

"And 'tis proud an' glad I am that I was able to do that same, Mr. Forde," said Katie.

"And you'll marry him, won't you, my dear?"

"If you're satisfied, sir."

"I am, my dear, quite satisfied." And with that he kissed her; and from that day to this, he and Katie

have been the best of friends. He lives with us for the last year or so, for he was getting a little past his work, an' the master pensioned him off. He is very happy with us, an' he is never tired of telling the children the story of the way that their mother's cleverness saved my life.

K. R.

## CAN ANIMALS TALK?



HUMAN language and thought have been attributed by writers of fable to the lower animals, and even to the vegetable world. A very early example of the fable is Jotham's parable of the trees which would choose a king, contained in Judges ix. 8—15. The trees are there represented as expressing human sentiments in human words. Nor has poetry yet ceased to find occasions for

making trees and flowers speak. The fancy that they do so suits—in poetry—the character of the dreamy lover, as in Tennyson's "Talking Oak," and in the favourite song, "Come into the garden, Maud," by the same author.

Language of any kind considered as an endowment is, in the world of plants, of course a mere creation of the imagination—a fiction indulged in for the purpose of pleasing or of instructing. It is not so in the world of animals; for if we omit other modes of communication (as by touch), and understand by language the emission of sound expressive of thought or feeling, there exists a great variety of dialects besides those that employ nouns and verbs, which are our chief means of communication. And here the inventions of fabulists drew away men's minds from an interesting study, instead of throwing any light upon the subject.

The language of animals, however, like many other long-neglected subjects, or subjects on which in past times only disconnected and occasional observations have been made, has more recently been thought worthy of systematic scientific inquiry.

There are two principal lines of investigation. These are: (1) *What* sounds does a given animal produce? Have we to do with a cry, or a moan, or a laugh, or a note, or a song? How are we to *read* it? What letter or combination of letters of an alphabet used by man (say the English alphabet) will represent it? The answers to these questions throw light upon the more interesting question, to what extent various species possess the power of articulation. (2) The second and still more important line of investigation is simply defined by the question, How are we to *understand* or *translate* the language of animals?

Now it is clear that we must have a key to this (or these), as to every other foreign language. We have

not far to seek for the key. It is in ourselves. The various sounds with which we are familiar, produced by the human voice, and the burden which they bear of joy or sorrow, of light-heartedness or care, of simple contented satisfaction or its opposite, as well as of other feelings—our knowledge of these sounds, supplemented by careful observation of individual animals, will furnish the required key. Only in the application of the key lies the difficulty.

The questions to be answered somewhat resemble those to which some very ancient inscriptions have given rise, and which, for want of a key, cannot always be answered. For a long time—indeed, until this present century—the student of antiquity stood dumbfounded before the Egyptian hieroglyphics. He could neither read them nor translate them. He had no key. At last, however, the discovery of the famous Rosetta stone, now in the British Museum, furnished the much-desired key, at least for translation, because it bore, besides an inscription in the unknown character, a Greek translation of the same inscription.

We have not had to wait so long for our key, and consequently various attempts have been made from time immemorial to translate portions of the "Language of Animals." The poets, in times past, were the chief observers of nature, and they have in many cases attempted the decipherment, if we may use the term, of these vocal hieroglyphics, though, as has been said above, science has now claimed them for her own more orderly and systematic treatment.

Can any scientific question arise here? It will perhaps be asked. We have all learnt the infantile catechism: "What does the horse do?" "What does the dog do?" "What does the ass do?" We all know that the horse neighs, the dog barks, the ass brays. What is there more to know?

There is a good deal more to know. Let us take the last-mentioned instance: "The ass brays." Well, "braying" is only the *name* of the sound produced by the ass, which serves to distinguish it in our language from the sounds produced by other animals. People know *what* we are talking about when we use the word—it conveys no other meaning. But who that has been awake in the early morning by the asinine trumpet, and has listened to its prolonged utterance—scarcely of "linked sweetness," though "long drawn out"—who that has noted the struggle, the effort which prolonged that utterance in a "dying fall," until it ended in a sort of despairing whisper or

sigh—who that has marked its melancholy cadence, its minor key, did not bethink him that there must be a meaning to that long story? He would perhaps recall to mind the habits of the animal, how entirely contrary to its nature any great voluntary effort appears, and then, possibly, he would say that even that dull sluggish nature had been stimulated by the return of daylight, and the revival of stirring life and of multitudinous sounds around, to add its tributary voice to the chorus which greets the glorious morning. Then, as he remarked the transition of that song to a complaining tone, he would think he heard the creature saying in Shaksperian language, "Sufferance is the badge of all our tribe." The modern doctrine of "heredism," which teaches that some results of the experience of progenitors are transmitted to their posterity, will help him to interpret the plaintive note. He will hear in it an expression of the sense of the injustice and cruelty which the race has often received from its master's hands: its master, practically, being in most cases a thoughtless and unfeeling boy. Certainly the neighing of the horse is a much more jubilant utterance, and appears to reflect some of the exulting pride which man so often takes in possessing him.

Another interpretation, however, might be imagined by our supposed observer for the melancholy song of the ass. If his mind dwells rather upon asinine obstinacy and indolence, he will think he hears the complaint of the lazy being who, in the middle of his morning chant, recollects that he has awoke to the stern realities of a working world. "Heredism" will explain why the melancholy note should be present in every case, whatever the virtues or the circumstances of the individual ass. It is a question, too, whether the obstinacy of the race has not been created by the practice, too prevalent, of over-tasking its powers.

Let us take another very familiar example of animal language. The common farmyard cock gives us a very different strain from the one just considered. There is no melancholy in *his* sustained "shrill clarion" note. His exulting song, so well harmonising with his gallant nature and proud bearing, has made him a favourite with the poets of many countries.

He has been, and is, a great traveller. Coming originally from the East, he can make his home everywhere. "All climates," says Thoreau, "agree with brave chanticleer. He is more indigenous than the natives. His health is ever good, his lungs are sound, his spirits never flag; even the sailor on the Atlantic and Pacific is awakened by his voice." And brave chanticleer's song was never more poetically nor more truthfully described than in Thoreau's prose account of it.

"It is," he says, "an expression of the health and soundness of nature . . . healthiness as of a spring burst forth—a new fountain of the muses to celebrate this last instant of time . . . The merit of this bird's song is its freedom from plaintiveness. The singer can easily move us to tears or to laughter, but where is

he who can excite in us a pure morning joy? When in doleful dumps . . . I hear a cockerel crow, far or near, I think to myself, 'There is one of us well, at any rate,' and with a sudden gush return to my senses."

The reader will say, perhaps, "Yes, these matters are interesting enough, but how about science? Except for the allusion to 'heredism,' all that has been said is the result of ordinary observation, which is not what we understand by science." Well, science only states the questions and answers in a methodical manner. Thus, a distinguished French scientist (the Frenchman, as everybody knows, gives the most perfect order imaginable to his exposition of a subject) begins with the inquiry, How far do animals possess the power of *understanding* human language? On this point a great deal might be said. Thus, using the key which is furnished by our knowledge of human faculties, he points out that a child understands at the age of six or eight months the meaning of many words, including its own name, while yet it is unable to *say* the words which it understands; and moreover, that with regard to mankind in general the power of understanding much exceeds the power of employing language—as every one soon finds out in a foreign country, whose language he has not assiduously studied. The transition to the subject creation is easy. What has been observed in man can be seen also in the races below man. Many can understand, though they cannot repeat words said.

The most interesting question that arises at this point is that which regards the more intelligent of the brute creation. Is it probable that they will ever *speak*? In the course of a very able paper, the Bishop of Carlisle says:—"A dog sometimes looks as though he was thinking a thing out, and dog stories are very wonderful; but, after all, the cleverest dog that ever lived yet has never been able to get beyond 'Bow-wow,' and we may safely predict that no dog will ever acquire even the simplest elements of human knowledge."

But what, let us ask, is the real barrier between the dog's mind (if the term may be used) and the simplest elements of human knowledge? It consists, I believe, in this fact: that the vocal organs of the dog are so constructed that it is impossible for him to *articulate* a word. His vocabulary, however, already extends a long way beyond "Bow-wow." To begin with, there are as many different meanings to "Bow-wow" or to "Wow" (short and sharp) alone, as some one said a lady could give to the word "dear," according to its position in a sentence and the emphasis with which it was pronounced. But besides saying "Bow-wow," the dog *whines*. And there are many different meanings (which, however, *we* are sometimes too stupid to understand) in the whining of a dog.

We have no fear that dogs or any other of the brute species will furnish competitors for the prizes to be attained by human knowledge; for we observe a barrier between man and brute fixed, and intentionally fixed, by creative power. Where we find in the lower

creation, as amongst birds, the power of articulation, there the intelligence is absent which could employ that power for its own development; and where, as in dogs, we find conspicuous tokens of intelligence, there the power of articulation is totally absent.

This power of articulation forms a distinct branch of the inquiry. By careful study of the human vocal organs, and of the parts which they play in producing the various sounds which are the elements of language, the conditions necessary for distinct articulation have been ascertained. Pharynx, palate, tongue, lips, must all co-operate. And the system of nerves which direct and regulate the action of these portions of the vocal machinery is so complicated, that Sir Charles Bell declares the entire arrangement of tackling and cordage belonging to a man-of-war is less complex. The same authority assures us that if any one of those essential organs failed to perform its function, or either fell short of or exceeded its proper contribution to the combined movement, the intended word would expire upon the lips. Now, whether the required endowment be a particular conformation of the organs themselves, or of the nervous system, the power of articulation is actually possessed by certain species only, which have not the intelligence that could turn it to practical use.

Parrots can be taught to repeat any words, but they can never make up for themselves a new phrase out of the materials in the shape of words that they may have acquired. The natural utterance of many birds, though conveying no meaning (as words) to themselves, is distinctly articulate, and sometimes is identical in sound with words that have a meaning to us. The note of the "cuckoo" (from which the bird has derived its name in widely distant parts of the world) is distinctly articulate, though unmeaning. Of cries that appear significant as well as articulate,

Waterton gives amusing instances. In the woods of America, a traveller may suddenly hear himself greeted by the night-bird's cry, "Who are you, who, who are you?" and while he is looking about for his impertinent questioner he may receive from another bird the command, angrily and imperiously uttered, "Work away! work away!" followed up by the piteous entreaty of another, "Willie, come, go; Willie, Willie, Willie, come, go!" Besides the cuckoo, other birds are named after their cry, as the "Whip-poor-Will," the "Chuck-Will's-widow," and the "Whip-Tom-Kelly."

But it is the nightingale that possesses the power of articulation to the fullest extent among the species below us. There are races of men whose languages do not employ so many sounds as there are in the nightingale's song.\* Vowels, consonants of various kinds, sibilants included, even double consonants, as X, Z, are recognised in it by the human ear.

Bird language has, in another respect, a remarkable resemblance to human language. To a considerable extent it has to be acquired, *i.e.*, learnt by each individual. If a bird be separated from its own species very soon after it is hatched, and placed with birds of a different species, it learns the song of the latter. If isolated altogether, its song is much less clear and less varied. Yet canaries brought up by their parents even in the midst of alien birds learn the canary song. The song of birds varies according to circumstances. They are not always saying or singing the same thing. There is the song of joy, the romance of love, the note of alarm, the voice of defiance, the call of the young by the mother to take shelter under her wings, the call to arms when a bird of prey has to be driven off, and many other varieties.

Enough has now been said to call attention to an interesting subject, which may be pursued in detail with very great profit.

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## GARDENING IN JULY.



THREE hot days and a thunder-storm" proverbially make up our English summer—so, at least, say our grumblers; but we are in good hopes this season, at any rate, of a somewhat larger share of fine weather than can be crammed into a solitary half-week. Just now, however, we are wondering which of the two requires the greatest devotion to gardening: to sally forth on a crisp January morning for a day's hard trenching—a piece of work sufficiently vigorous to keep the life-blood circulating in our veins—or on one of these "three" notoriously hot July days

to open our garden-door for the purpose of carrying on our favourite pursuit.

Our resolution, however, is fixed. We fear neither January nor July. At the same time we intend to take proper precautions against sun-stroke by putting a large cabbage-leaf inside our hat—not a tall hat, of course, in which, by the way, we are sorely puzzled to know how our cricketers of five-and-thirty years ago, if early prints are to be believed, managed to play—and by having a puggree or white handkerchief concealing the back of our head and neck, which is the part most exposed to the fierce rays

\* The Chinaman who attempts to say "France" can get no nearer to it than "Fulantsus."