

The Evolution of Human
Reproduction
Anthropology 3533
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Anthropology of Human Reproduction

A classical painting depicting a woman reclining on a red cloth, holding a child. The woman is looking towards the child with a gentle expression. The child is lying on its back, looking up at the woman. The scene is set in a simple, domestic environment. The painting is rendered in a soft, naturalistic style, characteristic of the Italian Renaissance or Baroque periods.

Strategic planners, decision makers,
opportunists, deal makers,
manipulators, social actors,
sexually aggressive and choosy,
..... mothers?

Question your assumptions about
human evolution, your body,
your sexuality, and your mamma

"Evolutionary Terminology and Concepts"

I. Introduction

II. Darwinian Theory – Origin of Species 1859 (Wallace)

A. Natural Selection

B. Modern Synthesis

C. Human Variation

D. Mechanisms of Microevolution:

1. Mutation
2. Gene flow
3. Natural Selection
4. Genetic Drift

“Evolutionary Terminology and Concepts”

**Darwinian Theory – Origin of Species
1859 (Wallace) continued...**

E. Mechanisms of Macroevolution/ Speciation

- 1. Darwinian Gradualism**
- 2. Punctuated Equilibrium**

“Evolutionary Terminology and Concepts”

III. Ecology – study of the relationships between species and their environment

A. Environment

B. Basic Adaptive Tasks

C. Energy Flow and The Systems Approach

“Evolutionary Terminology and Concepts”

IV. Human Adaptability

A. Adaptation and Adaptability

B. Exaptation

C. Types of Adaptation:

1. Anatomical
2. Physiological
3. Behavioral (Cultural)

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IV. Human Adaptability continued...

D. Physiological Responses to Stressors

1. Acclimation (experimental)
2. Acclimatization (observational)
3. Ontogeny
4. Behavior (habituation)
5. Role of Culture

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I. What is an Adaptation?

- A. Heritable
- B. Under selective pressure
- C. Improves RS
- D. Adaptive mechanism can be elucidated
- E. Has undergone testing in different circumstances
- F. Holds up under increasing burden of proof

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II. Teleological Functionalism: The Panglossian Critique

- A. "Adaptationist Paradigm" - attempt to demonstrate the 'adaptedness' of individuals or their characteristics when traits are not necessarily adaptations
 1. Panglossian – the world we live in is the best of all worlds
 2. AP fails to distinguish the present utility of a structure from the reasons for its origin (exaptation)
 3. Alternatives to adaptive stories?
 4. Natural Selection and adaptations have been reified as the sole mechanisms of change.

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B. Rebuttal to the Panglossian Critique – Ernst Mayr

1. Selection does not produce perfect genotypes, but it does favor the best that constraints and compromises on the organism allow.
2. Reductionism- "reconstruct" organisms after they have been broken down into individual traits for in depth analysis.
3. Even at the level of individual traits, it is necessary to consider relationships with other components of the organism and its environment
4. Cartesian view of organisms- belief that there is a clear separation between form and the function

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Discussion of female and male orgasm

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III. Critical Medical Anthropology and the Biocultural Approach

A. CMA and BCA agree:

1. Criticize biological reductionism or determinism
2. Biology has tended to ignore the importance of culture and social relationships in shaping human behavior.
3. The “natural” problem

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III. The difference between CMA and BCA

B. “Unnatural Selection”- the process of differential survival and reproduction under precarious conditions created to serve the interests of dominant social groups.


1. Central to CMA: Humans adapt to social and natural environments, and unequal relations of power influence environments.
2. Does the biocultural approach fail to recognize the impact of social relationships on human biology, health and reproduction?
3. BCA relies on genetic determinism with a superficial façade of attention paid to cultural factors.
4. Results in blaming the victim.

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III.

C. BCA counters that these accusations are a misunderstanding and manipulation of the biocultural approach.

1. NS works on the phenotype of an individual and not the genotype, other traits are invariably affected and this leads to the need for more complex models of adaptation that include biology and culture.
2. CMA ignores biology and adaptation in favor of more interpretative stances.
3. Scheper-Hughes and Lock's (1987) list of three bodies- the body-self, the social body, and the body politic, add organic-evolved body
4. Do we use a pound of biology and a pinch of culture or a pound of culture and a pinch of biology?

A classical painting depicting the Virgin Mary seated, holding the Christ Child on her lap. The Christ Child is reaching out towards the infant St. John the Baptist, who is lying on the ground. The scene is set against a dark, atmospheric background with soft lighting highlighting the figures. The text is overlaid on the upper portion of the image.

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Strategic planners, decision makers,
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IV. Feminist Correctives

A. Tendency to ignore women as shapers of human adaptation

1. “Man the hunter” and “woman the gatherer”
2. The role of women as shapers of human adaptation has been muted.
3. Males made the ascent to humanness possible and women faded into the background as passive and dependent.

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IV. Alternate Perspectives

Feminist Corrective Continued

4. "Paleolithic glass ceiling"
5. Focus attention on female roles in infant survival, social teaching, mate choice, technological contributions related to gathering and infant carrying, and maternal investment.
6. Females are still commonly rendered as either invisible non-participants or as handmaidens of males.



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IV. Alternative perspectives

B. Tendency to use biological essentialism to downplay the variety of behaviors and characteristics observed in female human and non-human primates

E.O. Wilson's *Sociobiology: The New Synthesis* in 1975. In it he makes two major claims:

- 1) all important social behaviors are genetically controlled;
- 2) natural selection of the genome is caused by a set of specific adaptive mechanisms which produce behaviors maximizing an organisms ability to contribute the greatest number of genes to the next generation.

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IV. Alternative Perspectives

B. continued...

2. How did early sociobiologists and evolutionists view human evolution?
3. Females described as conservative, coy and passive, waiting around for a good guy.
4. Males on the other hand could improve their reproductive success by being aggressive, hasty, fickle and indiscriminating.
5. Feminist scholars have worked to retell the story of human adaptation by giving females active roles-

stressing female variability, female choice, and female-female competition

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IV. Alternative perspectives continued

C. Tendency to overturn the (over) reliance on beneficial adaptation as explanation only when it regards uniquely female traits like menstruation and menopause.

1. Menstruation as wasteful and maladaptive.
2. Alternate possibilities?
3. Margerie Prophet 1993
4. One of the first integrated theories of menstruation as adaptive mechanism, also challenged the notion of females as adapted for monogamous mating systems.
5. Menstruation would have evolved under selective forces where sexually active female with multiple partners who were able to clear pathogen laden sperm from their reproductive tracts would have had greater reproductive success- their genes would have increased through subsequent generations.

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IV. Alternative perspectives

C. continued...

6. Enormous criticism
7. The same adaptationist paradigm underlying Prophet's theory of menstruation has been used by Thornhill (2000) to argue that rape has evolved as an adaptive strategy.
8. Discussion

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V. Does Adaptation have anything to offer anthropologists or has it outlived its utility as a concept?

A. Biocultural Synthesis:

1. The application of additional terms
2. A “constructionist” view of environment
3. An understanding of individuals as consisting of the body-self, the social body, the body politic and the evolved-organic body
4. Attention to the way adaptation is used as a concept and to the potential political ramifications of how it is applied.
5. That adaptation is rarely without costs, costly or beneficial for whom?

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V. Does Adaptation have anything to offer anthropologists or has it outlived its utility as a concept?

B. Emphasis of human variation as normal and important component of evolution:

1. Intersex variation
2. Heterosexual matrix
3. Humans as strategizers and actors with individual, behavioral and goal variations that "mess up" the population or evolutionary approaches