From animal communication to language

Language is defined in many ways by linguists Most of them regard language as a symbol system based on pure or arbitrary conventions… infinitely extendable and modifiable according to the changing needs and conditions of the speakers. (Robins, 1985) According to this definition, language is a symbol system. Language is a form of communication, and it is probable that it evolved for the purpose of communication (Pinker, 1998a)6. But it is by no means the only form of communication used in either the animal or the human7 world, and language is certainly not synonymous with communication (Bickerton, 1995).

Every social animal has some form or another of communication, forming a highly diverse assemblage of communication methods (Hauser, 1997), but few, if any, of these can be regarded as languages. And language also possesses additional capabilities, on top of its basic communicative purpose (Bickerton, 1995). Pinker (1998a) defines language as a system with two main components: words and grammar, a finite (though extensible) set of symbols, and a likewise finite set of rules for combining these symbols, giving us “ the infinite use of finite media” (von Humboldt, quoted by Pinker (1998a, p 118)).

Many linguists have found exceptions to human and animal communication stating a number of contrats between the two. Most of the linguists have tried to define language in a human centric perspective. According to them language is human and it differs from animal communication in several ways. Humans convey and recieve an infinite number of messages through space whereas animal communication system is extremely limited and undeveloped. Language make use of clearly distinguishable, discrete,

separately identifiable symbols while animal communication systems are often continuous and non-discrete.

Animal communication systems are closed systems and permit no change whereas language is modifiable, extendable and open-ended. They also regard human language as structurally more complex than animal communication system. Researchers have found that the communication system of certain animals includes certain basic units equivalent to words which are functional to the human language. There are diverse views regrading whether these animal calls are symbolic or association related signally that in fact bear a resemblance to words.

But the ability of certain animal species to understand and use ceratin single words cannot be considered as a replica of the fully developed language system and language capabilities of the human beings. Evolution of a real language ofcourse needs such preconditions but the real difficulty comes in the case of grammar. Many researches have shown that animals can be taught certain behaviour which they generally do not show when they are in the wild, sometimes certain human behaviour can also be taught to them.

Many birds like the parrots can be taught to mimic human speech but the fact is that birds learn them without a proper undersatnding of the language or the meaning involved. (Deacon 1977). Similary the dogs which obey the verbal messages show nothing more than a reaction of conditioning. Some attempts have been made by communicators to teach language in a systematic way to animals like apes and dolphins. These attempts gain

significance particularly in the context of the Chomskean theory that human beings have an inbuilt mechanism of language acquisition.

If language along with grammar can be taught to animals, Chomskean theory may prove wrong. , and it would also challenge the concept of the inbuilt language acquision mechanism; Chomsky anyway dismisses ape language experiments. Experiments with apes, gorillas, dolphins, parrots etc. has proved that animal communication in the wild is more more complex and varied. Most of the species in the animal world use their own special type of vocalizations than calls to convey message, which in fact are expressions of the emotional state of the producer.

A best example is the vervet monkey which makes an ‘ eagle’ call toconvey the message about an eagle, which signals other monkeys to run for cover, as if they themselves have noticed the enemy. It may be concluded that many animals display a great number of features, which can be interpreted as signals or proto- symbols. The available data does not give a good explanation of the phenomena, but evidences give impetus for further research, ‘ to make the common assumption that humans are the only symbolic species less self evident.

There is no unambiguous evidence of qualitative differences between human words and all non-human vocalizations. ’(Johanson 1995). Many of the language teaching experiments has shown remarkable results in finding out or tracing patterns similar to human cognitive and communication skills in apes, dolphins and parrots. It can be noticed that dolphins and parrots, are phylogenetically distant from the human beings , and the Mesozoic common

ancestors that they share with us clearly did not have anything remotely resembling their current cognitive capacity.

This observation suggests that their communication abilities are sequel of parallel evolution, and provide us no substantial information about the origins of human language. Pinker (1995) discusses the key issue of whether the abilities displayed by chimps are homologous to human language. He concludes that “[t]hough artificial chimp signaling systems have some analogies to human language (…), it seems unlikely that they are homologous. Chimpanzees require massive regimented teaching … This contrasts sharply with human children… ” (p 3, online edition).

The presence or absence of an undeveloped language abilities and syntax in apes throws light to interestig findings. There are parallels between the acquisition process and optimal acquisition environment between apes and humans. It would be difficult for a human child to acquire normal language skills in an experimental set up, but they at once acquire linguistic abitities when exposed to social immersion paradigm (Cheney et al 1996). There are considerable quantitative differences in early acquisition rates between humans and non-humans.

The occasionally observed transition to a higher learning rate indicates that a qualitative difference in the learning process may be involved — but that this qualitative difference may be bridged also by some non-humans, after some linguistic threshold has been passed. Pepperberg (2001) indicates that a similar transition occurs also in humans, though at a much earlier stage in ontogeny. Again, there is no clear evidence of any qualitative differences

between human and non-human acquisition, merely a quantitative difference in the timing of and possibly requirements for the apparent transition.

Research has also shown that that syntax acquisition is impossible without an innate grammar which directly contrasts with the commonly held views that syntax is the core of what makes human language unique. If syntax were uniquely human and innate, a human and an ape with similar general communicative skills could be distinguished by the human excelling at syntax-based tasks, which proves that there is little evidence of any qualititative differences between human and non-human.