

EVOLUTIONARY PSYCHOLOGY

The New Science of the Mind

Fourth Edition

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This work contains Buss' original chapter outline followed by my summaries for each chapter.

PART ONE: FOUNDATIONS OF EVOLUTIONARY PSYCHOLOGY

CHAPTER ONE: THE SCIENTIFIC MOVEMENTS LEADING TO EVOLUTIONARY PSYCHOLOGY - 1

Landmarks in the History of Evolutionary Thinking -3

Evolution before Darwin

Darwin's Theory of Natural Selection

Darwin's Theory of Sexual Selection

The Role of Natural Selection and the Sexual Selection in Evolutionary Theory

The Modern Synthesis: Genes and Particulate Inheritance

The Ethology Movement

The Inclusive Fitness Revolution

Clarifying Adaptation and Natural Selection

Triver's Seminal Theories

The Sociobiology Controversy

Common Misunderstandings about Evolutionary Theory - 17

Misunderstanding 1: Human behavior is genetically determined

Misunderstanding 2: If It's Evolutionary, We Can't Change it

Misunderstanding 3: Current Mechanisms are optimally designed

Milestones in the Origins of Modern Humans -19

Landmarks in the Field of Psychology -23

Freud's Psychoanalytic Theory

William James and the Psychology of Instincts

The Rise of Behaviorism

The Astonishing Discoveries of Cultural Variability

The Garcia Effect, Prepared Fears, and the Decline of Radical Behaviorism

Peering into the Black Box: The Cognitive Revolution

SUMMARY

32 - Darwin's natural selection has three ingredients: Variation, Inheritance, and Selection. "Natural selection is defined as changes over time due to the differential reproductive success of inherited variation."

Natural selection "united all living forms into one grand tree of descent and simultaneously revealed the place of humans in the grand scheme of life."

Darwin also coined sexual selection. Intrasexual is between same sex. Intersexual between male and female.

Konrad Lorenz and Nikolaas Tinbergen started ethology, which sought to place animal behavior within an evolutionary context by focusing on the origins and functions of behavior.

In 1964 William D. Hamilton said that selection involves not just classical fitness (the direct production of offspring) but also inclusive fitness, which includes the effects of actions on genetic relatives. He took a "genes eye" view.

33 - In 1966 George Williams published *Adaptation and Natural Selection*. It 1) Led to the downfall of group selection. 2) Promoted the Hamiltonian revolution and 3) provided rigorous criteria for identifying adaptations. In the 1970s Robert Trivers offered additions: reciprocal altruism, parental investment and parent-offspring conflict.

In 1975 - Edward O. Wilson published "Sociobiology: A New Synthesis." Its last chapter focusing on humans made it controversial. But, it does not say we are genetic robots or optimally designed.

Milestones in human development:

Mammals originated 200 million years ago.

Primates began 85 million years ago.

We became bipedal 4.4 million years ago.

2.5 million years ago came stone tools (1.6 perhaps fire).

Our most rapid brain expansion happened between 500 and 100,000 years ago.

Why? Tool making? Tool use? Communication? Cooperative hunting? Climate?

Social competition?

200,000 years ago Neanderthals dominated Europe.

"Molecular genetic studies show that there has been an acceleration of human adaptive evolution over the past 40,000 years, and especially during the past 10,000 years (the Holocene)."

(Hawks, J. D., & Wang, E. T., Cochran, G. M., Harpending, H.C., & Moyzis, R. K. (2007) Recent acceleration of human adaptive evolution. PNAS, 104, 20753- 20758.

Freud's sex and aggression paralleled Darwin. William James turned us to instincts in 1890. But in the 1920s we embraced radical behaviorism.

But in the 1960s Harry Harlow found monkeys preferred mothers to food. John Garcia showed we learn some things faster than others. Our brains were preset.

The cognitive revolution was based on the information – processing metaphor. But as Chomsky showed, we're ready to process some info (language) and not others. So, this set the stage for evolutionary psychology.

CHAPTER TWO: THE NEW SCIENCE OF EVOLUTIONARY PSYCHOLOGY – 35

The Origins of Human Nature - 36

Three theories of the Origins of Complex Adaptation Mechanisms

The Three Products of Evolution

Levels of Evolutionary Analysis in Evolutionary Psychology

The Core of Human Nature: Fundamentals of Evolved Psychological Mechanisms - 47

All Species Have a Nature

Definition of an Evolved Psychological Mechanism

Important Properties of Evolved Psychological Mechanisms

Learning, Culture, and Evolved Psychological Mechanisms

Methods for Testing Evolutionary Hypotheses - 57

Comparing Different Species

Cross-Cultural Methods

Physiology and Brain Imaging Methods

Genetic Methods

Comparing Males and Females

Comparing Individuals within a Species

Comparing the Same Individuals in Different Contexts

Experimental Methods

Sources of Data for Testing Evolutionary Hypothesis – 62

Archeological Records

Data from Hunter – Gatherer Societies

Observations

Self-Reports

Life-History Data and the Public Records

Human Products

Transcending the Limitations of Single Data Sources

Identifying Adaptive Problems – 65

Guidance from Modern Evolutionary Theory
Guidance from Knowledge of Universal Human Structures
Guidance from Traditional Societies
Guidance from Paleoarcheology and Paleoanthropology
Guidance from Current Mechanisms
Guidance from Task Analysis
Guidance from Adaptive Problems

SUMMARY - 68

This chapter covers four topics: 1) The logic of generating hypothesis about our evolved psychological mechanisms. 2) The products of the evolutionary process. 3) The nature of evolved psychological mechanisms. 4) The scientific procedures by which we test these hypothesis.

General theory: Evolution by natural selection:

Middle – Level Evolutionary Theory: Theory of Parasite – Host Coevolution

Specific Evolutionary Hypothesis: The higher investing sex will be more selective in choice of mating partners.

Specific prediction: Women have evolved preferences for, and attraction to, men who are high in status.

The bottom up method starts with fact and goes up. Ex. Men are more into beauty than women: We can reverse engineer to say possibly why.

Evolution produces adaptations, by products, and noise. Evolutionary psychologists focus on adaptations: specifically psychological adaptations.

These mechanisms solve problems of reproduction recurrently.

Once a hypothesis about an evolved psychological mechanism is formulated, it must be tested. You can compare the prediction to what people actually do. You can compare different species, people across cultures, physiological reactions and brain images, comparing people with different or same genes, comparing males and females, and the same individual in different contexts.

Every source of data has strengths and limitations. You should use two or more sources of data.

The Four classes of adaptive problems: Problems of survival and growth, problems of mating, problems of parenting, and problems of genetic relatives.

Current mechanisms like fear of heights, a taste for fatty foods, and a preference for savanna – like landscapes provide a window into past adaptations.

PART TWO: PROBLEMS OF SURVIVAL

CHAPTER THREE: COMPATING THE HOSTILE FORCES OF NATURE: HUMAN SURVIVAL PROBLEMS

Food Acquisition and Selection – 74

Social and Cultural Aspects of Food

Food Preferences

Disgust: The Disease – Avoidance Hypothesis

Sickness in Pregnant Women: The Embryo Protection Hypothesis

Fire and Cooking

Why Humans Like Spices: The Antimicrobial Hypothesis

Why Humans Like to Drink Alcohol: An Evolutionary Hangover?

The Hunting Hypothesis

The Gathering Hypothesis

Comparing the Hunting and Gathering Hypotheses

Adaption's to Gathering and Hunting: Sex Differences in Specific Spatial Abilities.

Finding a Place to Live: Shelter and Landscape Preferences 88

The Savanna Hypothesis

Combating Predators and Other Environmental Dangers: Fears, Phobias, Anxieties, and "Adaptive Biases." 90

Most Common Human Fears

Children's Anti-predator Adaptations

Darwinian Medicine: Combating Disease

Why Do People Die? 98

The Theory of Senescence

The Puzzle of Suicide

Homicide.

SUMMARY 102

Food shortages, toxins, predators, parasites, diseases and extreme climates are hostile forces of nature. We have evolved to deal with these. We must find food and then know which to consume, which to avoid.

Among our adaptations are preferences for calorically rich foods; mechanisms to avoid bad food, like the emotion of disgust. Mechanisms for getting rid of bad food, such as gagging, spitting, vomiting, coughing, sneezing, diarrhea, and pregnancy sickness.

People also use spices that kill off food-borne bacteria. This spreads through cultural transmission. More spices are used in climates that are hotter where food spoils more.

It seems that males hunted and females gathered. Sex differences in spatial ability reflect this. Women outperform men on tasks involving spatial location memory. This would help find tubers, fruits, nuts and so reliably. Men do better with 3/D rotation, navigation and map reading.

We prefer places where one can see without being seen, mimicking savannas.

We have survival enhancing inborn fears. Snakes, spiders, heights, and strangers. These appear across cultures and especially in certain times of development.

We have at least six behavioral responses to fear: Freeze, flight, fight, submit, fright, and faint. [Is this article fodder? What are we currently doing? Fainting.] Fainting is a way to survive at the last minute (playing dead, not a threat). This would mean that women and children would be more likely to faint. Evidence supports this.

We also pick out snakes, and spiders in an array of non-dangerous items.

We are also tuned to hear dangerous items. We also overestimate heights from on top and under from below. Children understand death from predators by 3.

Raising temperature is a natural reaction to burn out predators. Aspirin prolongs illness.

Why do we die? When people are young selection works strongly. When we are older, not so much. An event that happens right before you die has no impact on your reproductive success.

Suicide is also puzzling. It occurs amongst those with poor reproductive prospects, who are in poor health, who have poor financial prospects, who perceive themselves to be burdens on their kin. Evidence points to the possibility that humans have evolved context-sensitive psychological mechanisms to evaluate future reproductive potential and net cost to genetic kin.

Homicide mortality is up to 35%. We'll look at this in later chapters.

Surviving to adulthood gets us to the next problem: mating.

PART THREE: CHALLENGES OF SEX AND MATING

CHAPTER FOUR: WOMEN'S LONG-TERM MATING STRATEGIES

Theoretical Background for the Evolution of Mate Preferences 107

Parental Investment and Sexual Selection

Mate Preferences as Evolved Psychological Mechanisms

The Context of Women's Mate Preferences 109

Preference for Economic Resources

Preference for Good Financial Prospects

Preference for High Social Status

Preference for Somewhat Older Men

Preference for Ambition and Industriousness

Preference for Dependability and Stability

Preference for Height and Athletic Prowess

Preference for Good Health: Symmetry and Masculinity

Love and Commitment

Preference for Willingness to Invest in Children

Preference for Similarity

Additional Mate Preferences: Kindness, Humor, Incest Avoidance, and Voice

Context Effects on Women's Mate Preferences 128

Effects of Women's Personal Resources on Mate Preferences

The Mere Presence of Attractive Others: Mate Copying

Effects of Temporal Context on Women's Mate Preferences

Effects of Women's Mate Value on Mate Preferences

Kinship and Stress

Kinship and Survival

Patterns of Inheritance – Who Leaves Wealth to Whom?

Investment by Grandparents

A Broader Perspective on the Evolution of the Family

The Dark Side of Families

SUMMARY 135

Ancestral women who mated indiscriminately were likely to have been less reproductively successful. Long-term mates bring many assets. Selecting one with assets is very complex. It involves preferences that correlate with assets.

We cannot always see resources, so ambition, intelligence, older age are good standards.

But many men with resources are very discriminating and just want casual sex. Seeking love is one solution. Acts of love signal that the man has committed to the woman.

(144) Teenagers often want a slightly older woman. This counters the feminist narrative that men only want younger women so that they can control them.

To have the love and commitment of a man who could be easily killed by other males was a problem for ancestral women. Tall strong, athletic men offered protection.

A man must also not die to protect resources, so women check for diseases. The similarity of interests also keeps the man around.

Women's preferences shift according to contexts. Women with lots of resources are expected not to care as much about male resources. This hypothesis receives no support. Women with high income want more education and resources in their mates.

In long term mating, signals for providing and being a good father are important. These qualities are less important in short term mating.

Women find men more attractive if they are with other women, particularly if the other women are physically attractive.

Women who are higher in objective and self-perceived attractiveness raise their mating standards and seek men who are more masculine, symmetrical, high in status, attractive, healthy and fit.

For preferences to evolve, they must have had a recurrent impact on actual mating behavior. Women don't always get what they want, but their preferences do impact mating behavior.

Women respond more to personal ads in which the men indicate good financial status. Men high in status and resources are more likely to marry. In polygynous societies, high status men are more likely to have more wives.

Poor men are more likely to remain bachelors.

Physically attractive women do indeed tend to marry men with higher incomes and status. Worldwide, women marry older men.

Finally, women's preferences have an impact on men's behavior. Men are more likely than women to display resources in their attraction tactics and to denigrate their competitors using verbal slurs that indicate that their rivals are poor and lack ambition.

When men deceive women in on-line profiles, it usually has to do with wealth, education, and height.

The mere exposure of men to young attractive women activates a psychological cascade in men, such that they increase the importance they attach to financial success and feel more ambitious. Portions of behavior, in short, can be predicted from women's preferences.

CHAPTER FIVE: MEN'S LONG_TERM MATING STRATEGIES –

Theoretical Background for the Evolution of Men's Mate Preferences 139

Why Men Might Benefit from Commitment and Marriage

The Problem of Assessing a Woman's Fertility or Reproductive Value

The Context for Men's Mate Preferences 142

Preference for youth

Evolved Standards of Physical Beauty

Body Fat, Waist-To-Hip Ratio, and Body Mass Index

Sex Differences in the Importance of Physical Appearance

Do Men Have a Preference for Ovulating Women?

Solutions to the Problem of Paternity Uncertainty

Homosexual orientation, a puzzle

Context Effects on Men's Mating Behavior 161

Men in Positions of Power

Contrast Effects from Viewing Attractive Models

Testosterone and Men's Mating Strategies

The Necessities and Luxuries of Mate Preferences

Effect of Men's Preferences on Actual Mating Behavior 166

Men's Responses to Women's Personal Ads

Marital Decisions and Reproductive Outcomes

Effect of Men's Preferences on Attention, Vocalization, Tips, and Engagement Rings

Effect of Men's Mate Preferences on Women's Competition Tactics

SUMMARY

171 - Marrying has advantages: Increasing paternity certainty. Also increased survival of their offspring.

Two adaptive problems loom large:

- 1) Identifying women of high fertility. This is done with signals of youth and health: clear skin, full lips, small lower jaw, symmetrical features, white teeth, absence of sores and lesions, facial femininity, facial averageness, and a small ratio of waist to hip. These are consistent across cultures.

Waist Hip Ratio varies depending on food scarcity as well as the distributions in the local culture.

- 2) Paternity certainty. Many cultures value virginity highly. But, this is not universal. More importantly is to look for fidelity.

Male homosexuality is an evolutionary paradox. The kin altruism hypothesis has received mixed empirical support.

Many contexts impact males mating strategies. 1) Getting status and resources improves your odds. 2) Viewing images of other attractive women lowers men's commitment to their regular partner. 3) Getting into a committed relationship reduces your testosterone levels; but only if they are monogamously oriented and do not desire extra-pair sex. 4) Interacting with attractive women increases testosterone and risk taking. 5) Men's mate preferences shift as a function of their mating budget. On a limited budget men place more importance on necessities, such as attractiveness. After this men pay attention to luxuries such as personality and creativity.

Several sources confirm mate preferences impact action. 1) Men who respond to personal ads do more to women who claim to be young and physically attractive. 2) Men worldwide marry women who are younger. 3) Men married to younger women have higher reproductive success rates. 4) Men attend longer to – and have problems disengaging – from looking at attractive women. 5) Men interacting with attractive women lower their voices. 6) Attractive waitresses, young, large breasts, blonde, receive more tips from men. 7) Men spend more money on engagement rings for younger brides. 8) women devote more of their time to their physical appearance than men – corresponding to what men want. 9) Women denigrate their rivals by putting down their physical appearance and calling them promiscuous and slutty. This makes the rivals seem less attractive as mates.

CHAPTER SIX: SHORT-TERM SEXUAL STRATEGIES

Theories of Men's Short - Term Mating 175

Adaptive Benefits for Men of Short - Term Mating

Potential Costs of Short-Term Mating for Men

Adaptive Problems Men Must Solve When Pursuing Short-Term Mating

Evidence for an Evolved Short-Term Mating Psychology 177

Physiological Evidence for Short-Term Mating

Psychological Evidence for Short – Term Mating
Behavioral Evidence of Short- Term Mating

Women’s Short-Term Mating 187

Evidence for Women’s Short-Term Mating
Hypothesis about the Adaptive Benefits to Women of Short-Term Mating
Costs to Women of Short-Term Mating
Empirical Tests of Hypothesized Benefits to Women

Context Effects on Short-Term Mating 195

Individual Differences in Short-Term Mating
Other Contexts Likely to Affect Short-Term Mating

SUMMARY

The scientific study of mating has focused on marriage. But, human anatomy, physiology, and psychology betray an ancestral past filled with affairs and short-term mating. And, perhaps the benefits of short term mating for men have blinded scientists to such behavior in women.

Via short term mating, men can inseminate more women. Men value short-term mating more than women. Men want more partners and a shorter time prior to sex in relationships, lower their standards dramatically when pursuing short-term mating have more sexual fantasies and more involving multiple partners, experience more regret over missed opportunities, have a larger number of affairs and visit prostitutes more often.

Though some might doubt it. It is very robust and widely confirmed across cultures.

Mathematically, however, short-term requires two. Some women must have sought short term.

Physiologically men’s testicle size, sperm competition show cheating.

There are 5 classes of short term mating benefits to women: 1) Economic resources, genetic benefits, mate switching benefits, short-term for long-term goals., and mate manipulation benefits. These and sexy son genes are supported. Status enhancement and mate manipulation benefits have not been supported by the evidence.

(197) The absence of a father while growing up has been reliably linked with the pursuit of a short-term mating strategy. This is both in men and women. And, both are likely to reach puberty earlier. Childhood sexual abuse is associated with early age of puberty and early onset of sexual activity.

Individual women differ and clues show which ones differ. Women show more eyebrow flashes and glances, dress more provocatively during ovulation; are perceived to be somewhat less masculine in appearance, and are attracted to men who have particularly masculine faces and bodies.

Men who prioritize short-term mating look to attractiveness more than those seeking long-term mates. They also show a preference for women with a low WHR.

Contexts impact short term mating. A surplus of women promotes short-term mating in both sexes. Also, mate value (one's value to the opposite sex). Men high in mate value are more likely to pursue short term mating. They have sex at a younger age and more partners.

The connection between women's mate value and short-term is more mixed. Some show no relation between self-perceived mate value and short term. Others show that women with low attractiveness are slightly more inclined. Others see them as looser too.

Finally, those high on extroversion and low on conscientiousness are more inclined to short-term partnering. Those high on the dark triad – Narcissism, psychopathy, and Machiavellianism – also pursue exploitative short-term mating strategies.

PART FOUR: CHALLENGES OF PARENTING AND KINSHIP

CHAPTER SEVEN – PROBLEMS OF PARENTING

Why do Mothers Provide More Parental Care Than Fathers? 206

The Paternity Uncertainty Hypothesis

The Mating Opportunity Costs Hypothesis

An Evolutionary Perspective on Parental Care 208

Genetic Relatedness to Offspring

Offspring's Ability to Convert Parental Care into Reproductive Success

Alternative Uses of Resources Available for Investment in Children

The Theory of Parent – Offspring Conflict 229

Mother – Offspring Conflict in Utero

Mother-Child conflict and Sibling Relatedness

Parent Offspring Conflict over Mating

Killing Parents and the Asymmetry of Valuing Parents and Children

SUMMARY 234

Mechanisms of parental care have been studied in many species. The big puzzle is why women spend more time on this than men. Two hypothesis:

- 1) Paternity uncertainty.
 - 2) The mating opportunity cost hypothesis
- Current evidence supports both.

Evolved mechanisms of parental care are predicted to be sensitive to at least three contexts: 1) Genetic relatedness to offspring, 2) The ability of the offspring to convert parental care into fitness. 3) Alternative resource uses.

The first has lots of support. Stepparents have fewer positive parental feelings. The interactions are more conflict – ridden. Newborn babies are said to look more like Dad than Mom. This reassures the father that he should invest. Genetically related offspring get more college money support. Children living with a stepparent are 40x more likely to suffer physical abuse. And 40 -100 times more likely to be killed.

(59) Girls get an earlier period when growing up with out a father.

Women have 100% paternity certainty. They spend longer looking at baby photos, and are more skilled at recognizing infant facial expressions of emotion, and are more likely to tend to infants and befriend others to protect them.

The ability of the offspring to convert parental care into fitness is seen in the abandonment of infants with down syndrome and spina bifida. They are also far more likely to be abused. Mothers invest more in healthy twins. Young infants are more likely to be abused and homicide victims than older ones.

The third context is the availability of alternatives. Young mothers are more likely than older mothers to commit infanticide. Unmarried women commit more too. Men high in status invest less in direct child care. Men in low status JASON provide more.

Parents and children's genetic stake are different. You have 100% of your genes. Children 50%. Fetuses secrete large amounts of HCG into their mother's bloodstream, which prevents the mother from menstruating and allows the fetus to remain implanted, thus subverting spontaneous abortions. Parents who grow older are more likely killed by their offspring than the reverse. Mother child conflict increases more with the introduction of a sibling and even more with a half sibling. And, finally, conflict happens around child mate selection. Offspring prioritize attractiveness more than their parents. Parents want family background. They dislike short-term mating and especially of daughters and so do 'daughter guarding.'

CHAPTER EIGHT – PROBLEMS OF KINSHIP

Theory and Implications of Inclusive Fitness 238

Hamilton's Rule

Theoretical Implications of Hamilton's Rule

Empirical Findings that Support the Implications of Inclusive Fitness Theory 242

Alarm Calling in Squirrels

Kin Recognition and Kin Classifications in Humans

Patterns of Helping in the Lives of Los Angeles Women

Life-or-Death Helping among Humans

Genetic Relatedness and Emotional Closeness: Is Blood Thicker than Water?

Vigilance over Kin's Romantic Relationships

Kinship and Stress

Kinship and Survival

Patterns of Inheritance – Who Leaves Wealth to whom?

Investment by Grandparents

Investment by Aunts, Uncles, and Cousins

A Broader Perspective on the Evolution of the Family

The Dark Side of Families

SUMMARY 262

Hamilton's inclusive fitness accounted for altruism in nature.

We help people to the extent that they are genetically related to us.

Implications:

1) There will be relatedness nomenclature and corresponding psychology. 2) Young and male have higher reproductive potential than old and female. 3) Kin categories will be arrayed from closeness to distance. 4) Cooperation and solidarity will reflect closeness. 5) Older kin will encourage younger to be more inclined than they would normally be. 6) One's position within the family will be central to one's identity. 7) People will exploit kin terms in non-kin situations.

Indeed squirrels do alarm more when kin are nearby.

This requires that we can recognize kin. This is done via 1) Association 2) Odor 3) Kin classification systems based on universal grammar, 4) facial resemblance.

People are more likely to rescue and leave more money to genetic relatives. Grief at funerals is related to genetic closeness.

The kin impact also manifests in watching kin's relationships, especially female's. Children who grow up in stepfamilies with half siblings have higher cortisol levels.

The paternal grandfather has a double risk of not being actually related to the offspring. Father's, father's do show the least investment in grandchildren. Reports of emotional closeness and monetary investment are greater from the mother's mother.

Uncles on the women's side invest more.

Families are found in only about 3 percent of mammals. So why do they exist? Stephen Emlen says they exist when 1) There is a scarcity of reproductive vacancies elsewhere or 2) when there are distinct benefits of staying at home, such as enhancing survival – giving and getting aid.

People discount his theory on several basis, including that people help non-kin too.

PART FIVE: PROBLEMS OF GROUP LIVING

CHAPTER NINE – COOPERATIVE ALLIANCES

The Evolution of Cooperation 268

The problem of Altruism

A Theory of Reciprocal Altruism 269

Tit for Tat

Cooperation among Nonhumans 271

Strategies for Promoting Cooperation

Food Sharing in Vampire Bats

Chimpanzee Politics

Cooperation and Altruism among Humans 274

Social Contract Theory

Evidence for Cheater – Detection Adaptions

Do People Remember Cheaters?

The Detection of Prospective Altruists

Indirect Reciprocity Theory

Costly Signal Theory

The Psychology of Friendship

Cooperative Coalitions

SUMMARY 294

Altruistic behavior aids others at an expense to yourself. This goes against Hamilton. One solution is reciprocal altruism. The biggest danger this solution encounters is that of cheaters.

To test this Robert Axelrod did his tit-for-tat competition.

We see such cooperation in the animal world.

Vampire bats share their blood with “friends” who were unsuccessful on any given night. Later others reciprocate. Chimpanzees have alliances.

Social contract theories suggest five cognitive capacities to solve the problem of cheaters. 1) recognize individuals; 2) remember mutual history; 3) communicate one's values, desires, and needs; 4) recognize those of others; 5) represent the cost and benefits of large numbers of items in swaps.

Researchers have shown cheating detection modules in the mind. We better compute when problems are put in terms of social contracts. We are especially vigilant against those who take without contributing. We can also, studies show, detect genuinely altruistic behavior; We choose those who are especially motivated to cooperate – this helps us avoid cheaters.

In addition to kin altruism and reciprocal altruism, there are two other kinds: indirect reciprocity and costly signaling.

With indirect altruism, you don't get reciprocity from those who you helped, you get it from those who saw you help. With costly, it is showing that you're rich and can afford to help. This increases your status.

The bankers paradox is that we won't lend money to those who need it, we lend money to people with good credit and don't need it. One solution is to become irreplaceable. Then friends have a stake in our welfare. Having conquered nature, it is now hard to know who will really help us in an emergency; not being able to spot true friends can be a cause of alienation.

In opposite sex friendships, men look for short-term sex and women protection. Both are happy to get info about the opposite sex. The cost of same-sex friendship is sexual rivalry. It is more prevalent among male friends.

We also have dyadic, groups of friends. These work if we avoid free riders. Punative sentiments help facilitate this. Scientists have found some brain regions involved when people punish noncooperators – they are in reward centers. People enjoy punishing or seeking revenge against violators.

Punishing can be altruistic. It costs to punish when others don't. To explain this we may need to invoke "cultural group selection." Then again reputation gains may explain it. This explanation vies for "strong reciprocity" among a whole group population. Fehr and Henrich, 2003 go for this. – 292

Cross-cultural studies show punishment is a human universal. (291) It is especially harsh toward in-group members who have failed to cooperate when they could.

292 – "Cultural group selection describes a process by which certain culturally transmitted ideas, beliefs, or values spread because of the competitive advantages they provide to the social groups holding them." "If groups competed with one another over time, and the most successful groups enforced group-altruistic norms, then cultural group selection would favor groups with the more effective norms."

That is it in this book, followed by the weak assertion that this would cause less successful groups to imitate their strategies and acquire the social norms.

The fact that being ostracized or shunned hurts so much points to a mechanism that creates conformity.

302 – Of homicides in Chicago between 1965 and 1980, 86% were committed by men. This is close to what we see cross culturally. [But we see this difference between races in the US and don't attribute it to genetics].

302 – The more dimorphic the greater the variance in reproduction. The more intense the polygyny, the greater the dimorphism and the more selection favors riskier strategies (including intrasexual competition) within the sex. Human males are roughly 18 % heavier than females.

More polygyny means more males get shut out. “This leads to more ferocious competition within the high-variance sex. In essence, polygyny selects for risky strategies, including those that lead to violent combat with rivals.” [How is dimorphism in the Middle East?].

308 – Young men must fight and so are aggression prone. But, they do it with an audience for a reputation.

309 – Boys have a surge in muscle strength from puberty to their mid-twenties.

319 – “Men are more likely than women to form strong ingroup/outgroup distinctions, and to derogate outgroup members as being animalistic, diseased, or subhuman, which presumably lowers inhibitions to kill them.” “Men compared to women, show a particularly strong bias against outgroups, especially towards male outgroup members.”

CHAPTER TEN – AGGRESSION AND WARFARE

Aggression as a Solution to Adaptive Problems 298

Co-opt the Resources of Others

Defend Against Attack

Inflict Costs on Intrasexual Rivals

Negotiate Status and Power Hierarchies

Deter Rivals from Future Aggression

Deter Long-Term Mates from Sexual Infidelity

The Context – Specificity of Aggression

Why Are Men More Violently Aggressive Than Women? 302

The Recalibration Theory of Anger

Empirical Evidence for Distinct Adaptive Patterns of Aggression 305

Evidence for Sex Differences in Same-Sex Aggression

Contexts Triggering Men's Aggression against Men

Contexts Triggering Men's Aggression against Women

Contexts Triggering Women's Aggression against Men

Warfare

Yanomamo Warfare

Do Humans Have Evolved Homicide Mechanisms?

SUMMARY 325

298 – “Of the more than 10 million animal species that exist, including four thousand mammals, only two species have been documented to show male-initiated coordinated coalitions that raid neighboring territories and result in lethal attacks on members of their own species: chimpanzees and humans.”

(59) The 7R allele of the DRD4 gene has been linked with novelty seeking and extraversion. It occurs at dramatically different rates in different geographical regions (e.g., higher in North America than in Asia)

Ebstein, R. (2006) The molecular genetic architecture of human personality: Beyond self-report questionnaires, *Molecular psychiatry*, 11, 427 – 445.

Aggression is not a singular phenomenon. It is a collection of strategies that manifest in specific contexts. However repugnant, they are solutions to adaptive problems such as resource procurement, intrasexual competition, hierarchy negotiation, and mate retention.

Thus aggression between sexes, and across cultures are expected.

There are at least 6 classes of benefits to aggression: co-opting the resources of others, defending oneself and their kin against attack, inflicting costs on intrasexual rivals, negotiating hierarchy, deterring rivals from future aggression, and deterring infidelity.

If there is polygamy, some men will not get women. This would favor risky tactics among men both to gain sexual access to more women and to avoid total exclusion. Men are more aggressive, sexually and violently than women across cultures.

Men's aggression triggers include being unemployed and unmarried. These conditions indicate that a man may be excluded from reproduction altogether. Men also aggress when their status and reputation are threatened. Or when they suspect someone is 'poaching' on their mate.

Women aggress mostly in intrasexual competition. They use denigration more than physical aggression. They go after fidelity and looks.

Men aggress against women mostly to control their sexuality. Younger women, more fertile, are more vulnerable to aggression.

Warfare, cooperative attacking of another cooperative coalition, is rare in the animal world. Only two mammals do it: Humans and chimpanzees.

Men primarily do it and get sexual access as a reward. Men more than women spontaneously assess their fighting ability relative to others; and men more than women value coalition members who are strong, brave and have good fighting abilities.

And men display other phenomena that suggest evolved warfare adaptations: High mortality rates; a greater proclivity to attack in simulated war games; a greater tendency to display strong ingroup/ outgroup distinctions and to derogate outgroup members as being subhuman.

Why kill others? 1) Perhaps they are slip-ups or by-products that result from the threat of violence used to control others. 2) perhaps it is an adaptation that gets more than it costs.

The high prevalence of homicide fantasies, the predictability of the circumstances that trigger them, the gender differences, and the premeditated quality of many homicides all support the homicide adaptation theory.

331 – “Brazilian college students consistently perceived more sexuality in the characters’ behavior than did the American college students.” Gender differences were also highly significant.”

CHAPTER ELEVEN – CONFLICT BETWEEN SEXES

Strategic Interference Theory 329

Conflict About the Occurrence and Timing of Sex 330

Conflict over Sexual Access

Sexual Aggression and Evolved Defenses Against Sexual Aggression 335

Sexual Harassment

Sexual Aggressiveness

Do Men Have Evolved Rape Adaptations?

Individual Differences in Rape Proclivity

Do Women Have Evolved Antirape Adaptations?

Jealous Conflict 341

Sex Differences in Jealousy

From Vigilance to Violence: Tactics of Mate Retention 348

Sex Differences in the Use of Mate-Retention Tactics
Contexts Influencing the Intensity of Mate-Retention Tactics
Violence toward Partners

Conflict over Access to Resources 355

Causes of Resource Inequality: Women's Mate Preferences and Men's Competitive Tactics
Are All Men United to Control Women?

SUMMARY 357

Men and women will have different ways to promulgate and so conflict. One will stop the other from reaching their goals. Women long – term mating, men short – term mating. Anger, distress, and jealousy result.

358 Men consistently infer more sexual intent than do women. They see smiles as come ons. 2) Men sometimes deceive women about their emotional involvement and long – term intentions. This can be viewed via “error management theory.” It costs more to underestimate sexual interest than to overestimate it. Women, OTOH, are expected to be skeptical by error management theory.

Sexual harassment at the workplace goes one way. The victims are usually young, attractive and single. Women are more upset by this than men. Women are especially upset if the harasser is of low status.

Men tend to underestimate how much women are upset by unwanted touching and harassment.

A controversial question is whether or not men have evolved a rape adaption. Is it an actual strategy or just a byproduct of wanting short term sex and using violence to get what you want? Evidence is not conclusive.

We have found that rapists start having sex earlier, have a wider variety of sexual experiences, show penile arousal to stories of rape, and tend to commit other crimes as well.

The theory that failures in the mating world rape is not supported. Men who rape their long-term partners tend to do it due to suspected infidelity. This is especially true if they view themselves as of higher mate value than their spouses.

Women have, people think now, anti-rape adaptations. Special friends for protection, a preference for large, dominant mates, fear of situations that place them at risk of rape, and pain following sexual violence.

Men's jealousy focuses on sexual infidelity; women's on emotional infidelity. These sex differences are robust across cultures. MRIs have been used to test this.

The psychology of jealousy results in behaviors that deter infidelity or abandonment. This goes from vigilance to violence. Men do it more when the women is young; women when the man has status.

There is also a conflict over resources, which men tend to control – this being their key to success. Thus patriarchy is natural. Men, are NOT in coalition to keep women from resources, they are primarily in competition with other men.

CHAPTER TWELVE – STATUS, PRESTIGE, AND SOCIAL DOMINANCE

The Emergence of Dominance Hierarchies 362

Dominance and Status in Nonhuman Animals 363

Evolutionary Theories of Dominance, Prestige, and Status 365

An Evolutionary Theory of Sex Differences in Status Striving

Dominance Theory

Social Attention-Holding Theory

Determinants of Dominance

Facial Dominance

Self-Esteem as a Status-Tracking Mechanism

Strategies of Submissiveness

SUMMARY 387

Testosterone is an androgen. Men have 7 times the amount of T of women.

381 – T levels of athletes rise just prior to their matches, perhaps making individuals more willing to take risks. “Winners in the matches show a rise in T for up to two hours after the match, whereas the losers show a decline in T. Mood changes accompany T changes.” Elevated.

“The effects of winning and losing extend even to sports fans who do not participate in the competition.”

Status and social dominance are observed widely through the animal world from crayfish to humans. A dominance hierarchy refers to some individuals getting more access to resources than others. Size is a key to dominance in some species, but not primate species. Competence knowledge, generous displays, and social skills do it for us.

Status striving is greater in men than women. The more polygynous the mating system the more it has paid in reproductive success for men to take risks in getting status. Across cultures it means more women.

Males form hierarchies as early as the age of three. Women tend to be more egalitarian. Women express dominance via pro-social actions (Settling disputes) men in personal gain and ascension (getting others to do menial tasks for them). When given a choice, dominant women tend to appoint men as leaders, whereas dominant males take the leadership role for themselves.

Denise Cummins' dominance theory suggests domain specific strategies for navigating dominance norms: Understanding permissions (who mates with whom), obligations (who must support whom in contests), and prohibitions (who cannot join the war dance). These strategies are postulated to be separate from other areas of reasoning. And, indeed, 1) 3-year-olds understand hierarchy. 2) people remember the faces of cheaters more if they are low in status. And 3) when asked to assume high status, people look for rules violations more in low status folks.

Whereas dominance theory emphasizes reasoning mechanisms, SAHP theory looks at emotional mechanisms. Elation after a rise in status, social anxiety when it could be lost; shame and rage as a consequence of status loss, envy to motivate acquisition; and depression to facilitate submission.

Dominance can be seen in an upright posture, low voice, direct eye contact, fast-paced stride, a strong jaw and physical size. The hormone testosterone and serotonin have been linked with dominance. Testosterone seems to rise and fall with winning and losing.

Self esteem is also thought to indicate status. It motivates us to curry favor or repair social relations when respect from others wanes, 2) to guide us to making appropriate decisions about whom to challenge and to whom to submit 3) to track our desirability in the mating market.

People can also deceive down to avoid confrontation and derogate tall poppies. More study is needed.

385 – “The evolutionary logic is that situations have commonly existed in which it was adaptive to convincingly portray oneself as subordinate and hence nonthreatening. Those who are real threats risk incurring the wrath of the dominant, who might seek to vanquish anyone who is perceived as a rival. By truly acting subordinate, one avoids incurring this wrath, continuing to occupy a position within the group. It also permits one to bide one's time until a more opportune moment arises in which to seek dominant status.”

PART SIX: AN INTEGRATED PSYCHOLOGICAL SCIENCE

CHAPTER THIRTEEN – TOWARD A UNIFIED EVOLUTIONARY PSYCHOLOGY

Evolutionary Cognitive Psychology 391

Attention and Memory

Problem Solving Heuristics, Biases, and Judgment Under Uncertainty

The Evolution of Language

The Evolution of Extraordinary Human Intelligence

Evolutionary Social Psychology 405

Capitalizing on Evolutionary Theories about Social Phenomena

The Evolution of Moral Emotions

The Return of Group Selection as Multilevel Selection Theory

Evolutionary Development Psychology 410

Theory of Mind Mechanisms

Life-History Strategies

Evolutionary Personality Psychology 413

Alternative Niche Picking or Strategic Specialization

Adaptive Assessment of Heritable Qualities

Frequency – Dependent Adaptive Strategies

Evolutionary Clinical Psychology 418

Causes of Mechanism Failure

Evolutionary Insights into Problems Erroneously Thought to Be Dysfunctions

Evolutionary Cultural Psychology 422

Evoked Culture

Transmitted Culture

The Evolution of Art, Fiction, Movies, and Music

Toward a Unified Psychology 428

SUMMARY

393 – 394 A survey of 736 front-page newspaper stories found “The content across time and cultures revealed attention to these key themes: death (accidental or natural), murder or physical assault, robbery, reputation, heroism or altruism, suicide, marital problems such as infidelity, harm or injury to offspring, abandoned or destitute families taking a stand or fighting back, and rape or sexual assault.”

422 – Using the word ‘culture’ to explain something is not an explanation. It is not unless the causal processes that are subsumed by these labels are properly described. Labels for phenomena are not causal explanations.

After we label them, we need explanations. Two sorts are “evoked” and “transmitted” culture.

423 – “Evoked culture refers to phenomena that are triggered in some groups more than in others because of differing environmental conditions.” For example, foods in tribes are more likely shared if there is high variability in how often they are gotten. Meat only comes from 60% of hunts, so it is high variance and shared. Gathering gets food reliably, so sharing would only aid the lazy.

This pattern has been shown in different places around the world.

The greater the prevalence of parasites, the more importance was put on attractiveness.

The evoked is a universally noted characteristic that is evoked in some environments more than others.

Parasite prevalence has also been linked to smaller ethnic groups, higher rates of polygyny, lower levels of parental care, and even greater levels of ‘collectivism.’

TRANSMITTED culture goes from one mind to another, like a joke or a trend. Since the info that could come from others is infinite, we have sorting mechanisms.

We don’t know what they are but they must include selective attention and encoding and transmission.

Consider the tendency to imitate the clothes of those with high status. We need to look at senders too; for example those who start rumors.

There is a conformity bias, wherein people tend to adopt cultural trends or positions held by the majority of people. Prestige of the transmitter is another.

425 - So 1) “Culture” is not an autonomous causal agent in competition with “biology” for explanatory power; 2) cultural diversities – local within-group similarities and between-group differences – are phenomena to be explained, but do not, by themselves, provide an explanation for cultural phenomena; 3) cultural phenomena can be usefully divided into types, such as evoked culture or transmitted culture; 4) explanations for evoked culture require a foundation of evolved psychological mechanisms, without which the differently activated cultural diversity could not occur; and 5) transmitted culture also rests on a foundation of evolved psychological mechanisms that influence which ideas are attended to,

encoded, retrieved from memory, and transmitted to other individuals. “Nothing about culture makes sense except in light of evolution.””

426 - There are two theses as to why art exists. 1) The display hypothesis. It says that culturist “is an emergent phenomenon arising from sexual competition among vast numbers of individuals pursuing different mating strategies in different mating arenas.” It is a courtship strategy for getting women.

ART

This accounts for several facts: 1) Men historically have produced more art and music, and literature across a wide variety of cultures. 2) It also accounts for most art and music being created by men in early adulthood.

However, it cannot explain: 1) The content of the cultural products. Why are some songs popular and others not? Why is Shakespeare so revered? 2) Why do so many people spend so much time enjoying art in solitary situations? They read lit where no one is watching.

The second approach is Pinker’s. It comes from the mechanisms of the mind that “let people take pleasure in shapes and colors and sounds and jokes and stories and myths.” Ripe fruit and fertile females, for example. Just like drugs juice our rewards systems.

427 – Music impacts language, auditory separation mechanisms, emotional calls, habitat selection (thunder) motor control.

428 – We see this in literature too. Popular films contain intrasexual competition, mate choice, romance, and life threatening hostile forces of nature. In a book we get to see landscapes, hobnob with important people, fall in love with beautiful men and women, protect loved ones, attain impossible goals and defeat wicked enemies.”

One analysis of 36 plot lines showed most were defined by 4 themes: Love, sex, personal threat or threat to the antagonist’s kin. (Carroll, 2005)

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