

# Old School Ethological Model

The blood-bespattered, slaughter-gutted archives of human history from the earliest Egyptian and Sumerian records to the most recent atrocities of the Second World War accord with early universal cannibalism, with animal and human sacrificial practices or their substitutes in formalized religions and with the world wide scalping, head-hunting, body-mutilating and necrophiliac practices of mankind in proclaiming this common blood lust differentiator, this mark of Cain that separates man dietetically from his anthropoidal relatives and allies him rather with the deadliest of Carnivora.



# Warfare and Evolution

- Old ethological & modern evolutionary models
- A strategic model of territoriality
- Chimpanzee coalitionary aggression

## Influential ethology books

- *On Aggression*, Konrad Lorenz (1966)
- *African Genesis* (1961), Robert Ardrey
- *The Territorial Imperative*, Robert Ardrey (1966)

Lorenz's Hydraulic or Drive Discharge Theory:

- aggressive energy builds in the organism
- if the energy is not released the organism will be harmed
- the organism seeks a releasing mechanism (e.g., territorial intruder)
- aggression is expressed and the organism reestablishes equilibrium

# Reasoning behind the Phylogenetic Model:

- Humans are primates.
- Non-human primates are aggressive and territorial.
- Humans are aggressive and territorial.
- Non-human primate behavior is genetically determined.
- Therefore, human aggression, warfare, and territoriality are genetically determined.



# Strategic or conceptual models

- Under what conditions do we expect the behavior to manifest itself?
- What are the costs and benefits to the behavior?
- Does not require phylogenetic connections. Further, even if we find the behavior in closely related species or subspecies we would still have to explain the evolutionary logic behind the behavior.

# Definition of territoriality

- An area occupied more or less exclusively by an individual or a group by means of repulsion through overt defense or advertisement.

# Territoriality: Costs and Benefits

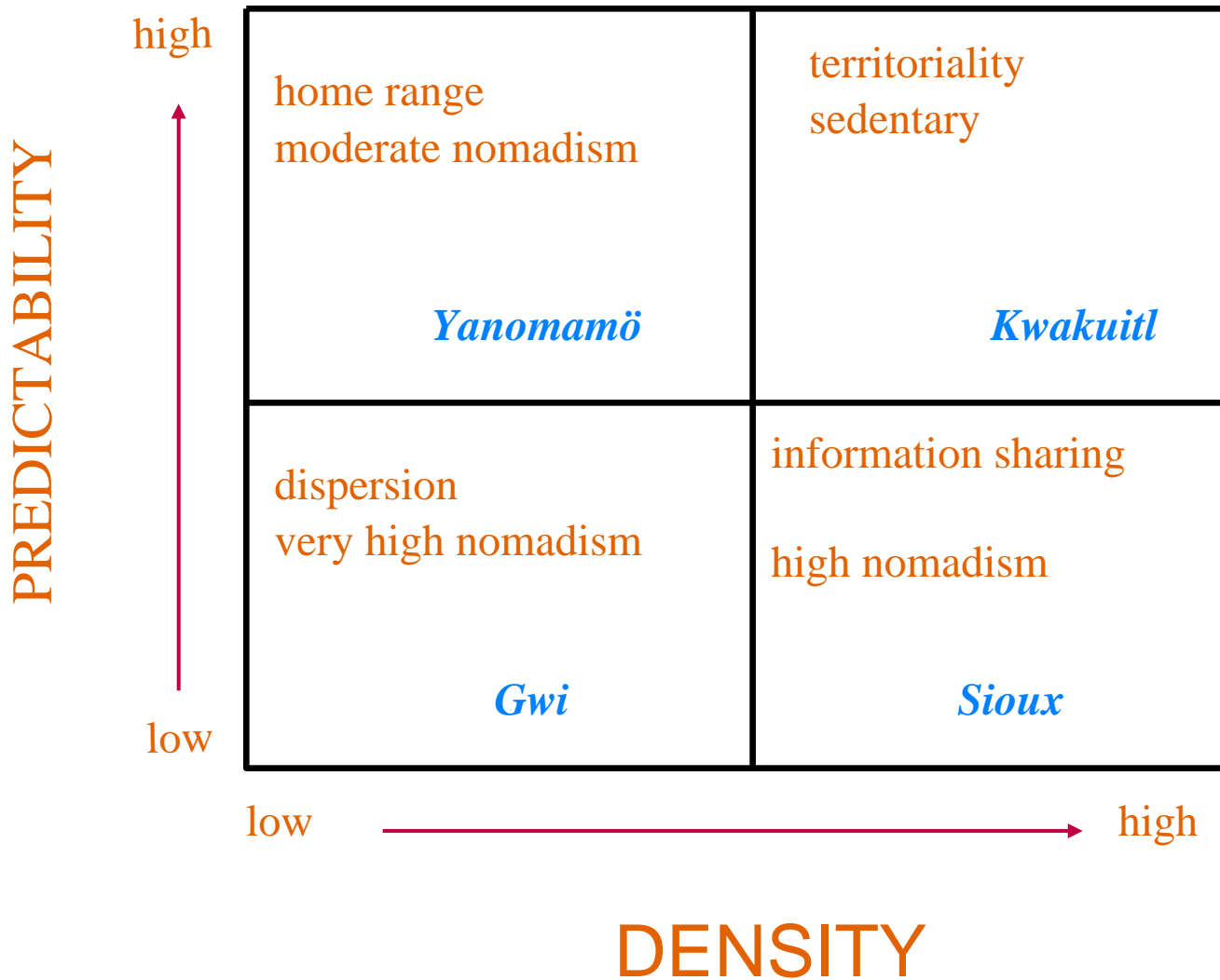
## **Costs:**


1. time, energy, or risk associated with defense
2. opportunity costs or diversion of time from necessary activities
3. reliance on a spatially limited resource area

## **Benefits:**

All those associated with the exclusive use or access to critical resources

# Brown's Model of Territoriality





We are happy to credit chimps as our evolutionary precursors when deal with:


- Culture
- Complex social behavior
- Hunting
- Sharing of the hunt (although involves begging)
- Long term infant care and dependency
- Facial expressions of emotion
- Complex communication and perhaps language



# But we are not happy to declare our relatedness to chimps when it includes

- Warfare
- Lethal dominance related power struggles among males
- Infanticide
- Coercive sex
- Male abuse of females

As a consequence, some primatologists have claimed that chimpanzee violence is a consequence of unusual or unnatural conditions (e.g., feeding stations or human presence). Nevertheless, research has consistently shown that chimpanzee violence is the norm.



Coalitionary violence: cooperative violence by group members directed at members of different groups:

- Coalitionary violence is found among the following animals
  - Lions
  - Cheetahs
  - Numerous ant species
  - Wolves
  - Spotted hyenas

# Features of chimp coalitionary violence

- territorial defense (calling and counter calling)
- border patrols (slow movement, inspection of signs of other chimps, nervousness)
- deep incursions (deep penetration, silent movement, cheers when they return home)
- coalitionary attacks (intent to injure or kill other groups members)
- coalitionary kills (no evidence of dyadic killing, always group)
- border avoidance (low frequency of border use)

# War Death rates (100,000/year) for Foragers and Agriculturalists

Group	Region	Hunter/farmer	Deaths/100,000/year	References
Semai	Malaysia	H	0	Keeley (1996)
Andamanese 30 years	India	H	20	Keeley (1996)
Dobe !Kung	South Africa	H	42	Lee (1979)
Canadian Eskimo	Canada	H	100	Graburn (1969)
Gidjingali	Australia	H	148	Hiatt (1965)
Tiwi 1893–1903	Australia	H	160	Keeley (1996)
Yaghan	Tierra del Fuego	H	169	Cooper (1917)
Yurok	California	H	240	Keeley (1996)
Casiguran Agta	Philippines	H	326	Headland (1989)
Murngin	Australia	H	330	Keeley (1996)
Modoc	California–Oregon	H	450	Keeley (1996)
Piegan	North America	H	1,000	Keeley (1996)
Boko Dani	New Guinea	F	140	Keeley (1996)
Gebusi	New Guinea	F	200	Keeley (1996)
Mohave 1840s	Western America	F	230	Keeley (1996)
Yanomama	Venezuela	F	290	Keeley (1996)
Tauade	New Guinea	F	320	Keeley (1996)
Mae Enga	New Guinea	F	320	Keeley (1996)
Auyana	New Guinea	F	420	Keeley (1996)
Manga 1949–1956	New Guinea	F	460	Keeley (1996)
Dugum Dani 1961	New Guinea	F	480	Keeley (1996)
Mtetwa	South Africa	F	590	Keeley (1996)
Kalinga	Philippines	F	600	Keeley (1996)
Kunimaipa	New Guinea	F	621	Hallpike (1977)
Tauna Awa	New Guinea	F	624	Hayano (1974)
Buin	New Guinea	F	710	Keeley (1996)
Telefolmin 1939–1950	New Guinea	F	740	Keeley (1996)
Chippewa 1825–1832	North America	F	750	Keeley (1996)
Hewa	New Guinea	F	778	Steadman (1971)
Fiji 1860s	Fiji	F	870	Keeley (1996)
Dani-S. Grand Valley	New Guinea	F	1,000	Keeley (1996)
Kato 1840s	California	F	1,450	Keeley (1996)
	Median ( <i>n</i> = 12)	Hunter	164	
	Median ( <i>n</i> = 20)	Farmer	595	

Median for chimps is 287 (see next)

# Chimpanzee War and Homicide Rates

Table 5 Summary of mortality rates among chimpanzees from aggression, with data pooled within each population

Population	Intergroup deaths/100,000 individuals/year	Intergroup killing/100 male years	Intragroup deaths/100,000 individuals/year	Total deaths/100,000 individuals/year
Budongo	0	1.85	271	271
Gombe	417 (782)	4.76	261 (626)	678 (1408)
Kibale	72 (287)	3.03	144	216 (287)
Mahale	69 (310)	0.90	275 (310)	344 (620)
Tar	0	0.00	78	78
Median	69 (287)	1.85	261 (271)	271 (287)

Calculated as in prior tables by combining data from different communities on “observed plus inferred” killings. Figures in parentheses show rates using “observed plus inferred plus suspected” killings. “Median” is the median across five populations

# Coalitional Violence among Chimps, Foragers, & Agriculturalists

