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**BEHAVIOURAL ASSESSMENT.**

**CHAIR:**

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# A Proposed Course Structure For Veterinary Ethology

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## **Introduction**

Veterinary Ethology is one of the younger subjects in veterinary curricula, but in the sense that it represents a new approach rather than new knowledge. It integrates material which could be part of courses such as Zootechnology, Animal Management, Husbandry, Behaviour, Genetics, Welfare, Nutrition, Housing, Production and Economics. Recently, Human-Animal Interaction was added to some curricula because it deals with behaviour.

## **Course Structure**

Veterinary Ethology is divided into the following three sections and each section is discussed separately.

### **Section 1: An introduction to Veterinary Ethology**

The definition used for Veterinary Ethology is the scientific study of domestic animal needs in their human-provided environments (Odendaal, 1994). Such needs could have either a genetic or an environmental basis, because the animal's behaviour is developed by environmental influences within its genetic potential.

There are different premises in studying animal behaviour and it is beneficial to consider them in a complimentary way, rather than studying behaviour from a single perspective. The following eight approaches are used to study animal behaviour:

#### **Ethological approach -**

Such an approach includes species-specific behaviour which indicates needs (instincts) associated with the animal's genetics (Thomson, 1995). For domestic animals, humans (instead of natural selection) will not only reinforce specific species' characteristics, but also breed traits which are desirable to man. Human selection may have an influence on the animal's adaptation ability and general health and it indicates man's responsibility in selection programmes. Ethograms are useful tools to describe inherited needs (Scott & Fuller, 1965) and a model which is applicable to all domestic species consists of the following ten behavioural systems:

- epimeletic behaviour
- ingestion behaviour
- sexual behaviour
- allelomimetic behaviour
- comfort-seeking behaviour
- etepimeletic behaviour
- excretory behaviour
- agonistic behaviour
- investigation behaviour
- relaxation behaviour

### **Experimental (instrumental) approach**

This deals with learned behaviour and is a result of stimuli which the animal experiences from its environment. Humans can use a variety of conditioning processes in animals to benefit the owner and the animal. Shaping the animal's behaviour by using positive environmental stimuli can improve the animal's production and performance. Training of an animal is an important part of learning and it creates trust between owner and animal, because both know what to expect from each other (Kilcommons,1992). Even the establishing of basic routines as a learning process can enhance the care of the animal.

### **Developmental approach**

The most meaningful way to study an animal's development stages is to compile a development calendar for the species, or even in some cases, according to breed (eg differences in dairy and beef cattle breeds). Development stages which one can consider are foetal behaviour shortly before birth (eg the righting reflex), neonatal behaviour, the development of senses, weaning, socialisation, the changing of teeth, puberty, adult life and ageing. Normal ranges for development stages should be allowed for.

### **Physiological approach**

This describes behaviour as a result of bodily functions. The nervous and endocrine systems are the main contributors to behavioural reactions. It is not necessary to duplicate information which is taught in the subject Physiology, but emphasis should be placed on the physiological basis of behavioural patterns.

### **Social interaction**

Social behaviour refers to individuals' relationships within a group. Groups could be homogenous, heterogenous, intraspecies and interspecies. The study of social behaviour includes the role that life spaces play in animal groups (Zayon & Dantzer, 1990). Animal communications forms an integral part of social interaction.

### **Behaviour of the sick animal**

There are typical (expected) behavioural reactions to acute illness and their meaning should be understood and explained in ethological terms. Symptoms like fever, depression, anorexia and lethargy are found in almost all animals suffering from an infectious disease. Veterinarians should know the relationship between disease, convalescence, health and behaviour (Hart, 1987).

### **Human-animal interaction**

This approach provides a different perspective on domestic animals, namely their specific relationship with humans, including how this behaviour presents itself in practice. The practice is analysed according to a social system which highlights the human side of practice. It provides insight in the veterinarian-client, veterinarian-patient and client-patient relationship as present during a consultation. It also takes into account the external factors influencing the triangle of veterinarian, patient and client. Such interaction includes the art of communication with clients and other people, as well as basic human behaviour in the context of animal keeping ( Bower et al.,1962; Ironside 1994; Jevring,1996; McCurmin,1988).

### **Handling of animals**

The principles of proper handling techniques for the control of animals should be based on the knowledge of animal behaviour and anatomy. Although the Introduction is mainly

focused on theoretical work, students should practice handling live animals, before animals are handled in practicals of the applied and clinical sections. Considering the animals' welfare, practicals should always include initial demonstrations by experienced veterinarians and they should supervise students carrying out the procedures following the demonstrations (Anderson & Edney, 1991). Only animals with docile temperaments should be selected for practicals by untrained students.

## **Section 2: Applied Ethology**

In applied ethology, teaching changes from a subject to a species approach. The choice of species will depend on its role and significance in the specific geographical area (country) in which veterinarians are trained. The species are, however, divided into two categories, namely production and companion animals, terms preferred to large and small animals. The reason for such a division is the differences in the human-animal interaction taking place between owners of the different types of animals. Every species, however, is studied in three phases, based on the same ethological principles.

### **Knowledge of the species**

Students should know their future patients' specific needs. Background information on the species with regard to its domestication (Fox, 1978) and its breed characteristics (genetics), especially those with clinical implications, could already provide some history for clinical problems (Clark, 1992, 1994). Students must be able to evaluate breeds with regard to their anatomical, physiological and behavioural adaptation to a particular environment and for the purpose the animal is kept.

### **Management and care/Animal welfare**

Based on the knowledge of the animal's needs, the animal's keeping is studied with regard to housing (Watkes & Charles, 1994), breeding and handling facilities (Sainsbury & Sainsbury, 1988; Carricato, 1992), its nutrition (Burger, 1993; Bondi, 1987), hygiene and preventative medicine (Blakely & Bade, 1994), environmental and exercise needs (Phillips & Piggins, 1992), social interaction and transport (Grandin, 1993). If animals' basic needs with regard to the above-mentioned factors are met, the animals' well-being is enhanced. The aim is to create an equilibrium between the animal's needs and its environment. From this phase it is clear that there is a close relationship between veterinary ethology (ie approach to animal care) and animal welfare (Odendaal, 1994). A contextual diagnosis is used to evaluate the management of and care for an animal, in a particular environment.

### **Animal products or uses**

Humans expect to receive some return (output), on their financial input in fulfilling the needs of the animals. Production animals are kept for their products or uses, with a monetary connotation, while companion animals are kept in and for the company of people. The emotional and sentimental value associated with companion animals justifies their special care and veterinary involvement (Fraser & Broom, 1993).

With regard to animal products and work, if an animal's welfare is considered, one should aim for optimums rather than maximums. Maximum output often leads to ill-health and side-effects which affect the output negatively. Apart from the effect on the animal's health and welfare, the owner's profit could also be restricted by shortening the animal's productive life-span, if pushed for maximums. It follows that, if ethological principles (animal welfare) are applied as part of management, there could be economic benefits.

### **Section 3: Clinical Veterinary Ethology**

The first two sections teach the student about the animal's normal needs and how to fulfil these needs in keeping animals. The last section deals with a systematic approach to problem behaviour which follows a similar line as that of other clinical subjects, namely making a correct diagnosis and applying an appropriate therapy.

#### **Diagnosis:**

Proper communication with a client on behavioural problems is critical during history-taking, but it is also important in discussing a diagnosis and therapy. A distinction should be made between normal (expected) or abnormal animal behaviour and animal behaviour that is only unacceptable to the owner. All cases should be examined clinically before a behavioural diagnosis can be made and the animal's problem behaviour should be observed as thoroughly and extensively as possible.

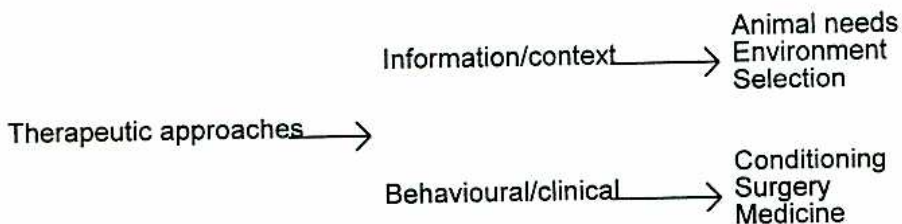
Clinical diagnoses should always be made in the context of a specific animal's circumstances and environment. Behavioural problems do not occur mechanically or in a vacuum and therefore classifications of such problems cannot be described in clear-cut sections. However, a diagnostic classification will help to improve communication on the subject (Webster, 1995).

#### **Therapy:**

Therapy for behavioural modification may include various approaches in combination. Therapeutic approaches can be divided in two parts. The first, consider the contextual diagnosis where information is provided which relates to the animal's needs in a specific environment, as well as breeding programs to reinforce characteristics which can benefit the animal's health and meet the owner's expectations of the animal (Robinson, 1995; Odendaal, 1995; Alderson & Bodó, 1992; Hammond et al., 1992). The second considers the behavioural and clinical approaches to problem behaviour:

- the behavioural approach deals with the variety of conditioning or learning processes which are used to modify animal behaviour. This includes the whole spectrum from specialised training to the establishment of daily routines and basic obedience (Willis 1992);
- surgery is often controversial in treating behavioural problems, but is mostly used to sterilise or castrate an animal in order to influence sex-related behaviour (Wright & Wright, 1980);
- the use of medical drugs to modify behaviour can be an expensive approach, but it could provide support in helping the owner and animal over the initial tense stage of correcting a behavioural problem. Life-long drug therapy is rarely an acceptable solution (Campbell, 1992; Hart & Hart, 1985; Beaver, 1994).

Therapy for problem behaviour can be summarised as follows:



A prognosis, with arrangements for dates to re-evaluate the condition, should accompany the therapy programme. A behavioural problem is formalised in an appropriate report for the practitioner's record. A copy of such a report could also help to improve communication with the owner regarding the case.

### Summary

Veterinary Ethology can play an increasingly important role in veterinary training as well as in practice, if it is orientated towards applied and clinical ethology. This subject may prove to be as important a part of modern practice as any other clinical subject. Its main purpose is to secure positive interaction between man and animal, which provides the key to the survival and progress of the veterinary profession in the next century.

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