VARIOUS

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Содержание

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EARS

By W. E. Watt

THE air is an elastic fluid surrounding the earth. The motions of things whether alive or not, set it in a state of vibration that rarely ceases. At all times and in all places it is pulsing responsively to all that is going on.

Animals are interested in what is moving about them. It may mean life or death, pleasure or agony, and most animals are keen to know which is for them at any given period. They are therefore equipped with organs that respond to these waves of the air. They are variously equipped, some hearing certain sounds feebly where others are acute to them and deeply moved. Some sounds are full of moment to one organism arousing it to nervous activity while another organism knows nothing of what is so distinctly heard by the first.

Can a Mule hear more than a Mouse is a question which has agitated many young people who have considered the length of the former's ear and its versatility. A series of experiments once conducted in youthful sport by the writer, seemed to settle the matter that each can hear sounds which are unnoticed by the other, and that the ear of the Mouse is much better adapted in hearing powers to the occupation of the Mouse than is that of his long eared neighbor. Certain shrill sounds of whatever degree of loudness, cannot be heard by the Mule even when oats might be secured by attending to them, while distant sounds of a heavy character seem to fail to affect the ear of the Mouse.

The same is noticeable in the hearing of people. To some persons a note one octave higher than the highest note of a piano, cannot be heard. Others can hear such a tone, and yet others are made painfully nervous by it without knowing quite what the trouble is. To some the chirp of the Sparrow is the upper limit of hearing, others can hear the voice of the Bat, yet others are able to hear the notes of insects that range higher in pitch than the voice of the Bat. Dr. Wollaston says, "As there is nothing in the nature of the atmosphere to prevent the existence of vibrations incomparably more frequent than any of which we are conscious, we may imagine that animals like the Grilli (Grasshoppers) whose powers appear to commence nearly where ours terminate, may have the faculty of hearing still sharper sounds which we do not know to exist; and that there may be other insects, hearing nothing in common with us, but endowed with a power of exciting, and a sense which perceives vibrations of the same nature, indeed, as those which constitute our ordinary sounds, but so remote that the animals who perceive them may be said to possess another sense agreeing with our own solely in the medium by which it is excited."

The human ear is capable of hearing musical sounds produced by vibrations ranging from twenty-four in a second of time to forty thousand. This indicates that humanity is confined in interest to the motions of the atmosphere within these limits. The possibilities of higher and lower fields of music are such that one writer has said that it may be that the air about us is constantly resounding to the music of the heavenly hosts while our dull ears with their limited powers are unable to catch the poorest note in that celestial harmony.

Sound travels about one thousand ninety feet in a second in the air. Through other elastic mediums it varies in speed. The beholder of an explosion of dynamite in a harbor receives three

shocks, one coming by way of the air, another by water, and the third through the earth, all arriving at different times.

It is a fortunate thing that low sounds travel as rapidly as high ones and loud sounds no faster than soft ones. Thus the playing of a band upon the water, at a distance, is beautiful, because all the tones powerful enough to reach the listener do so at the right time to preserve harmony. If it were not for this equality in traveling power, no music on a grand scale could be possible, for those sitting at a distance from the performers would be in a sea of discord from the late arrival of tones which should have blended with those gone before. In spite of the fact that our highest appreciable note is but one-third of an inch in length of wave and the wave of our lowest note exceeds forty feet in length, all sounds produced in harmony travel in harmony till exhausted in space.

The ears of various animals are beautifully adapted to their respective habits. The watch of the Dog is most valuable because distant noises are so readily detected by his faithful ear. The Thrush has been observed hopping along the ground with frequent stops to listen. So keen is his hearing that the presence of a Worm below the surface is detected by the sound of the Worm's occupation. By judiciously beating the ground he brings the Worm toward the surface as if to escape its enemy, the Mole. At the proper instant the turf is torn up and nearly always the Worm secured.

The form of the outer ear is adapted to the needs of the animal. Most grass eating animals have ears that turn readily in all directions to listen for enemies, but the ears of flesh eating animals that pursue their prey are set only to reach forward to hear the sounds of escaping prey.

Many insects and lower orders of animals are looked upon by man as incapable of the pleasures of hearing. But this is often a mistake. Snails have been known to enjoy the voice of their human friends and come forth when called by familiar voices.

The fondness of the Cobra for music and the powers of charming this hideous animal partly by appealing to his esthetic hearing are well known. Moths have good hearing as one may observe while walking in the woods where the crackling of dry sticks alarms them so they fly up from their noonday slumbers in great numbers. The antennæ of the Butterfly are supposed to act as hearing organs. Crabs and Shrimps hear with their inner antennæ, Clams with their feet, and some of the crustacea with the bases of the lobe of the tail.

Many animals seem to enjoy the voice of man and the sounds of the various musical instruments which he uses. Frogs and Toads may be taught to know their master's voice. Canaries, Parrots, and Doves enjoy human singing and instrumental music as well. A Woodchuck has been known to manifest his refinement of soul by coming forth from his hole at the sound of a piano and to sit with the air of a connoisseur criticising the selections with which he was being favored.

Not only is the ability to hear different in different persons, but the thoroughness with which they hear varies largely. Few sounds consist of simple waves of air. As the waves of the sea are noticed to bear smaller waves upon them and these in turn to carry wavelets, so the waves of sound are rarely smooth, simple waves. There are many more waves upon waves in sound production than can be observed on the surface of the sea. A note from the piano not only sounds the note which the key struck represents, but also a great many tones that chord with this tone higher up the scale. These overtones are not so loud as the fundamental tone and cannot readily be detected by the uncultivated ear. But they give character to the tone. The overtones make the note of the violin and the cornet differ. No two voices have the same overtones, and while we are unable to hear these overtones by themselves, yet we are able to distinguish the voices of our friends instantly by means of them.

As voices differ in the overtones they carry, so do ears differ in the number of overtones they are able to receive. Some people enjoy hearing high voices only. For them the soprano or tenor is always in demand. Others prefer deep voices and admire altos and basses. I have stood beside a friend at a concert where a first class artist was pouring forth a baritone song with the most delicate and artistic tone and finish, and had my friend turn to me and say: "What on earth do people find in that man's voice to pay money to hear?" The singer's voice was full of rich overtones which made

it valuable to the average cultured listener, but in the ear of my friend they produced a jarring that was decidedly unpleasant to him, although he was fond of the singing of the untrained voices of the members of the choir where he attended church.

A large part of the business of the voice culture expert is the adjustment of the vocal organs in singing so as to produce the right sets of overtones to give the voice a carrying quality and the richness we enjoy in the finished artist. One notable example of the production of too much of a good thing was instanced in the fate of a soprano who came to America a few years ago with an extensive operatic repertoire and a voice that could not be drowned by a full orchestra as it soared to the greatest heights and displayed a flexibility most remarkable. But she failed to please us. A neighbor of mine said to her friend: "Just wait till you hear Madame Blank begin. She has a voice that will cut you like a knife."

Both the inner and outer ear formations are responsible for the differences in hearing in different people. Cultivation does much for any sense, but for him that has no ear for music cultivation will not construct an ear. It is easy to see what a difference in hearing will be produced by a slight change in the position of the outer ear. While listening to a steady sound, draw the ear forward with one finger, relax it to its normal position, then push it back against the head. The quality of the sound heard and its intensity will be varied in each instance.

So we may be lenient with our friends who do not enjoy the same sort of music with ourselves. And the same music will not always be the very same. A pistol shot upon a mountain top sounds much like a fire cracker in a valley, and the condition of the atmosphere frequently modifies music almost as much as the shape of the room in which it is produced.

THE KINGBIRD OF PARADISE

Wouldn't you little folks like to see a number of us brilliant, gem-like Birds of Paradise flitting among the trees as do your Robins and Woodpeckers and Jays? To see us spreading our wings in the sun, and preening our ruby and emerald and topaz and amethyst tinted plumes, ribbons, and streamers?

Ah, that would be an astonishing sight, but you will have to journey to an island in the South Pacific Ocean to see that; an island whose shores are bathed by a warm sea, and where the land is covered with the most luxuriant tropical vegetation.

It was about three hundred years ago that the people of Europe first knew that such superb birds existed on this earth. Traders visited one of the Malayan islands in search of cloves and nutmegs, and upon leaving, the natives presented them with a few dried skins of a wonderfully beautiful bird. The natives called them "God's Birds," and in order to propitiate heaven for killing them, cut off the feet of the dead birds and buried them beneath the tree upon which they were found.

The dried bodies of the birds were exported as time went on, and as the people of Europe had never seen one alive, but always the skin without legs and feet, they came to consider them as heavenly birds, indeed, formed to float in the air as they dwelt in the Garden of Eden, resting occasionally by suspending themselves from the branches of trees by the feathers of their tails, and feeding on air, or the soft dews of heaven. Hence they called us the Birds of Paradise.

It was not till one hundred years after, when a writer and collector of birds visited the island, and spent years in watching and studying us, that the truth became known. Certainly, the gentleman must have laughed, when, instead of heavenly dew, he saw a Bird of Paradise catch a Grass-hopper and holding it firmly by his claws, trim it of wings and legs, then devour it, head first. Fruit and insects of all kinds we eat instead of dew and air.

He also saw a party of twenty or thirty males dancing on the branches of huge trees, raising their wings, stretching out their necks and elevating their plumes all for the purpose of admiring themselves or being admired. Some of them have finer plumage than I, but only the Kingbirds of Paradise have those two dear little rings which you see in my picture.

THE sublime is no nearer the ridiculous in literature than in the things of nature. An instance of this is the close relation of the common Crow to the most glorious bird of them all. Not only are they very much alike in general form, including shape of feet, bill, bones, and ordinary feathering, but also in habit. They seem to delight in the same sorts of food and secure it in much the same manner. When they are happiest and attempt to pour forth their songs of joy the voice of the Crow is fully as melodious and satisfactory to the human ear as is that of the Bird of Paradise.

The old fable in regard to their having no feet and living only on the dews of heaven and the delicacies which they were supposed to be able to collect from the atmosphere as they floated perpetually free from the earth and its contaminations was so grateful to Europeans that when Antony Pigafetta, who accompanied Magellan around the world and secured a great deal of information at first hand, described them as birds with very ordinary, in fact, almost ugly, feet and legs, he was not believed, and Aldrovandus publicly brought accusations against him for audacious falsehood.

While the males have not only a splendid growth of delicate floating feathers of very unusual length and glossy fineness of texture, the females have but little more to boast of than our American Crow, and they even lack the degree of lustre which our black friend frequently exhibits. But the males are adorned with a wealth of color display, rich in velvety softness and blazing with metallic lustre. This lustre cannot be appreciated from the appearance of the faded specimens so often seen in the museums which may have suffered, not alone from dust and exposure for years to the chemical action of light but have also been sadly diminished in glory by the rude arts of the natives who fumigate the

skins with burning sulphur, their principal care seeming to be to get enough of it deposited to make sure of the skins' not being attacked by insects.

To be seen to best advantage one needs to watch them as they make their short migrations in flocks from one island to another with the change of the seasons from the dry to the wet monsoon. They prefer traveling against the wind rather than with it because their plumage is so elaborate and delicate in its structure that an attempt to fly with the wind frequently brings disaster to the glorious males and causes them to tumble ignominiously to the ground, after which they are a long time in arranging affairs for another attempt at navigation of the air.

The King Bird of Paradise is a small bird, measuring but little over six inches in length. It is extremely vivacious, flying about and running with but little show of the dignity of its family. Very fond of fruits, it is not satisfied with attacking those which other birds of its size would choose, but enjoys showing its gormandizing powers by devouring as much as possible of the largest specimens within its reach.

The fan-shaped tuft of feathers which adorns each side of the bird are subject to his will, being raised and spread out or lowered as the weather or the feelings of the bird seem to demand. At the ends of the long feather shafts springing from its tail are markings which strongly resemble the eye-like ornaments of the Peacock. The shafts seem not content with stretching themselves out to a greater length than that of the bird itself, but at the extremities they curve inward coiling compactly into spiral discs flashing with emerald green.

THE PECCARY

Looks very much like a little Pig, does'nt he, children? Well, so he is, a species of wild pig found in the canebrakes of Texas, and native of South America.

You would hardly think so small an animal could be so ferocious, but the inhabitants of South America dread and fear him as much as they do the Wild Boar. He is a fearless little creature, too, attacking any object which comes in his way no matter how big it is. Even an Elephant wouldn't scare him, though, as Elephants are not found in South America or Texas, I presume a Peccary never saw one.

Конец ознакомительного фрагмента.