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Human Understanding of Animals — A Historical Survey

Mr. Cansdale, television personality, collector of animals and author of a well known book on animals of the Bible, here reviews man's relationship with the lower creation over the millenia.

Man's relations with the rest of the animal world have been of a developing and cumulative type ; since there are no written records for the greater part of this development, man's understanding of animals in the formative periods must largely be inferred from these relations. The following is likely to be the order in which man's attitude towards animals progressed:-

1. *Prey* — flesh as food, skins as clothing and shelter, bones, etc. for weapons and tools.
2. *Enemies* — many animals regarded man and, later, his stock, as their prey.
3. *Competitors* — for the game hunted by man, or for the grazing that he needed for his stock.
4. *Objects of veneration* — with animals seen as the dwelling place of supernatural beings.
5. *Potential servants* — domesticated stock.
6. *Companions* — a special use of (5).

This is a logical order and seems to be confirmed, at least in part, by archæology, but it is clear that the earlier aspects mostly

continued concurrent with the later.

It is relevant at this point to consider some Biblical implications. First, my reading of the early chapters of Genesis convinces me that man differs from the rest of the animal world not just in degree, for certain qualities cannot be explained on a purely biological level. I am therefore compelled to believe that man has a new 'dimension', but this is not the place to expand on this statement.

As regards man's working relations with animals there are two 'creation' statements; the first is well enough known, that man should have "dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth" (Gen. 1: 28). Dominion here translates a Hebrew word elsewhere used for describing tyrannical rule. The only direct New Testament reference to this is for comparison (with the human tongue) "For every kind of beast and bird, of reptile and sea creature, can be tamed and has been tamed by humankind" (James 3: 7). Here a much milder word is used, suggesting domestication rather than exploitation.

The other comment is seldom considered "So the Lord God . . . brought them to the man to see what he would call them" (Gen. 3: 19). Today the naturalist makes progress when he recognises, by their correct names, the animals he is studying, for without doing this he cannot begin to understand them or to compare his findings with those of others.

The copious biblical teaching on the humane treatment of animals is also frequently overlooked. This is considered in detail and with full references by Major C. W. Hume.[1] The following are some examples. The ox was included in the Sabbath rest (Exod. 23: 12). A straying ox should be taken to safety (Exod. 23: 4 and Deut. 22: 1). It was legal to water stock or rescue it from a pit on the Sabbath (Luke 13: 15 and 14: 5).

This attitude seems to be a monopoly of Judaeo-Christian belief. It is true that extreme reverence for life, based on belief

in the transmigration of souls, is found in Buddhism and Hinduism, though some devotees of these religions sacrifice animals and kill for food. However, oriental reverence for life leads to much suffering, through overstocking and resultant starvation or chronic ill-health.

Perhaps man's concern for animals has run more or less parallel with that for his fellow men, but the O.T. and N.T. injunctions have always been there as a guide.

In the Middle East today Israel affords an interesting example of this higher regard for animal life, for two traditions combine; the Mosaic law comes through the Jewish line, while many recent immigrants from countries like Germany and Austria are fine naturalists who have been influenced by western, i.e. basically Christian, ideals of animal welfare. As a result Israel is a haven for passing bird migrants in spring, and the Nubian Ibex (the wild goat of the O.T.) flourishes in such reserves as Ein Gedi, while the Palestine Gazelles have become so plentiful in parts of the Judaean Hills and the central plains that numbers have been translocated. This contrasts with the general attitude in nearby Arab countries, where it is usual for all clean wild animals to be killed ruthlessly; Muslim fatalism encourages this, on the basis that Allah has provided and will continue to provide. However, it is good to note that the Kingdom of Jordan has now effectively constituted a desert National Park while at an individual level the desert nomad has always regarded his camels' welfare as paramount.

It is general experience in Zoos and elsewhere that the increasing violence of the 1970s is directed not only against fellow men, and it is hard not to associate the whole of this phenomenon with the general rejection of Christian standards.

One further content of the Mosaic Law merits comment. The animal catalogues of Leviticus 11 and Deuteronomy 14 are not easy to follow, especially in the AV translation, but they give an interesting insight on Moses' understanding of animals. The problem is to provide simple rules of thumb for use by the ordinary

people to identify those animals that are safe to eat. The great majority of mammals fit for food are cloven-hoofed ruminants and this characteristic provided the rule. It was sound to exclude the pig at that period for it can transmit several diseases, the most unpleasant being trichinosis, caused by the adult stage of a round worm; however, careful inspection and thorough cooking make pork safe today.

No such simple rule is suitable for birds and the problem is solved by naming those groups that may not be eaten, mainly scavengers and birds of prey. Aquatic life is treated very broadly and only animals with both scales and fins were regarded as clean; this allows the main food fishes but wisely excludes crustaceans and shellfish, with their potential dangers. All reptiles were probably banned, though this section of the lists is the most difficult to translate. Of insects only the Saltatoria, primarily the locusts, were allowed; the AV description is attractive — "which have legs above their feet to leap withal upon the earth" (Lev. 11: 21) — but the meaning is clear enough. Although this is not expressly stated it is likely that locusts at times provided large amounts of useful food on the desert march, as they have done until recent years in and around the deserts of North Africa and the Middle East.

Naturalists in history

A comprehensive survey of the literature would probably reveal much information about the early biologists, who fall into one of two vague groups; on the one hand the systematists, anatomists, etc. and on the other the ethologists and field naturalists. The following are a few:-

Jacob was an able geneticist, manipulating his father-in-law's flock to produce what he wanted, though apparently attributing success to the theory of maternal impression, resulting from the pied patterns presented to the gravid ewes and she-goats.

Solomon, in his collection of Proverbs, singled out several remarkable phenomena for mention — the social organisation of the

harvester ant ; the locomotion of a snake and the flight of an eagle. (The large birds of prey, including about a dozen species of eagle, still fly north in spring in large numbers, riding the thermals for most of the way.)

Jeremiah was a bird-watcher, referring (Jer. 8: 7) to the migratory habits of stork, turtle dove, swallow and crane. Here " swallow " perhaps includes all the martins, swifts, etc. ; the translation " crane " is possible but not certain. These four widely assorted species clearly emphasise the pattern of Palestinian bird fauna, for some 80% of the 350 species are migratory, including members of all families except four rather small and specialised ones each represented by only one species.

Aristotle was considered by Darwin to be one of the world's great biologists ; he was a systematist and physiologist rather than a field man.

Pliny the Elder wrote a series of 37 natural history books, of which 5 dealt with zoology, but these are full of freaks, etc. and his best work is copied from Aristotle.

St. Francis has attracted various legends and facts, hard to establish, but he certainly seems to have had " a way with animals ". This quality may be hard to accept scientifically but it seems equally impossible to deny. A good modern example is the late Mrs. Len Howard, author of a valuable book " Birds as Individuals ", whose house and garden became the headquarters of many tits of 3 or 4 kinds, as well as other species, all of which she recognised individually.

The past few decades have produced many fine zoologists/ naturalists such as Lorenz, Tinbergen, Thorpe and the late David Lack, F.R.S., of robin and swift fame, while we must not forget the non-professionals whose accurate and charming books still bring pleasure — Ernest Thompson Seton, Jack London, Henry Williamson and others.

Two areas are of major interest in assessing man's under-

standing of animals. In both domestication and captivity animals are brought under human control in a particular fulfilment of Gen. 1: 28, the basic difference being in the permanence of the relationship. It is general experience that wild vertebrates, even the largest carnivores, usually shun man and seem to regard him as an enemy, even in places where they seldom encounter him. There are exceptions, such as the scaly anteaters of the tropical African forests; also, in spite of regular predation by man, some of the fur seals, sea elephants and penguins. So it is hard to avoid concluding that man is regarded instinctively as an enemy, which means that before any animal can be tamed it must be taught.

Domestication

First some general comments:-

(a) All important species were domesticated in the Late Stone or Early Bronze Age, before the time of written records, and it almost seems that there was a series of spontaneous surges of creative energy.

(b) There were several widely separated centres of origin for at least some major species, e.g. cattle, pig, horse and goose, with the work proceeding more or less concurrently.

(c) Domestication is the permanent taming of part of a species, usually with change of size, colour and proportions, but the essential feature is a change of temperament.

A riding pony can hardly be compared with a Mongol wild horse; at the other end of the scale, and among the latest recruits is the laboratory rat, absurdly docile and safe — but derived from the Norway or brown rat which is notorious for its intractability.

(d) Many orders of vertebrates are represented, but no reptiles or amphibians, though the clawed toad (*Xenopus*) once seemed likely to qualify. At least three insects are included.

(e) We have no information how any large mammal was actually brought under control. It was a huge task calling for understanding of animals and a skill rare today; it was a far more remarkable feat than darting a rhinoceros and taking it half across Africa, for this is largely technology.

(f) Some breeds are so changed by man that they are not viable unaided, and it is an indictment of human greed and folly that breeds of dogs are ruined by setting wholly artificial standards.

(g) All larger species have some degree of herd organisation, so man may be said to become the leader, but that does not explain how it was done.

(h) The only possible comparison is with ants, also social animals; aphids are kept like cattle, sometimes in underground stalls of precise size; some ants capture colonies of other ant species and use them as slaves.

The following brief and typical species histories, which owe much to the work of Zeuner,[2] who was both archæologist and zoologist, give some idea of the range of animals in human service and the problems involved in enlisting them. (For a less full treatment, with special reference to the history of each in Palestine, see Cansdale.[3])

Dog. The earliest to become domesticated, the process being complete by *c.* 7,500 BC, which is before any farm settlement. The golden jackal may have been involved but the probable ancestor was the northern wolf. Possibly it began by wolves clearing up the remains of a kill, then helping to make it, later hanging around the rough encampment, which became defended territory; all this must have been with increasing encouragement by man, who saw the potential benefits. After this would come tracking, herding and guarding. Or was it much simpler? Did it all begin when a Stone Age man took some wolf cubs home to rear them as pets? The dog is more liable to mutation than any other species, allowing man to 'create' some 100 breeds, ranging from about 5 to 200 lb. and used for many different

purposes.

Camel. The two types — the one-humped or Arabian and the two-humped or Bactrian — are anatomically very alike and are considered geographical forms from a wild ancestor that has long disappeared. A Ist Dynasty carving of a loaded camel is proof of early domestication, then it largely disappears from the records and there is not even an Egyptian name for it. The camel came into widespread use during Abraham's lifetime, except in Egypt where it was not fully used for a further 1,500 years. It is a multi-purpose animal giving labour, milk, meat, dung for fuel, hair, etc.

Goat. Deriving from the Greek wild goat it is known from the 6 – 7,000 BC levels at Jericho. The grazing sheep came rather later and was largely non-competitive, since goats prefer to browse. The goat has probably caused more depredation of habitat than any animal other than man himself, who has persistently refused to recognise the potential danger of animals introduced to a new region.

Ox. There is good evidence that cattle were domesticated in several different areas *c.* 3,000 BC, bringing food and skins, and above all, working capacity. All forms are descended from the aurochs, which became extinct *c.* AD 1600, and which is wrongly translated unicorn in AV. The massive bull stood over 6 feet, and it is impossible to imagine how Neolithic man tamed it. Who had the patience, skill and vision ?

Donkey. Known until less than 200 years ago as the ass it is derived from the Nubian wild ass and dates, with little change, from the third millenium BC. The so-called asses of *c.* 3,000 BC in Mesopotamia are now known to have been partly tamed onagers ; domestication was never completed, for both donkey and horse proved more useful.

Horse. The latest of the important Old World animals, it was an animal of the grassy plains and always demanded better food than the ass. The arrival of the horse in the Middle East,

c. 1,700 BC, revolutionised ancient warfare as radically as the invention of the tank changed conditions in World War I.

All these, and most others large and small, were brought into service in lands that were to become, or already were. cradles of civilisation. A complex human social organisation was impossible without an assured food supply and, above all, the extra working and carrying capacity of domestic stock. Did any of those early men realise what far-reaching effects their work would have? The converse also seems to be true — no domestic stock, no civilisation — and it is notable that no contribution came from south of the Sahara.

Animals in Captivity

Zoos are no new phenomenon but have been a feature of civilisations in many periods. Records in early Egyptian Dynasties show that many species were kept, possibly deriving from their pantheon; of these some were of kinds now reckoned as difficult Zoo subjects, and many were trained to a high degree. Later, in the XII Dynasty (*c.* 2,750 BC), hyenas, hunting dogs, lions and cheetahs were actually trained for hunting, and vast herds of antelopes were held in enclosures. These activities were discontinuous; several times interest seems to have been lost for many centuries and then revived, to reach its height under Ptolemy II, whose collection including giraffes, elephants, ostriches and many others in harness, took all day to pass through the stadium.

The picture was similar in China and Mesopotamia, but on a smaller scale. The Romans also kept — and killed — great numbers of larger animals in appalling exhibitions of ostentation and blood lust. More recently the Aztecs and Incas showed themselves expert ornithologists, building flight aviaries for insectivorous birds, many of which are kept only with difficulty today. This whole subject is covered in great detail by G. Loisel. [4]

As with domestication, man has shown, in different civilisations

and at long intervals, an ability to handle animals implying an understanding of them that is rare today, and which has nothing to do with technical facilities or scientific knowledge. Again, this fact is hard to explain.

The past two decades have seen a world-wide increase in Zoos in response to popular demand. Some foremost authorities, including Professor Hediger (see below) relate this to urbanisation, and it seems likely that divorce from nature leaves a gap which close contact with animals may fill, however nebulous such an idea may appear to a cautious scientist.

Human understanding of animals is shown to perfection in good Zoo design. An expert like Hediger, Director of the Zurich Zoo, almost becomes the animal whose quarters he is designing, and the result is excellent. Hediger has written widely on this subject and his latest book [5] is by far the best on the subject available. In contrast, some Zoos have handed over such work to experts in fields other than animal; functional quality may then be sacrificed to novelty of design, so that a flight aviary may have proportions more suitable for birds equipped with VTO (Vertical Take Off) and be both difficult and expensive to maintain. Such is one result of failing to understand animals.

Zoos may foster, incidentally, the misunderstanding known as anthropomorphism, when conditions are judged subjectively, without realising that animals have infinitely differing needs which seldom resemble those of man, or that the word freedom, to be meaningful to man or beast, must be qualified.

Personal pet-keeping is a particular aspect of animals in captivity and though less documented has a long history. It is widely practised in developing countries, though the range of species kept is often narrow. There are several biblical mentions. Nathan told David the story of the pet lamb, presumably a hand-reared orphan (2 Samuel 12). Tobias had his faithful dog (Tobit 5: 16 and 11: 4). The Syro-Phoenician woman spoke of the pet dogs under the table (Mark 7: 28).

Whether or not this implies any true understanding of animals, pets continue, in this atomic age, to give satisfying companionship different from but complementary to human friendship. To folk living alone, especially the old, a cat or a talking budgerigar can be very important.

Conclusion

From the beginning man survived by understanding the rest of the animal world ; this was a matter of necessity, but perhaps there were always a few true naturalists. From time to time there were geniuses, perhaps only very few of them, among our early ancestors who achieved miracles of domestication and cleared the way for civilisation.

Great numbers of people in developed countries enjoy animals at many levels, and facilities for such enjoyment expand with increasing leisure. There are also a few with exceptional understanding of animals large and small. Comparisons are clearly impossible, but surely the prize should go to the first Neolithic man who took a wild bull by the horns !

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