and collaboration with his owner by helping her and washing potatoes, putting unions in bowl, and stirring the food, in kitchen, and by turning on the TV [38]. Kanzi in a normal circumstance, like human can response to the request of researcher and putting the headphone on his ears and without getting any reward, can answer the questions of finding the pictures of names that he hears from headphone [38]. A Chimpanzee can even imitate the pronunciation of *mama* and *baba* [38].

3. Methodology

This study in its nature can be considered as a descriptive-explanatory, and interpretive research which benefited from the qualitative approach. This research constructed based on regarding continuity approach towards language. The study was conducted in order to answer the questions raised in the section of introduction. The researcher regarded koalas as a good case for her study, and so, this research is limited to studying Koalas' behaviors; observing the ways of koala's making relationship with each other, specially, in fighting. Because of the limitation of distance, the researcher used the recorded documents including photos and videos taken from YouTube (www.youtube.com).

4. Reports

Following the observation of koala's relationship with human, they quickly can understand their helping-hand purposes of humans, and don't get a sort of angry and violent reaction in facing its non-species and try to be the follower of

human's aim and by being obedient try to have a relationship with him [39], and even have been seen that, this animal to request water and showing its feeling of being thirsty and being heatstroke tries to being close itself to the Australian bicycle rider whom were riding his bicycle in a way near the one of the forest of Australia [40], or when a firefighter was in a trying to give some water to it from a bottle of water, the koala without showing any violent or strange feeling, while it tranquilly sat on his car, tried to simplify its drinking by using its hand, like what human does as getting it to control or work with it; trying to get the bottle of water to bring it close to its mouth by using its hand (it probably did this behavior for the first time) [41], and when they were kept in camps in order to get treatments, they showed normal behaviors in facing the staffs of camps and didn't show any struggle or reaction, due to a feeling of forcefully being in a condition of making relationship with its non-species, and after a while, the camp and its conditions got the form of being regarded as the new home of koala, where it can normally live in it, by its normal acceptance [42]. Similarly, a koala that caused people to get stuck in traffic on a highway in Australia, without feeling of being feared by its non-species as facing the strangers and must scape or leave the scene, did not leave the highway and so simply kept its going on it, and one of them with full of curiosity at a home appliances store didn't want to leave it [43].

By Observing them during the fighting with each other to occupy a tree in a residential area, some signals as similar calls [44, sec. 0.12- 0.45], the combination of one or more than one note generated in isolation or in short bursts which can have semantic content in their own [6], were produced by one of the koalas as its trying to communicate and say something (in relation to its claim and condition) with human (without any fearing) [44]. Focally from the seconds of 0.37 to 0.45, the koala, that was fell by the other one, produced similar and frequent calls in front of the human (the woman who was filming), and then (sec. 0.46-0.55) it seems that, because of not being comprehended by the woman, the koala stops its calling and starts to turn its head around and looking around (probably to get help), and then for once again, started to get its tree from the other koala, and after falling again by it on the ground, it started producing other different similar-frequent and different calls [44, min. 1. 23-1. 33, & min. 1.34-1.44]. These bellow photos can be useful for better understanding:

On the other hand, in terms of regarding the pattern of these calls, different patterns were produced by the koala, the claimer, that seems different types of communication, and different occasions caused variety of patterns to be produced by it; four clear and distinguishable different sounds/patterns in front of human (sec. 0.12-0.18, 0.20- 0.44, min. 1.34- 1.37, & 1.40-1.45; due to probably being deviated by the sound of the car that was made when it crossed the road), and five clear and distinguishable, different sounds/patterns (min. 1.07-1.08, 1.09- 1.10, 1.18-1.19, 1.21-1.22, 1.23-1.32) during facing and fighting with the other koala.



Figure 5. Koala after being fell from the tree by the other koala, produces some same or similar calls to communicate with its non-species (human/woman) [44, sec. 0.12- 0.19, same calls, & sec. 0.21-0.45 other same calls, which totally seems that they are (sec. 0.12-0.46) similar calls]



Figure 6 and Figure 7. Kola stops calling and starts to turn its head around (probably to get help) [44]



Figure 8. Koala climbs up again to get back its tree [44, min. 1.06]



Figure 9. Koala produces a call (min. 1.07-1.08) similar to what that were produced by it in front of human/woman, and faces the reaction of the other koala as it is going down from the top of the tree to get it (the other koala as the claimer of tree) out of the tree on the ground for second time [44, min. 1.08]



Figure 10. Koala is fell by the other one on the ground for once again [44]



Figure 11. Koala, the winner one, stops going down from the tree after falling the claimer on the ground for second time, and pauses on tree, while it is looking at it [44]



Figure 12. Koala stops its pausing and goes down from the tree to ground to fight, when the call (same or similar of what that were produced in before, in front of the human/woman) was produced frequently by the koala that was fell on ground by it [44]



Figure 13, and Figure 14. Koala doesn't fight, probably since the woman comes herself close to the other one that is fell from the tree by it [44]



Figure 15. The loser koala is producing similar-frequent calls [44, min. 1. 34-1.44]



Figure 16. Koala is drinking water from hosepipe while it is held by it near its mouth [45]



Figure 17. Keeping on its eating food in front of human [42]



Figure 18. Koala holds up traffic in highway [43]



Figure 19. Koala comes close to strangers/humans [43]



Figure 20. Koala tranquilly seats on car [41]



Figure 21. Koala tries to get the bottle of water to better drink [41]



Figure 22. Under the hand of doctor the koala gets checkup [42]



Figure 23. Without any reaction or paying attention to strangers' behaviors keeps on its eating [42]



Figure 24. Koala gets feeding from the hand of doctor by a syringe [46]

So, two raised questions of introduction can be answered in here:

1- Are the ways of communication between two or a group of koalas that their lives get the impact by human in comparison with the condition that human and his life does not leave any impact on their lives changed? If yes, how?

Answer. It seems that koala's life gets the impact by the non-local environments and their communications are affected due to the relation with human and his life, like bonobos. So, the answer is yes, the ways of communication seems to change and can be said as human and its life have affected their lives, they take the distance from their wild nature, and some modifications seems to happen in making communication with each other.

2- Do koalas, due to getting such this impact, produce new sounds/patterns that can be regarded as different sounds, or as the new-advance level of speaking with each other?

Answer. As these photos of koalas depicts, they come themselves close to human. They do such this work intentionally and purposefully without any fear, e.g., to get water. In addition, they may do some actual behaviors such as fixing the hosepipe or bottle of water for the first time, but intentionally in order to drink better. So, they can change their behaviors, and assumptions (like feeling of fear, and strange feeling), and produce new behaviors. In the case of koala's fighting for tree [44], different sounds/patterns were produced by the loser koala in front of human and in the face of the other koala (which faced the reaction from the other koala and not understood the reaction of human). They definitely had a communication (as what they performed actually and orally in their fighting and getting the reactions), and so can be said, they talk to each other in terms of considering the context and occasions. It seems that due to getting impact from human's life, their sounds/patterns normally changed or can be said, because they born in the area that human also lives in it, and they produce different, or can produce new (as producing new speeches) sounds/patterns, and probably their patterns in comparison with the other koalas that their lives don't get any impact by the human and his life, are more cognitive, intentional, complex, vary, and more directional or indicative. In here, getting and fixing hosepipe by the koala near to its mouth for the first time can be linked to this question:

3- Does these creative (fixing the hosepipe or getting the bottle of water near the mouth) actions can be attributed to the culture of this animal like *hugging* tree by its hand, and getting leafs by working with its fingers to eat them?

Answer. It seems that, the answer of this question is yes, since this animal can do generalization and creation for the aim of eating or drinking, in terms of regarding its culture, and can be said koala can do acculturation. Moreover, it seems that the cognitive abilities are improved and they more understand their behaviors and their environments in comparison with in the isolated-woody life.

5. Discussion

As the results of this study proved, some similarities exist

between koala and apes as their lives can get impacts and changed by human's life. As can be seen, such these acts, for the first time fixing hosepipe or bottle of water near the mouth to better drink, or being closed itself to human as its non-species to benefit from it, have obviously overlaps with human's culture, and done by acculturation. In here these questions can be raised: 1- can such this animal learn more things and produces more creative works by generalization or causing by human's paying attention to its aims and purposes as well as regarding its physical conditions, its cognitive, communicative and language abilities being grew and developed?, and 2- can it be possible, having a clear, recognizable, and common human-animal/ or koala language that can be workable for human-animal communications, like the cases of bonobos that learnt sign language and could communicate and talk to human, and can be normally translated inter-lingually or/and intra-lingually?

6. Conclusions

Animals like human are communicative species. They often do this to benefit from others, and for particular aim, like hunting, travelling, eating food, etc. They produce signals for communication which can be regarded as particular actual behaviors, and sounds/patterns. This can be illustrated as a range from simple actions of bee, to intentional cognitive actions followed by producing sounds/patterns, like apes. As our world fast and quickly goes toward being more industrial, and modernity causes of many different manipulations and changes in our natural world, inevitably animals gets impact by human and his way of life, and also can be said that, they are not alone, and don't live in a pure local and isolated form; when woods are broken and manipulated by paths and/or highways, and the existence of human to work in these areas. As the results of this study on koalas indicated, they didn't being afraid from experiencing new environments, and tried to being themselves close to human in order to benefit from him. As observations proved, it seems that their actual behaviors and their sounds/patterns were changed as modification of their behaviors, and also producing new ones, that are more cognitive, intentional, indicative and directional, different, complex, and vary; like in fighting for tree in front of human, fixing hosepipe or bottle of water, going to home appliances store and curiously checking out the inside of it. From these observations, it can be concluded that they are being affected by human and like apes the have the potentiality of learning more and being more cognitive, and intentional. This study requests further studies and investigations, not limited to koalas, but all animals in order to make their lives easy in such this modern and industrial world, and also to more benefit from animal-human relationship, and their communications.

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