

# Aggression and social structure

Domestic Animal Behavior, ANSC 3318



# What is aggression?

- Any behavior that cause injuries to other animal
- Social interaction with the intention to inflict damage
- Hostile, injurious or destructive behavior caused by frustration



# What is Aggression?

"A forceful behavior, action, or attitude that is expressed physically, verbally, or symbolically. It may arise from innate drives or occur as a defense mechanism..."

Mosby's Medical dictionary, 2009



# Types of aggression

- Social
- Territorial
- Pain
- Fear
- Maternal
- Predatory



# Categories of aggression

## **Social Aggression:**

It occurs when animals live in groups . It serves to establish the order of the group, which animals are dominant or submissive.

Hierarchy: Alpha animal > beta animal > subordinates.



# Categories of aggression

## **Territorial Aggression:**

- Resources
  - Territory
  - [Food](#)
  - Mate
  - Owner



# Categories of aggression

## Pain induced aggression:

This aggression is based on induced pain or fear of the pain. The function is to reduce the pain by eliminating the source.





# Categories of aggression

## **Fear induced aggression:**

It is the fear of the unknown, or fear of a specific person or animal with no apparent cause.

Fear induced aggression





# Categories of aggression:

## **Irritable aggression:**

This behavior happens when the animal is hungry, tired, or sick. It has less tolerance for disturbing situations and will attack the source of the disturbing stimuli.



# Categories of aggression

## **Maternal aggression:**

It is directed to protect the offspring against a possible dangerous animal/ human.

Maternal aggression

Maternal aggression Dog



# Categories of aggression

## **Sexual aggression:**

In some species mating behavior is accompanied by severe biting by the male. It can also include competition between animals for a sexual partner.



# Categories of aggression:

## **Predatory aggression:**

It is the aggression in order to get food, usually the animal attacking is interested in eating its prey.



# Biological basis of aggression

## Genetic factors:

- Breed





# Biological basis of aggression

## Environmental control of aggression:

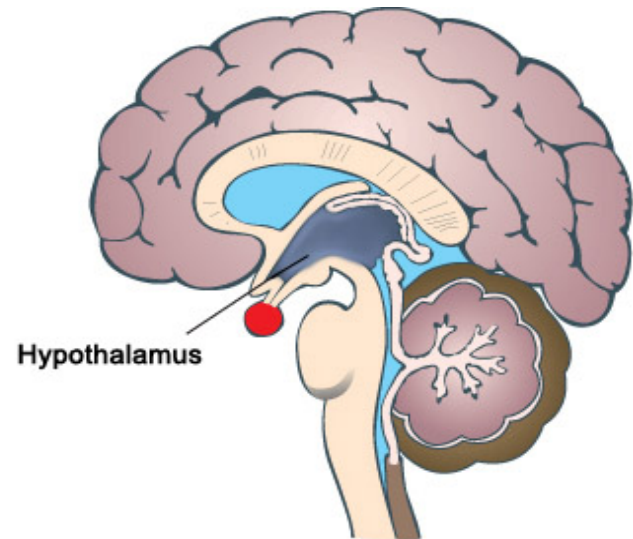
Environment plays a main role in the level and frequency of aggression, smaller pens are directly related to the rates of aggression.



# Biological basis of aggression

## Neuroanatomical lesions:

The hypothalamus has an important role of regulating aggressive behavior and hypothalamic lesions can alter the rate of aggressive behaviors.

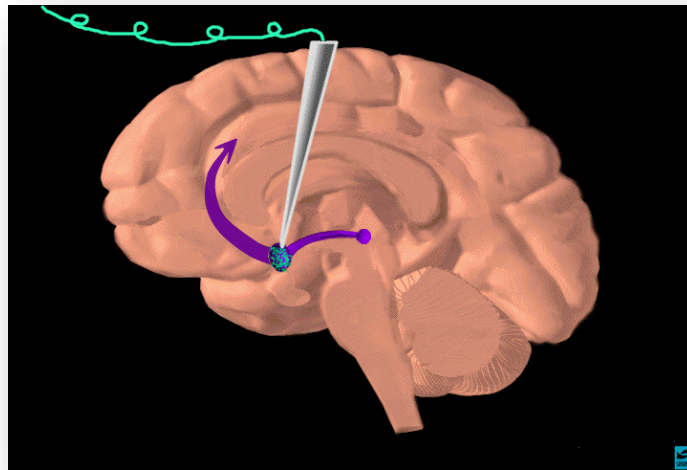




# Biological basis of aggression

## **Neurochemical/Hormonal control of aggression:**

Injections of certain substances as well as the presence of specific hormones, such as testosterone, increase aggressive behavior.





# Cow



# Social Behavior

- Free-Ranging cattle
  - Solitary bulls
- Confined cattle
  - Animals from the same farm
- Grooming
  - Few minutes per day
  - During feeding time
  - Hierarchical



# Social aggression

## Determinants of dominance:

- Height
- Weight\*
- Horns
- Age\*
- Sex
- Territory



# Social aggression

## **Determinants of dominance:**

- When moving submissive are first
- Dominant first to eat
- Estrus increase dominant behavior
- Dairy vs Beef
- Mounting

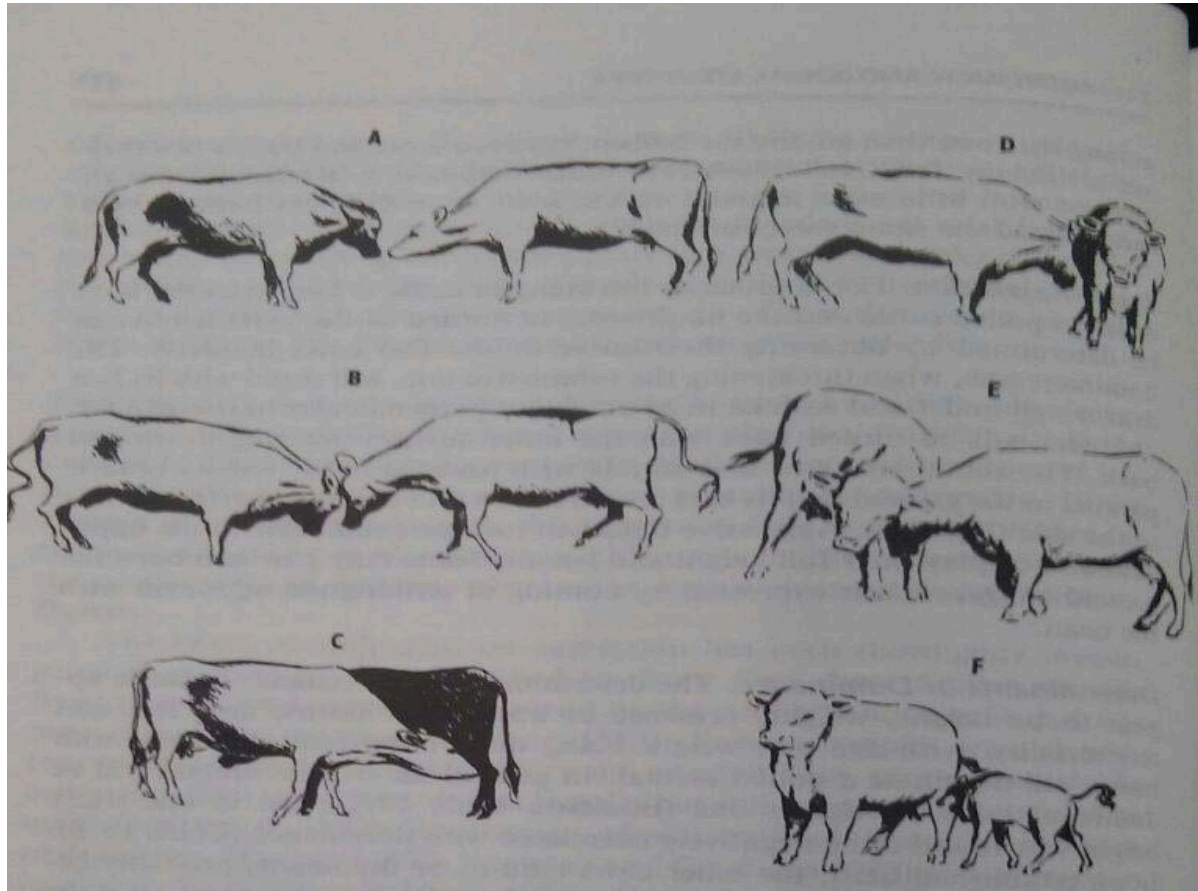


# Aggressive behavior





# Social aggression







# Sheep



# Social behavior

- Wild
  - Groups
- Flocking
  - Same breed
  - Familiar animals
  - Separation calls



# Social aggression

- Determinant of dominance
  - Oldest
  - Leader
  - Push subordinates
- Sexual aggression
  - The most common type







# Goat



# Social behavior

- Wild
  - Groups
- Grooming
  - Scratching
  - With the canine or incisors
- Dominance
  - Horn size
  - More aggressive than Sheep





# Horses



# Social aggression

- Determinant of dominance
  - Oldest
  - Leader
  - Push subordinates
- Sexual aggression
  - The most common type





# Social behavior

- Band
- Dominant female
- Female choose the band
- Bachelor band
- Aggression
  - Water holes
  - [Vocalization assessment](#)



# Social behavior

- Big band have more than one male
- Daughter of dominant tend to be dominant
- Preference within herd
  - Share resources
  - Groom
- Grooming
  - Friend or similar rank
  - Coon during spring



# Social aggression in Horses



# Aggressive behavior in horses

- [Running](#)
- Chasing
- Circling biting
- [Kicking](#)
- Levade





# Horses herd hierarchy

Adult male > Adult female > Young male > Young female > Male foal > Female foal



# Treating horse aggression

- Stall guarding
- Reward non-aggressive behavior
- Drugs (side effects)
- Tryptophan supplementation
- Familiarize animals before mixing
- Castration





# Pigs





# Social aggression- Teat order



# Social aggression- Hierarchy formation after mixing

- Behaviors
  - Sniffing
  - Vocalization
  - Fighting
    - Butt the head
    - Biting (ears, neck, shoulder)



# Social aggression- Hierarchy formation after mixing

- How to prevent it?
  - Pen size and shape
  - Different in size
  - Keep littermates together
  - Enrichment
    - Toys
    - Pheromones

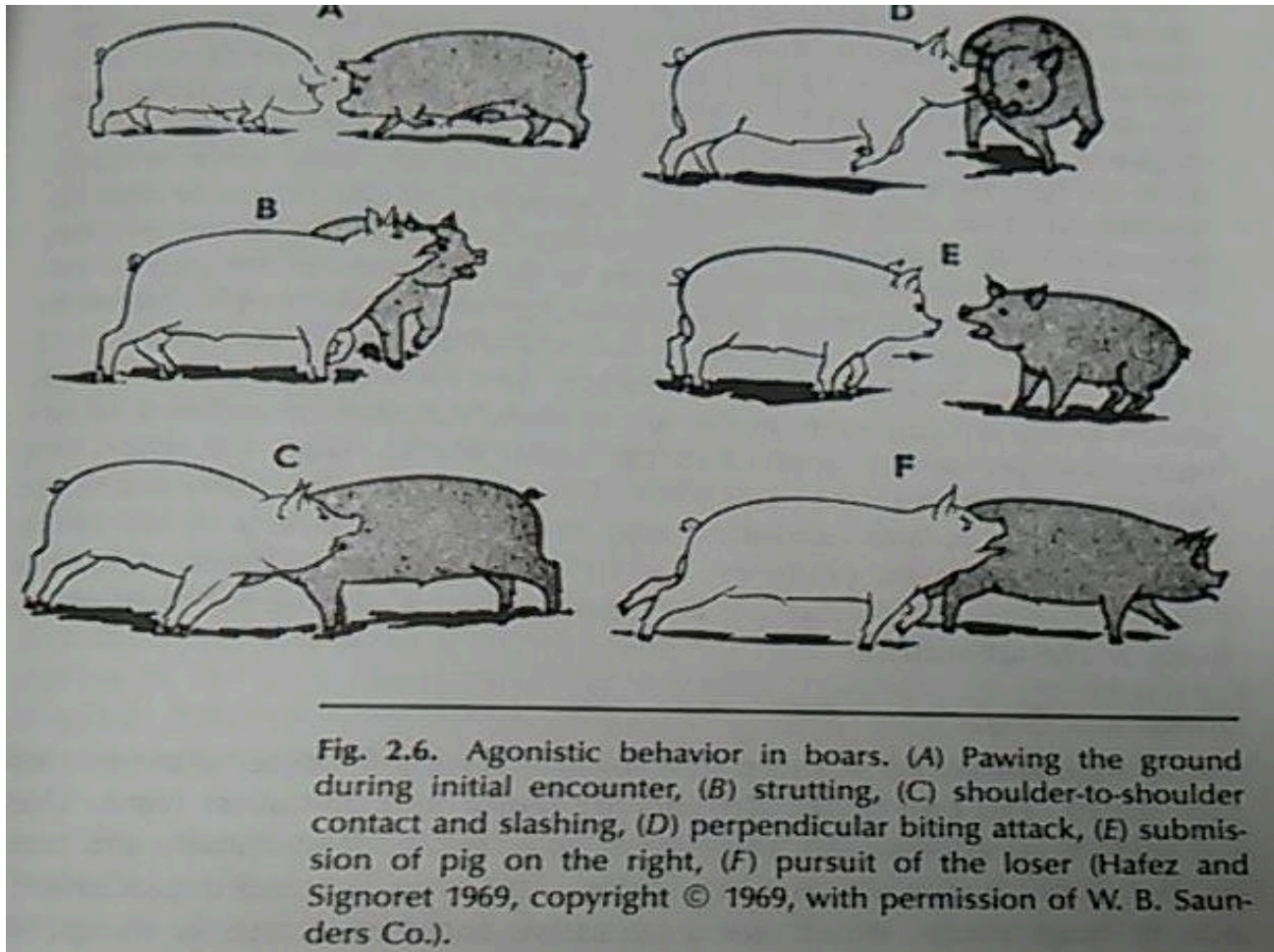


# Social aggression-Sows

- Dominant Sows
  - More piglets
  - Dominant offspring
- Subordinate Sows
  - Lower litter size
  - Less estrus behavior



# Social aggression in pigs







# Dog





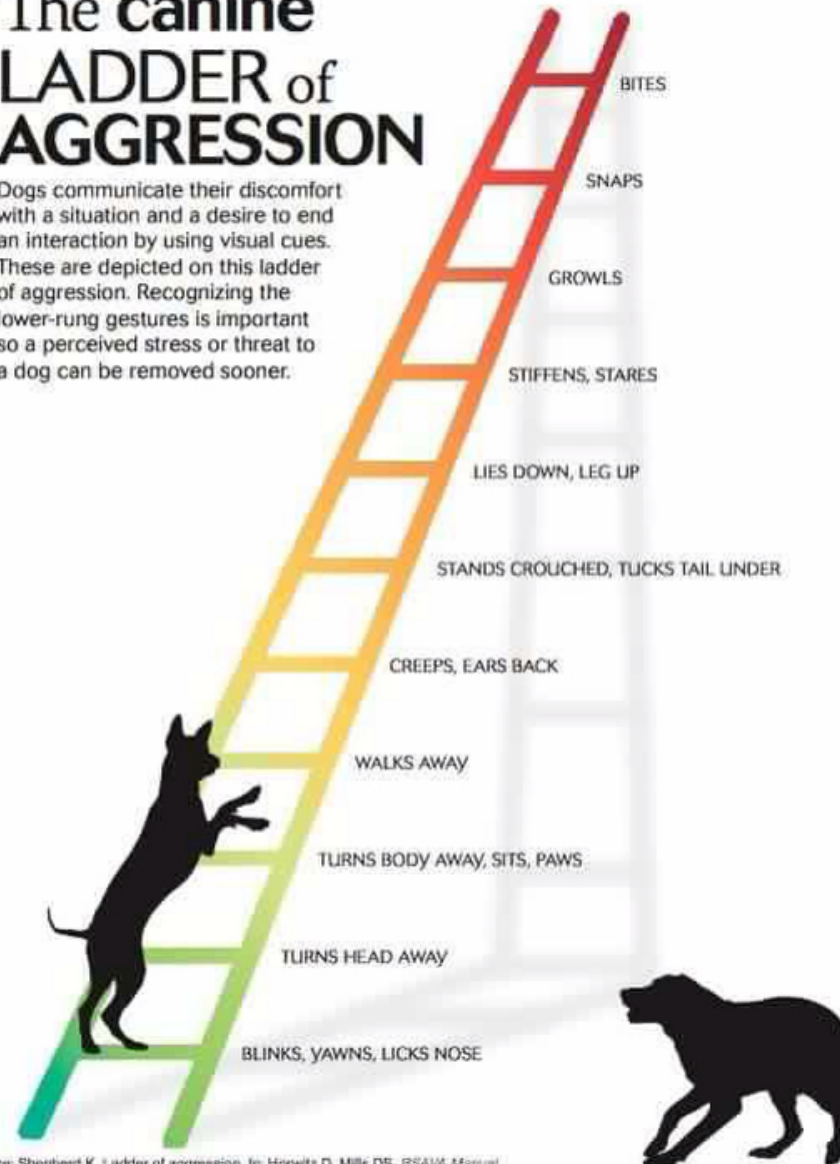
# Social Behavior

- Urban dog
  - Small group
- Aggressive behavior
  - Ears pointing back
  - Male more than female
  - Spayed females more than intact
  - Biting head, ears, neck, thorax



# The canine LADDER of AGGRESSION

Dogs communicate their discomfort with a situation and a desire to end an interaction by using visual cues. These are depicted on this ladder of aggression. Recognizing the lower-rung gestures is important so a perceived stress or threat to a dog can be removed sooner.



Source: Shepherd K. Ladder of aggression. In: Horwitz D, Mills DS. *BSAVA Manual of Canine and Feline Behavioural Medicine*. 2nd ed. 2009.



# Social structure and aggression

## Dogs:

In dogs size is important to establish dominance. However, territoriality is more important.

Males are usually dominants over females, but the opposite may happen.



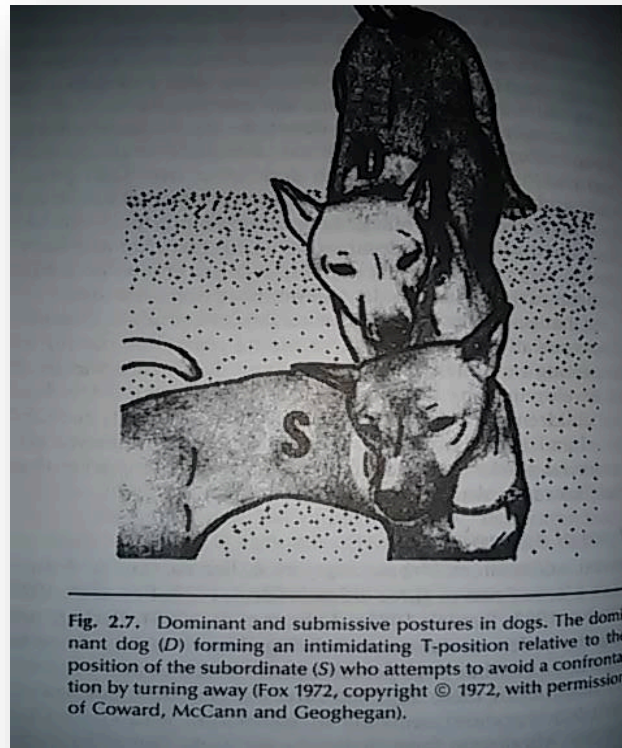
# Aggression in dogs

- Social aggression
- Territorial aggression
- Fear- induced aggression
- Irritable aggression
- Maternal aggression
- Predatory aggression



# Aggression in dogs

## Social Aggression





# How to reduce aggression?

- Breed
- Socialize dog at early stage
- Diet
  - Tryptophan
- Castration
  - Do not affect territorial





# Cat



# Social Behavior

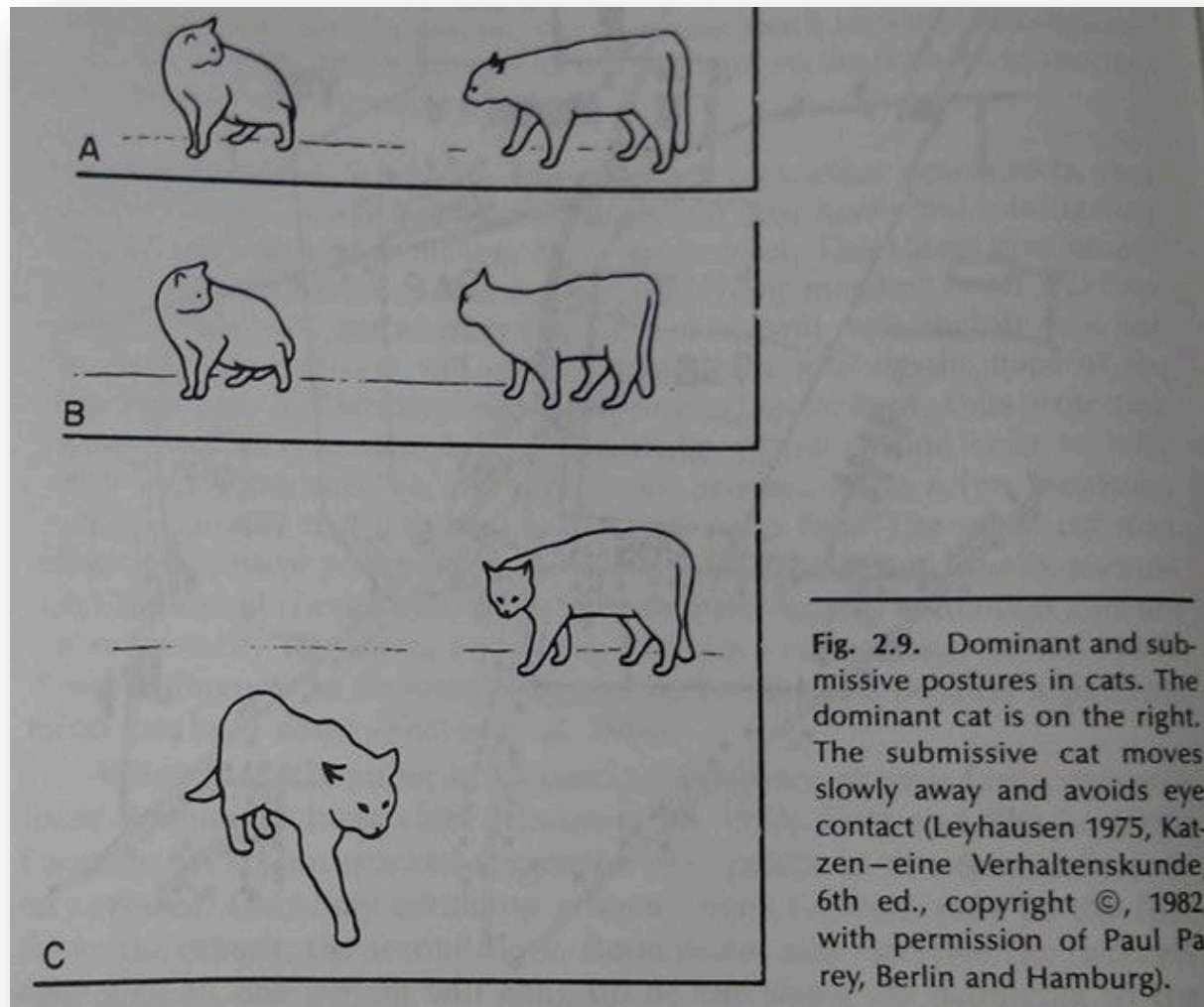
- Wild
  - Solitaries
- Urban cats
  - Group
  - Near a food source
- Grooming
  - Very important
  - Allogrooming



# Aggression in cats



# Social Aggression in cats





# Sexual aggression in cats



# Predatory aggression in cats

## Predatory behavior

