EMOTIVE KINSHIPS IN THE STUDY OF MAMMALS

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The pursuit of knowledge begins with names. Shakespeare himself, and thousands after him, seem to have missed the true significance of his much-quoted line, "a rose by any other name would smell as sweet"—its point, of course, is that it must have some other name if we do not call it a rose, to be recognized at all, that the human mind needs tags and labels to apprehend and remember things. Naturally, the study of animals was much concerned, in its early stages, with distinguishing them apart from one another, sorting them out, and giving them generic and specific names, with anatomy, morphology and taxonomy.

That is still going on. Among some animals (insects, for instance) diversity is so profuse that lists are still being extended and revised. Further, deeper studies in palaeontology, more precise morphological descriptions, and similar enhancements of knowledge have led to revisions and realignments of taxonomy. However, it is true that concurrently with the cognizance of different animals, there were also assessments of their habits and "character", usually at entirely anthropomorphic levels—something inevitable when we consider that the utility of animals as providers of food, pelts and assistance to humanity (anthropologists have said that without the domestication of the dog and cattle, human civilization could never have progressed beyond a more or less feral stage) was something constantly investigated even prior to the systematic study of other animals by men. While the overwhelming majority of such early studies was certainly unscientific by modern standards, it is necessary to note that bits and pieces of quite accurate and reliable observation were not lacking in this vast, conglomerate mass of highly anthropomorphic and imaginative natural history and legendary lore. Three examples may be cited to make this point. Fear and avoidance of men, an almost universal reaction of wild mammals, was strangely lacking among dolphins and replaced by an almost friendly tolerance, as noticed very early by the Greeks. The oldest extant Tamil poetry (which bears ample evidence of an earlier body of literature now irretrievably lost to us) is about 18 centuries old. In it are two poems which refer to bird migration as something well known. One of these describes the White Stork unmistakably and vividly, and its turning home northwards after its winter sojourn in the south: the other poem refers similarly to the flamingo flying northward after sojourning in the lagoons near Kanya Kumari, and mentions in a terse but quite specific line its habit of feeding on micro-organisms in the silt of the shallows—how many centuries later did Western science comprehend the marvel of bird migration, and realise that the flamingo's beak is specially adapted for feeding on minute prey!

Such rare, fragmentary nuggets of truth in early natural history should not blind us to its overwhelmingly romantic and imaginative (and at the same time quite callously utilitarian!) bias. There were good animals and bad animals, the noble lion and the shifty and cunning jackal, in that lore, and the ferocity

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of most wild animals was much exaggerated. Only in the early decades of this century (and somewhat earlier) did natural history develop more factually informed, investigative and objective trends, but these were rapidly developed and along many lines of inquiry.

Meanwhile, right from the middle of the 19th century to almost the middle of the 20th, human interest in wildlife was dominated by the desire to encompass its end. Shikaris of various descriptions were the main sources of information about wild animals, and while some of them were knowledgeable naturalists and keen observers, the fact remains that when their chief interest in their quarry lay in bagging it, they learnt only enough about it to do so expeditiously and effectively. In the preface to his WILD ANIMALS IN CENTRAL INDIA, a book that achieved renown as much as a natural history as a text on shikar, Dunbar Brander himself says this.

The great renaissance in natural history was in the first half of this century, when much carefully verified knowledge on diverse animals and their lives was gained and integrated: though these various investigations were often channelled along particular lines, since all of them were scientific studies of animals they complement and supplement one another to form a whole, and are not merely isolated and disconnected fragments.

During the present century, taxonomical and habitat evaluations have been carefully revised; instinctive urges and inhibitions, responses and reflexes, have been recognized as of vital importance in animal life, and closely studied; spectacular advances have been made in the field of animal senses and sensibilities by means of meticulously planned investigations, and their vast variations from our own sense-perceptions and from those of one another have been appreciated; the study of animal behaviour has been extended to free-living subjects in a wholly natural environment, with the realisation that captive specimens may not provide reliable material except in limited ways, and that their behaviour might even be misleading; the complex and vital relationship between wildlife and environment and the importance of revising our ecological knowledge have been better appreciated; with advancement in other fields of scientific knowledge and technological improvements, biological studies have also gained precision and reliability by utilising these advances. This is no summary of how and in what fields natural history has gained considerably during the past 50 years or so, but only a list of illustrative examples. More theoretical researches, not always marked by consensus of opinion, have also been undertaken or achieved in this period, as in the fields of genetics and evolution.

On the whole the trend has been towards the employment of scientifically planned inquiry that will, to the extent possible, minimise human errors in assessments, and the use of mechanical instruments of record, and statistics of all kinds. Undoubtedly such means are of considerable value and validity, but since the exploiters of all such means are human and therefore fallible, perhaps less has been achieved than is generally conceded. The quality of the in-put, and the dependability of skill in utilising instruments of record, will naturally materially affect the conclusions reached by mathematical and mechanical means, but we need not go into this question here.

All that I wish to point out here is that this increasing reliance on mechanical means, statistics, and modern 'methodologies' (i.e., methods!) seems to reflect a revolt from the anthropomorphic and romantic natural history

of the past. By no means does modern science reject or deny means of information or comprehension that are not purely intellectual, and the work of great naturalists of our own times, like Tinbergen and Lorenz, proves again and again that to treat live, sentient subjects as a mass of conditioned reflexes and instinctive responses is utterly futile, and that we cannot really understand animals by mechanical means and statistical columns.

Anyone who has known a dog well (and not merely owned it) will know that although its colour blind world of smells is something we cannot even begin to understand except on an arid, intellectual plane, we can certainly be sure that it shares many emotions with us. A dog may be frightened, angry or happy (in high spirits), in emotional states distinct from purely physical or physiological states also known to us personally, such as being fatigued, sleepy or hungry. Those who have had closer associations with animals will also have sensed the need for reassurance (as by means of physical contact or proximity even) that develops at times in such relationships, even on occasion the provision of such reassurance or support by the animal to the man.

Our sense-perceptions are very different from those of most animals, both in range and reach — some animals even go by perceptions quite unknown to us. When this is so, it may seem difficult, and impossible at times, for us to apprehend their expressions of moods and emotive urges, especially as it is reasonable to assume that their intraspecific communications would be along the senses best developed in them. No doubt this impediment to our comprehension of animal communications is there, and is less easily got over than the majority of naturalists seem to realise, but it is a real handicap only in human understanding of social and personal animal communications, when these are interpreted in terms of our own perceptive capacities. An example will clarify this difficult sentence: it is well known that animals of the dog tribe can hear sounds pitched high above our auditory reach: the evening chorus of jackals (little heard these days with the decline of the animal in most places), often described in detail in highly humanised terms, possibly features overtones we are unable to hear but which may hold specific meaning to other jackals which can sense subtle variations in the call, but so long as we do not make the mistake of presuming that jackals hear the call of their kind precisely as we do, we are on sound ground in assuming the purpose of the chorus is mainly a social location announcement, and at times perhaps an assembly summons.

It is specially with regard to olfactory perceptions that we are handicapped, because on this frontier our own sensibilities are singularly blunted, while in most animals they are exquisitely perceptive and also capable of selective apprehension. However, smells and scenting abilities are of importance to animals mainly in locating others of their kind, in hunting, as territorial markings, and in personal relationships (as in seeking and finding mates or in the mother-young association), and are seldom featured in emotive expressions. As the manifestations of emotional states are mainly visual, tactile or audible, it is possible for us to have a fairly reliable understanding of such tokens, provided our observation is adequately informed by experience.

Attitudes, bodily movements and gestures, and visually manifest excitement or lethargy are highly expressive of an animal's mood. Dogs wag their tails in friendly overtures and tuck their tails between their hind legs when

frightened, cats arch their backs, raise their tails vertically and bristle their hair in counter-threat, and cattle and horses indulge in nuzzling and nudgings in expression of confiding affection—licking, which is mainly a tactile expression of reassurance, is also freely indulged in by many animals and is something that can be seen. These are emotive expressions well known to us because we have known domestic animals long and intimately, but similar postures, movements and activities by wild animals, typical of emotional states or moods, are no less symptomatic.

Wild elephants, for example, are contented and in an equable frame of mind when flapping their ears casually, flicking their tails, and moving around or feeding in a leisurely manner; when the ear movements are accelerated, the tail curled tight over the rump, and they pace about more actively, they are in a boisterous mood, in high spirits; when standing immobile without any swaying movements of the body, with the ears held flat against the sides of the neck they are in a rage, and it is time to take oneself far away swiftly and unostentatiously! A peculiar token of elephantine uncertainty or puzzlement, distinct from fear or anger, is that when aware (mainly by sight) of the proximity of something distrusted, as a man in the offing, the trunk is looped over the tusks (in bulls) or its tip taken to the lips or ears, often in a scraping or scratching movement,—they may also indulge in the movements of feeding then, without actually feeding—this indulgence in familiar actions in a purely formal manner is a form of displacement activity characteristic of most mammals when uncertain or uneasy but not yet frightened or provoked, and serves to reassure them.

A mistake the observer is prone to when insufficiently experienced is to take these manifestations of mental states or moods as unvaried and invariable expressions—that is very far from being so. For instance, as a man who has been chased and charged by wild elephants and who has provoked a charge to demonstrate it to others, I may say that the preliminary pawing of the earth with the forelegs and the orientation of the body to face the cause of provocation, often characteristic of a charging elephant, may not be indulged in at all—the charge may be launched with no preliminary indications (especially when an elephant has sensed human presence by smell) and may not be in a straight line but in an in-curved arc—it may be made in silence (as it is usually) or may be accompanied by bloodcurdling screams—the tight curling up of the trunk prior to charging, so often described as typical of elephants, may not be indulged in at all and the trunk may hang loose and sway with the impetus of the charge. A more significant point is this. It has long been known that elephants (both cows and bulls) often put on a threat display or demonstration to scare away human intruders. At times (probably because of the response of the intruder to the demonstration) this mock charge, instead of being averted at the last minute, may be pressed fully home and result in a killing —it is hardly possible to determine what sparks off an aggressive display motivated by fear or uncertainty to a panic reaction of hostility.

Such visually perceptible indications of moods and emotive states are, obviously, involuntary and not intraspecific only in their communication but also inter- or extra-specific. Vocalisations or other audible sounds indicative of an animal's feelings are mainly of the nature of intraspecific communications, but may also be involuntary and extraspecifically comprehended—for example, snarling

and roaring by some animals and the alarm calls of others.

Few aspects of animal life are more fascinating to study or more rewarding than this attempt to understand their emotive expressions, but at all times the human observer must not fail to keep two things in mind: first, even visually communicated tokens may be differently apprehended by the animals than by us and, second, these expressions, being conditioned by many variables, are not to be interpreted too narrowly or definitely.