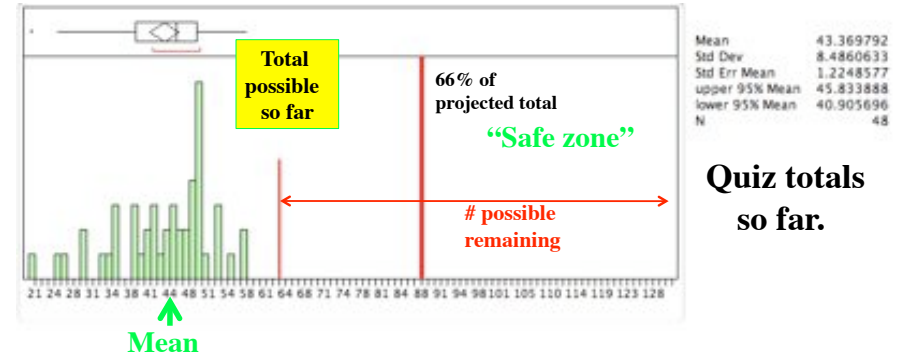
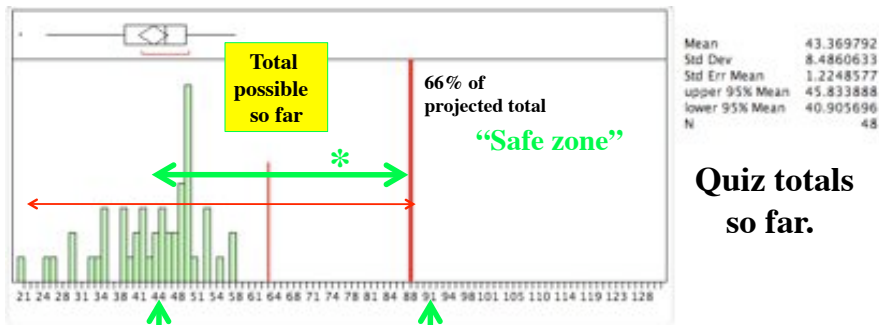


ANTH 42

Guenons and others: Species and speciation (including, if time, of HIV)



Quiz totals so far.



Quiz totals so far.

Concretely: if your total is under 35, you're at risk; under 30, at great risk. Otherwise, if you keep doing what you've been doing, OK. Right now, > ~47 A, < ~40 C, < ~28 D or F.

What does it mean?
The class is on the whole not doing as well as I expected (my bad, not yours); consequence is that the 66% guaranteed pass is not going to help as many as it might have.

Quiz clock

Minutes remaining: **ONE**

30 sec ...

5 4 3 2

Kitty Genovese (1935 - 1964)

Though greatly exaggerated, story resonated with feelings that cities were becoming impersonal and dangerous.



Crowding and social pathology

Urban crime, street gangs, violence

John Calhoun - "rat barrel" experiments

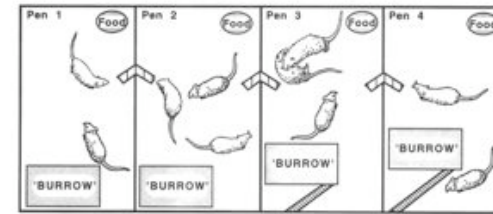


Fig. 1. Schematic diagram of CALHOUN's experiment (rats not to scale!). Each 'burrow' contains five nest boxes connected by an internal tunnel; while all burrows were elevated above the floor, those in Pens 3 and 4 were raised higher (the less-preferred condition). Both food and water were available ad lib in each pen. Actual room dimensions 10x14x9 feet; heights of burrows not given in CALHOUN (1962a).

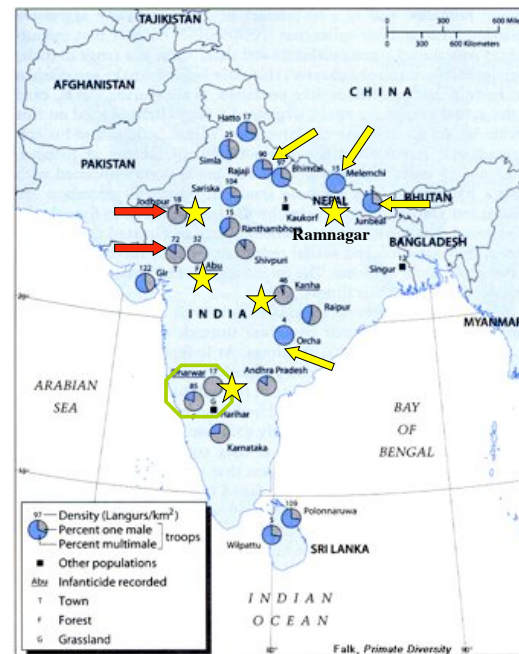
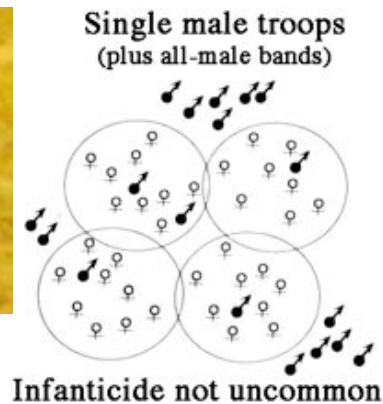
Population grew, saw infanticide, cannibalism, homosexuality; miasma -- just like cities [sic]. "Calhoun's rat barrel experiments" some of most widely known behavioral research, for decades.

Clear policy implications: many bad (to many people, then) things were due to environmental conditions and so in principle fixable.

Sugiyama at Dharwar (1964)



Experiment: shot resident male; infanticide by replacement.



Green: Sugiyama (1964)

Yellow: Jay & students

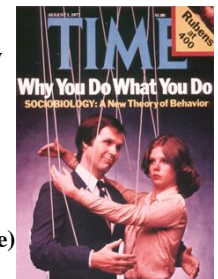
Red: Hrdy & colleagues

Major puzzle.

Sociobiology controversy

★ Infanticide (incomplete)

Hrdy ~ 1970 to India to see if Calhoun paradigm could explain Sugiyama's observations. Was it crowding?

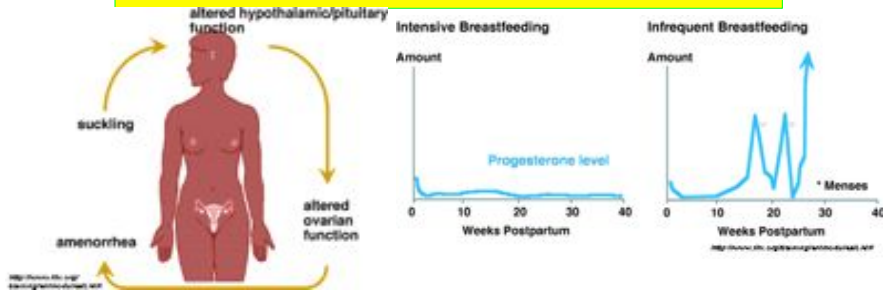


Hrды hypothesis

Single male is father of infants -- outsiders aren't.

By infanticide, new guy eliminates competing genes at low cost (babies are easier to kill).

More importantly though, ending suckling ends *lactational amenorrhea*



Hrды hypothesis

Predictions:

- Usually 1. Troop male is father
- Almost always 2. Infanticidal male is not Color change at weaning age?
- Almost always 3. Only unweaned infants will be killed
- Almost always, given #3 4. Female whose infant is killed will become receptive sooner than one whose infant is not killed

Infanticide by strange males has now been reported for many species of mammal, fair number of primates -- including humans

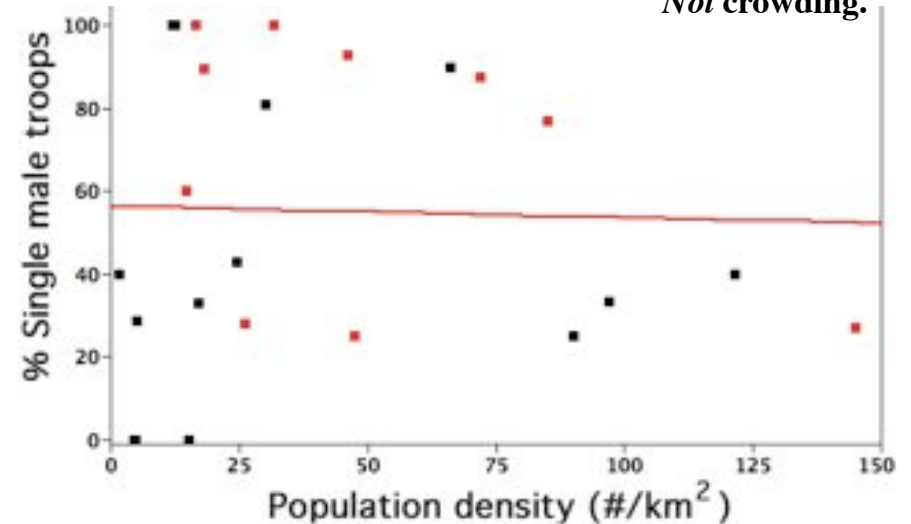
Hrды hypothesis

Predictions:

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- Almost always, given #3 4. Female whose infant is killed will become receptive sooner than one whose infant is not killed

Pretty good -- but not perfect. Alternative explanation "pathology" of some kind.

Original hypothesis: well, no. *Not crowding.*



Infanticide reported

Existing mental models had no alternative: so again, pathology

Original hypothesis: well, no.

Erupted into major academic fight in mid-late 1970s

DeVore and Jay: The 1st 2 prominent anthropological primatologists, explicit underlying relevance to humans.

Jay studied langurs at Kaukori: low aggression, allomothering, male dominance not prominent; peaceful, almost idyllic society.

DeVore studied baboons in Kenya: *highly* aggressive males competing for sex, often attacking females*; guys in control.

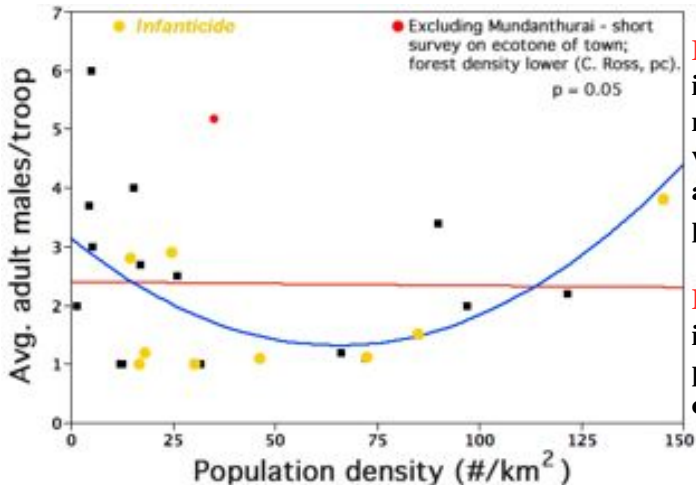
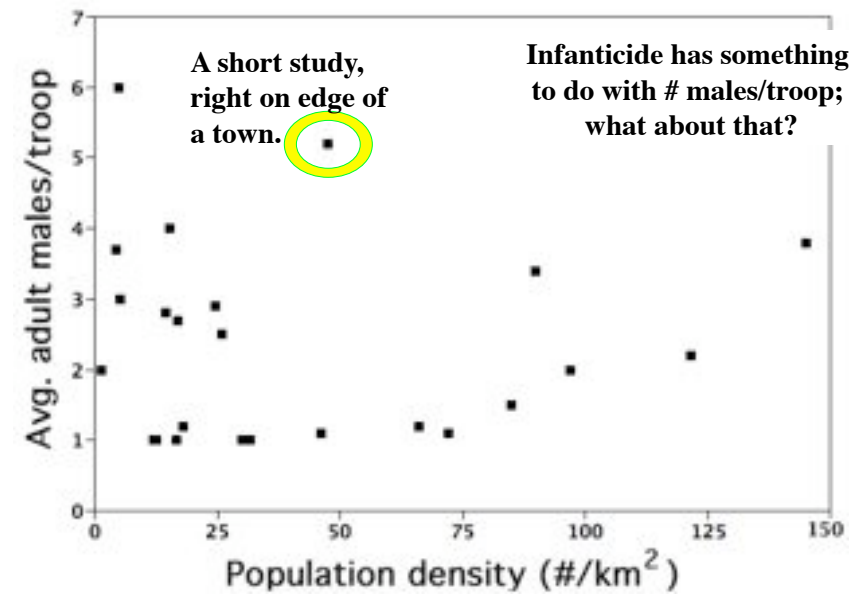
DeVore's student, Hrdy, studies "Jay's monkeys" and finds even nastier behavior than baboons.

Jay and her students were *not* happy (legitimate concerns!).
 Dueling models of "primate origins of human nature".

Infanticide reported

* He was feeding them peanuts to test rank...

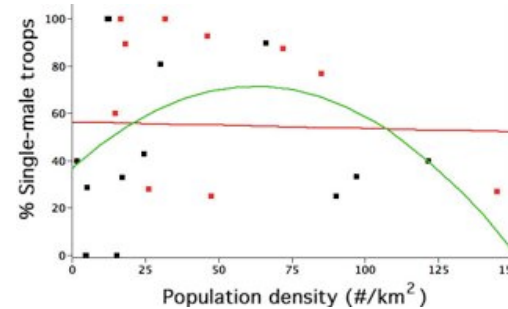
% Single male troops



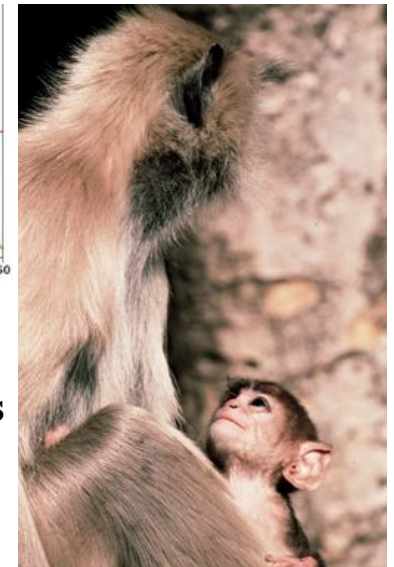
Low density:
 it doesn't pay males to wander - attach to periphery

High density:
 intruder pressure overwhelms

Intermediate densities more likely to be single-male troops -- and infanticide



Ecology, acting via population density, favors certain social structures that then change payoffs for behavioral tactics.



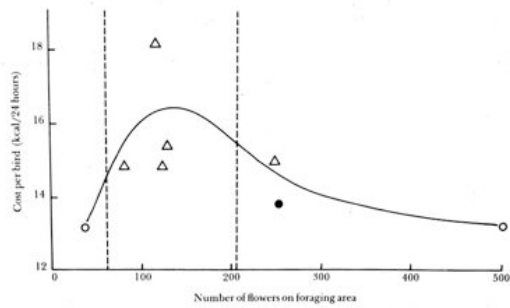


Figure 9.8 Energetic costs of Hawaiian honeycreepers (*Vestiaria coccinea*) as a function of the number of flowers in their foraging area. The model predicts that the honeycreepers will be territorial at the intermediate flower (and food) densities enclosed by the dashed lines. Triangles = territorial birds; white circles = nonterritorial birds; black circles = aggressive but nonterritorial birds. Curve fitted to eye. (Modified from Carpenter and MacMillen, 1976, copyright 1976 by the American Association for the Advancement of Science.)

Other curvilinear relationships between aggression and environmental variables?

Economic defendability models, where currency includes energy gain/loss injury risk, etc.

Primate behavioral ecology as an economic problem

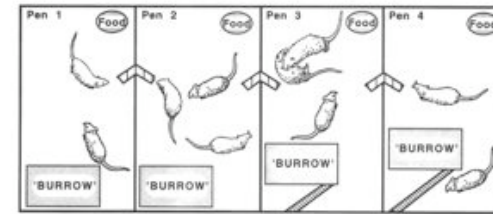


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Look again.

The bad stuff was mostly in pens 1-3; pen 4 was *defendable* (raised burrow [disliked, reducing incentive to invade], and only one entry point). Even details of *the classic 'pathology' case fit behavioral models.*

Goodbye colobines, hello cercopithecines!



How often do you see bright blue fur?

Masked Monkeys



**Climate change then, climate change now.
What is different this time?**

Masked Monkeys



Were there ever no forests? No; ? What monkeys were there when re-colonization happened, is ??

Watch harassing kid.
What does s/he grab?

*Masked
Monkeys*



What just happened here? Yes, feeding and aggression... can you work out what sort of food they were eating?

Skip past colobines (so many monkeys, so few weeks...)

*Masked
Monkeys*



For mandrills, intensity of color correlates with testosterone, dominant males brighter, and females prefer bright color (with rank controlled for).

*Masked
Monkeys*