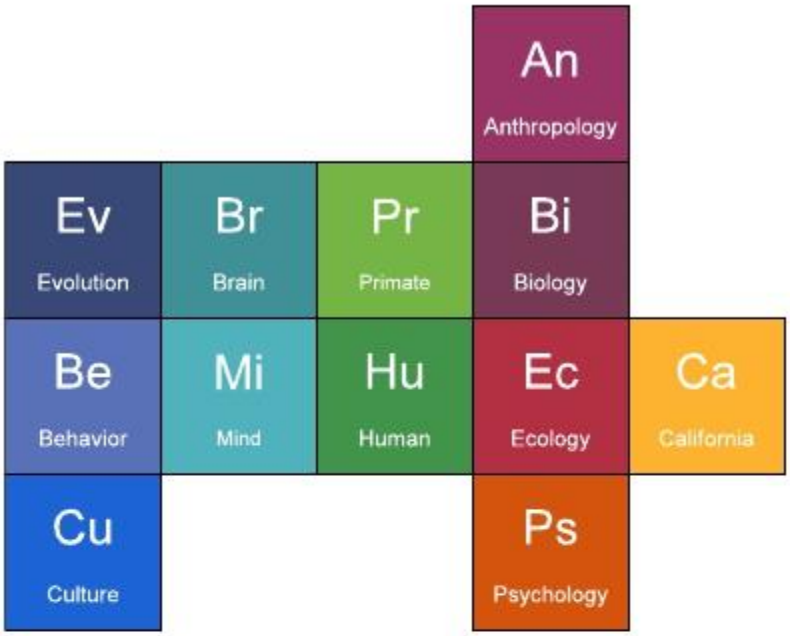
12th Annual

California Workshop on Evolutionary Social Science

May 4th-6th, 2018



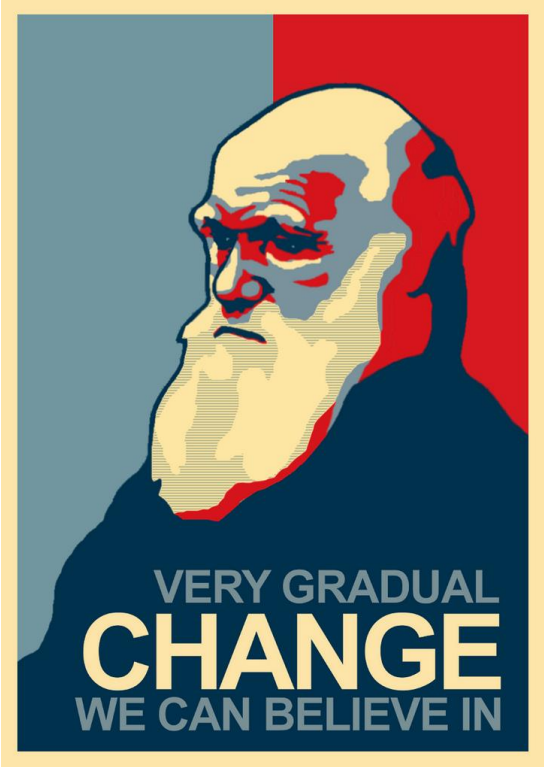
Aims & Scope

Since the inaugural meeting in 2007, this conference has been guided by a single, unifying goal; to maximize familiarity and opportunity for interaction among the greater California community investigating human behavior from an evolutionary perspective.

This small meeting emphasizes discussion and collegiality, and celebrates our points of convergence and divergence. Collectively, California is home to the largest community of scholars working in this area, and is characterized by a diversity of approaches and areas of expertise.

The program this year includes faculty, postdocs, and graduate students from Cal Poly, Chapman, CSUF, CSUN, LSHTM, UCM, LMU, CSU Chico, UCD, UCLA, UCSB, and Stanford.

We welcome both the familiar and new faces to the 2018 meeting!



PROGRAM AT A GLANCE

Schedule of Events

Friday, May 4th, 2018

2:00-3:30PM Campsite check-in at El Capitan State Beach

4:00-5:00PM Start at West Campus Conference Center with snacks

5:00-6:00PM Bruce Winterhalder (UCD) Public Lecture/ Career Talk

6:00-9:30PM Opening reception and dinner at West Campus Conference Center

Saturday, May 5th, 2018
West Campus Conference Center

8:30-9:00AM BREAKFAST

9:30-9:30 AM Lightning round

9:30-9:45AM COFFEE

9:45-10:20AM Amy Boddy (UCSB)

10:20-10:40AM Susan Schaffnit (UCSB) & David Lawson (UCSB)

10:40-11:00PM Paul Smaldino (UCM), Tom Flamson (unaffiliated), Richard McElreath (MPI-EVA)

11:00-11:15 BREAK

11:15-11:50 James Holland Jones (Stanford)

11:50-12:10 Carly Whelan (CSU Chico)

12:10-2:00PM LUNCH

2:00-2:35PM Curtis Atkinson (UCD) & Paul Smaldino (UCM)

2:35-2:55PM Nicole Naar (UCD)

Saturday, May 5th, 2018 (cont.)
West Campus Conference Center

2:55-3:15PM Raziel Davison (UCSB) & Michael Gurven (UCSB)

3:15-3:45PM BREAK

3:45-4:20PM Monique Borgerhoff Mulder (UCD) & Cody C. Ross (MPI-EVA)

4:20-4:55PM Matthew Zefferman (Naval Postgraduate School) & Sarah Mathew (ASU)

4:55-5:30PM BREAK & POSTER SETUP

5:30-7:00PM POSTER SESSION

7:00-9:30PM DINNER

Sunday, May 6th, 2018
West Campus Conference Center

8:00-9:00AM BREAKFAST

9:00-9:35AM Cristina Moya (UCD) & Annie Wertz (MPI Human Development)

9:35-9:55AM Tadeg Quillien (UCSB)

9:55-10:15AM Brittany Florkiewicz (UCLA) & Erica Cartmill (UCLA)

10:15-10:30AM COFFEE

10:30-10:50AM Erik Kimbrough (Chapman)**,** Mahsa Akbari (SFU) & Duman Bahrami-Rad (SFU)

10:50-11:10AM Aaron Goetz (CSUF)

11:10AM STEERING MEETING

Organizational Team

Local Host Extraordinaire!
Aaron Blackwell, UCSB

Co-Lead Coordinators
Theo Samore, UCLA
Kotrina Kajokaite, UCLA

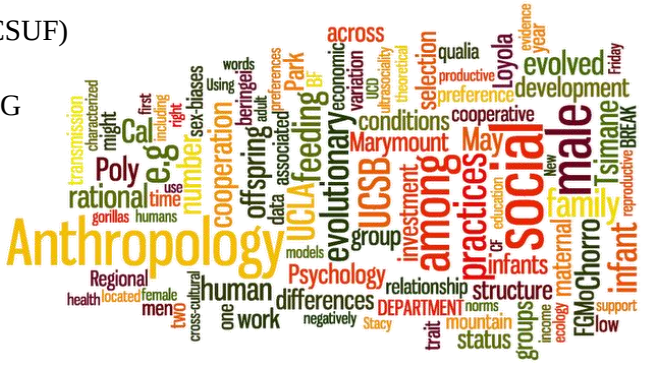
Catering and Venue Planning
Lisa McAllister, UCSB

Campus Reps
Stacey Rucas, CalPoly
Eric Schneider, Chapman
Elizabeth Pilsworth, Fullerton
Nicole Naar, UCD
Aaron Blackwell, UCSB
Theodore Samore, UCLA
Kotrina Kajokaite, UCLA
Michael Barlev, ASU

Conference Funding

Thank you for the generous support from our sponsors:

• Human Behavior and Evolution Society (join now! www.hbes.com/join)
• UCSB, Dept. of Anthropology
• Cal Poly, Department of Social Sciences
•Chapman, Economic Science Institute
• CSUF, College of Humanities and Social Sciences, Depts. of Anthropology and Psychology
• UCD, Institute of Social Sciences
• UCLA, Center for Behavior, Evolution and Culture



REGISTRATION AND INFORMATION

1) **Complete Registration here (includes camping reservation):**
https://goo.gl/forms/kNUoPEbfqxvTQBkT2

2) **Submit your flash slide!**
Submit* a PowerPoint slide with a photo of yourself, affiliation, and several key words describing your research interests for the flash introduction session to this dropbox folder: https://www.dropbox.com/request/3dzs9MZBbxcqUHRRKrAW

For example:

Jondalar Neanderman
Shanidar University
Paleoanthropology, archaeology, speciation

**Returning attendees*: if you submitted a flash last year we will use these unless otherwise notified or updated.

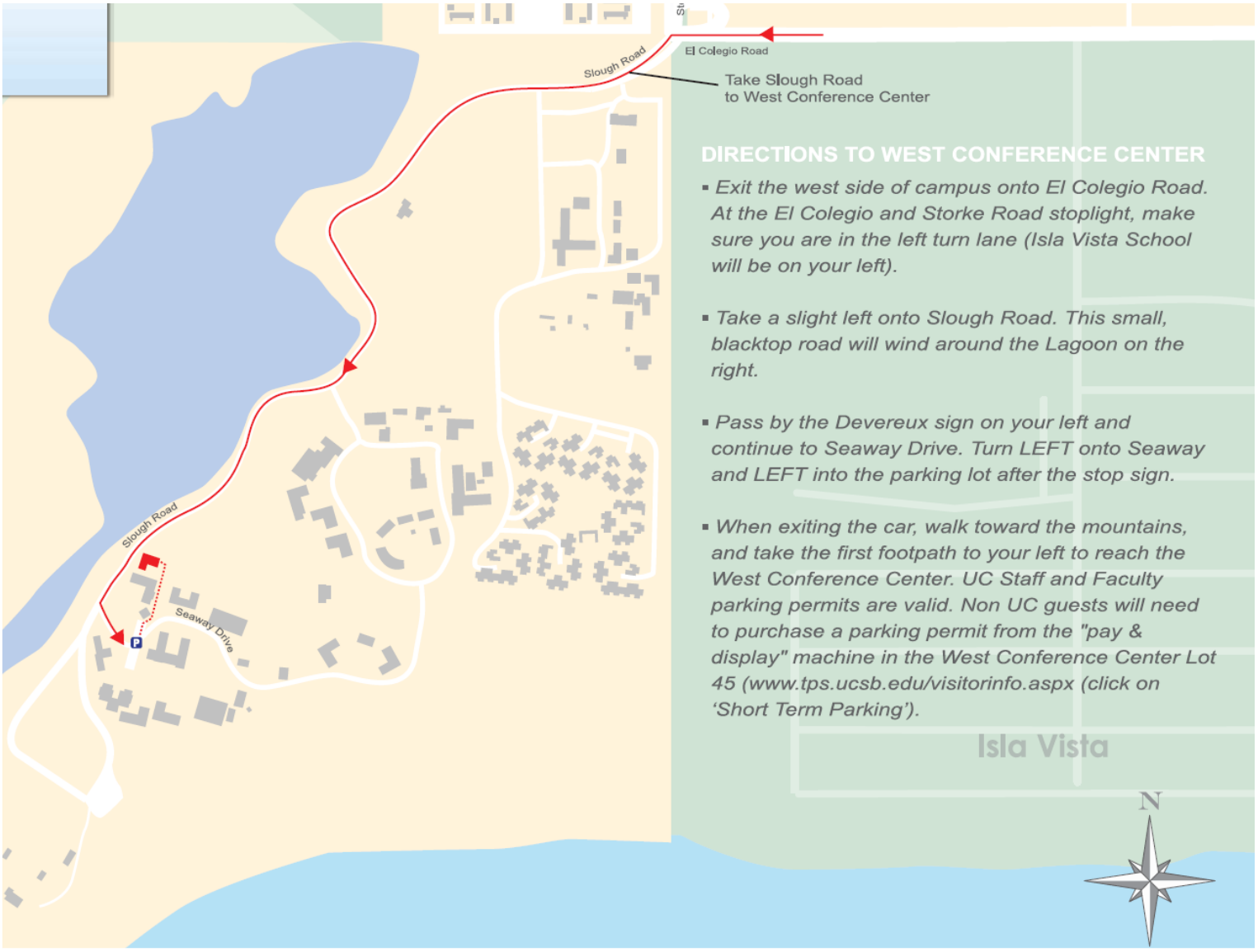
3) **Register to support our workshop.** There are no passengers on this ship, everyone is crew. Please sign up to help out for a shift or two:
https://goo.gl/forms/kNUoPEbfqxvTQBkT2

CONFERENCE LOCATION

All events will be at the **UCSB West Campus Conference Center**. Note, parking permits are required. We will have a number to distribute at the conference, so check with an organizer before purchasing one.

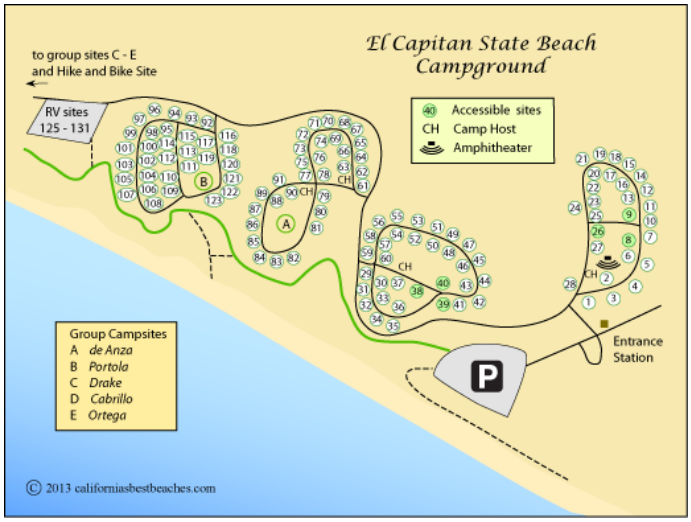
Directions from US 101:

1. Follow US-101 S to Storke Rd in Goleta. Take exit 108 for Glen Annie Rd/Storke Rd.
2. Turn South (right if coming from the Nouth on 101, Left if coming from the South).
3. Follow Storke Rd for 1.2 miles South.
4. Continue straight onto Slough Rd
5. Pass the Devereax sign on your left and continue to Seaway Drive. Turn LEFT onto Seaway and LEFT into the parking lot after the stop sign.



ACCOMODATIONS & DIRECTIONS

CAMPING:



This year we will be camping at **El Capitan State Beach**, (2 El Capitan State Beach Rd, Goleta, CA 93117: http://www.parks.ca.gov/?page_id=601). Camping is FREE.

El Capitan State Beach is about a 20 minute drive from the conference site. We have reserved six adjacent campsites. Each campsite is limited to 8 people (48 people total) and three vehicles (18 total). However, depending on the number of people who register to camp we may cancel on or two of these sites. For this reason, please indicate on your registration if you plan to camp! We will send details on the specific campsites the week of April 29-May 3, after registration closes.

If you wish to camp (again, FREE!), please let us know on the workshop registration website: https://goo.gl/forms/kNUoPEbfqxvTQBkT2

Directions: Take Highway 101 North from Santa Barbara. Heading either North or South on 101, El Capitan State Beach is just off the highway at exit 117.

HOTELS:

Since individual may have different preferences, we have not reserved a specific hotel for the conference. However, here are some recommendations for those who do not wish to camp:

Closest to the conference site:
Courtyard by Marriott Santa Barbara Goleta, 401 Storke Rd, Goleta, CA 93117
Hilton Garden Inn Santa Barbara/Goleta, 6878 Hollister Ave, Goleta, CA 93117

Cheapest nearby are:
Super 8 Santa Barbara/Goleta, 6021 Hollister Ave, Goleta, CA 93117
Motel 6 Santa Barbara - Goleta, 5897 Calle Real, Goleta, CA 93117
Best Western Plus South Coast Inn, 5620 Calle Real, Goleta, CA 93117

CONFERENCE SPONSORS

The 12th Annual C-WESS has been made possible by the generous contributions of the following organizations:

Human Behavior & Evolution Society [Join today!]

UCLA Center for Behavior, Evolution, and Culture

CAL POLY **DEPARTMENT of SOCIAL SCIENCES**

DEPARTMENT of ANTHROPOLOGY UCSB

UCDAVIS INSTITUTE FOR SOCIAL SCIENCES

ECONOMIC SCIENCE INSTITUTE CHAPMAN UNIVERSITY 1861

CALIFORNIA STATE UNIVERSITY FULLERTON **DEPARTMENT of ANTHROPOLOGY & PSYCHOLOGY**

Friday, May 4th, 2018

Public Lecture/Career Talk

Archaeological and Ethnographic Applications of the Ideal Free and Ideal Despotic Distributions, or, the Anthropological Career of an HBE Model

Bruce Winterhalder, UCD / UO, 4:30PM- 6:00PM

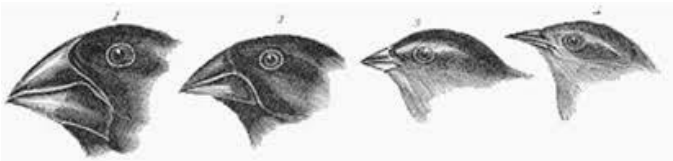
Having documented my earlier life as an anthropologist and hunter-gatherer specialist in autobiographical form at the request of the editors of the journal Before Farming (now continued as, Hunter Gatherer Research)1, I shift slightly in this career talk to consider the recent career in anthropology and archaeology of a particular model, the Ideal Free Distribution (IFD). After briefly describing the IFD and its assumptions and predictions, I consider five applications: (1) prehistoric migratory settlement of the Pacific; (2) Holocene occupation of the Northern Channel islands; (3) ethno-ecological studies of pastoralist use of the Logone Floodplain in Cameroon; (4) habitat selection by the Arctic Small Tool Tradition of Alaska; and, (5) political growth and centralization of the Maya polity of Uxbenká (Belize). I argue that this ten-year span of research, roughly 2008 to the present, shows increasingly sophisticated and wide-ranging use of the IFD, a pattern common to use by anthropologists of behavioral ecology models since the 1970s. And, consistent with the theme of my Before Farming article, I claim that we are just beginning to tap the promise of evolutionary social science.

Saturday, May 5th, 2018

Life history trade-offs in reproduction and cancer

Amy Boddy, UCSB: 9:45AM-10:20AM

Life history theory is a powerful approach to study human health and disease. However, there has been little work in applications of life history theory in cancer biology. Here I will discuss how cancer is fundamentally characterized by life history trade-offs, as cancer defense mechanisms are a major component of somatic maintenance. Using a newly curated comparative oncology dataset across a wide range of mammals, birds and reptiles, we show a negative relationship with cancer rates and body mass or lifespan. Additionally, these organismal life history traits reflect the cellular response to DNA damage assays, providing insights into potential mechanisms of cancer defense. Understanding these trade-offs in the context of organismal evolution may help explain variability we see in cancer susceptibility across human populations. Additionally, our dataset demonstrates mammals get higher rates of cancer than other vertebrates. I will discuss the constraints of internal gestation, the process of placentation and microchimerism during pregnancy, and how these reproductive processes may lead to a trade-off with cancer susceptibility.



Finches From the Galapagos Archipelago

Does parent-offspring conflict drive early marriage? A test of predictions in north-western Tanzania

Susan Schaffnit*, UCSB, &* David Lawson*, UCSB: 10:20AM-10:40AM*

Marriage before age 18 years is common for women throughout low-income countries despite purported negative consequences for wellbeing. In areas where women's parents customarily receive bride wealth and resources are scarce, conflict between parents and daughters may arise in the timing of daughters' marriages: parents may wish their daughters to marry earlier than she would like. If this is the case, we expect that earlier marriage correlate to 1) having more older brothers, 2) higher probability of receiving bride wealth, 3) receiving higher value bride wealth, and 4) lower probability of having chosen their partner. We test these hypotheses using quantitative and qualitative data collected in 2017 in two rural communities in north-western Tanzania where early marriage is common and bride wealth is custom. We find mixed evidence of parent-offspring over timing of marriage: women with

more older siblings – brother or sisters – marry earlier than other women; bride price is not more common in earlier marriages, though the value is higher; and women usually choose their own partners regardless of age at marriage. Despite the potential for parental-offspring conflict over marital timing, we conclude that alternative factors may explain the high prevalence in early marriage in this area of Tanzania.

The Evolution of Covert Signaling

Paul Smaldino, UCM, Tom Flamson, unaffiliated, & Richard McElreath, MPI-EVA: 10:40AM- 11:00AM

Human sociality depends upon the benefits of mutual aid and extensive communication. However, diverse norms and preferences complicate mutual aid, and ambiguity in meaning hinders communication. Here we demonstrate that these two problems can work together to enhance cooperation through the strategic use of deliberately ambiguous signals: covert signaling. Covert signaling is the transmission of information that is accurately received by its intended audience but obscured when perceived by others. Such signals may allow coordination and enhanced cooperation while also avoiding the alienation or hostile reactions of individuals with different preferences. Although the empirical literature has identified potential mechanisms of covert signaling, such as encryption in humor, there is to date no formal theory of its dynamics. We introduce a novel mathematical model to assess when a covert signaling strategy will evolve, as well as how receiver attitudes coevolve with covert signals. Covert signaling plausibly serves an important function in facilitating within-group cooperative assortment by allowing individuals to pair up with similar group members when possible and to get along with dissimilar ones when necessary. This mecha nism has broad implications for theories of signaling and cooperation, humor, social identity, political psychology, and the evolution of human cultural complexity.

Decelerating, Correlated, and Skewed: Understanding How the Biophysical Environment Has Shaped Human Preferences

James Holland Jones, Stanford: 11:15AM- 11:50AM

When the rules for rational decision-making were formalized, the fact that human decision-makers are biological entities, subject to natural selection, was ignored. I show how the all-important need to avoid extinction in a world that is at best incompletely known has profound implications for preferences, utility, and rationality. By ignoring the condition of existential uncertainty, the theory of rational choice has developed distorted expectations of how an organism working in its own best interest should behave. When viewed in the light of extinction aversion, it appears that particular regularities of the biophysical environment have had a disproportionate impact in shaping human decision-making faculties. I highlight three such regularities: the biophysical environment is decelerating, correlated, and skewed. Payoffs from the natural world show diminishing marginal benefits, time series of key environmental variables are strongly autocorrelated, and distributions of hazards, payoffs and waiting times are strongly skewed. From the perspective of an extinction-averse decision-maker, this means that big downsides are more bad than big upsides are good, runs of bad luck are likely, and the magnitude of downsides can be distressingly large. Understanding how these features of the biophysical environment affected the evolution of human decision-making faculties helps us to make sense of the seeming irrationality of our species and provides opportunities for shaping better decisions.

An Acorn in the Hand is Worth Two in the Granary: The Effect of Future-Discounting on Food Storage Preferences in Prehistoric California

Carly Whelan, CSU Chico: 11:50AM- 12:10PM

Though they have proven useful for examining many aspects of hunter-gatherer subsistence behavior, foraging models are typically structured to examine short term foraging returns. It is difficult to evaluate food storage decisions with such models, because storage

delays the consumption of resources until long after they are acquired. Future-discounting is a useful concept for explaining behavior in situations with delayed returns, such as prey conservation by hunters, the origins of animal husbandry, and the adoption of agriculture. Storage presents a similar situation, as delayed consumption subjects stored food to loss from decay and pests, decreasing its future value. I present a modified form of the prey choice model with a discount rate and use it to rank species of acorns that were consumed in prehistoric California. The results indicate that long-lasting acorn species should be preferred over those with high post-encounter return rates, particularly in inter-annual storage economies. This finding is supported by ethnographically documented acorn preferences. The model results also have implications for agricultural economies, as they suggests that decay rate should be an important factor influencing selection of resources for cultivation and storage, particularly when foods must be stored for more than one annual cycle.

How the structure of multiplex networks influences patterns of cooperation

Curtis Atkisson, UCD, & Paul Smaldino, UCM: 2:00PM-2:35PM

Multiplex networks are *N*-dimensional networks in which connections between nodes are defined by *N* sets of edges—each set defines domain-specific connections. Such structures are ubiquitous in social creatures, but most network-based social science focuses on only one domain (layer) at a time. Recent modeling and empirical work have shown that incorporating interactions between the layers of a multiplex often alters predictions. Previous modeling of the evolution of cooperation on multiplex networks has focused exclusively on random networks. Such networks, while useful for theory development, are unrealistic for socially complex ones like primates. We introduce a somewhat more realistic structure by forcing some domains to be identical in their sets of edges. Our modeling results show that incorporating structure into the formation of multiplex networks facilitates the persistence of cooperation across domains. Data to test these results were gathered in southwestern Guyana amongst the Makushi, a group rapidly transitioning to a cash economy. Preliminary analysis of these data indicate support for our modeling results. Both the model and the empirical data will be presented, as well as a discussion of multiplex-specific network generating processes. These results illustrate the importance of including structured multiplex networks in both models and empirical analyses.

Experimental and survey measures of fishing behavior, with implications for external validity

Nicole Naar, UCD:2:35PM- 2:55PM

Given the urgency of collective action challenges and the apparent efficiency of experimental games, it is tempting for researchers to make inferences about behavior and decision-making based on results from experimental games. But does game play reflect behavior in everyday life and in everyday contexts? Here we present the results from a framed multi-phase common-pool resource game played with fishermen from a coastal community in Baja California Sur. Game administration followed two years of interviews, participant observation, and household surveys, providing an in-depth understanding of the broader social-ecological and policy contexts, and allowing for a comparison of observed behavior, self-reported behavior, and experimental game behavior for the same individuals. Furthermore, the observations and survey measures of real-life behavior are strongly linked to the behaviors observed in the experimental game. We found little evidence for associations between closely related game and survey variables for specific fishing behaviors, but the results suggest that game behavior is associated with some more general prosocial behaviors and attitudes, specifically cooperation with other fishermen and conservation values. Based on these results, we question the reliability of using experimental games to make inferences about behavior and decision-making, especially if the goal is to make policy recommendations.

Evolutionary retrospectives on the human life history trajectory: lessons from small-scale societies and chimpanzees

Raziel Davison, UCSB, & Michael Gurven, UCSB: 2:55PM-3:15PM

Evolution of anatomy leaves intermediate fossil forms, but how human life history evolved from an ancestral chimpanzee-like life history remains subject to debate. We characterize the human-chimpanzee life history envelope by comparing the fitness effects of fertility and mortality differences among ten small-scale subsistence societies and seven chimpanzee populations. Most wild chimpanzees are declining due to high mortality; some hunter-gatherers hover near stationarity with longevity balancing low fertility, while other foragers with high fertility are growing rapidly. We find fertility effects an order of magnitude higher than the potential predicted by prospective elasticities, and that fitness contributions of older individuals often exceed their low reproductive values. We also test the buffering hypothesis, which predicts negative correlations between vital rate elasticities and variability due to balancing selection. Although fertility appears buffered, positive correlations between survival elasticities and variability suggest that natural selection may have canalized human mortality more than chimpanzees' and adult mortality than in childhood, where the force of selection is the strongest. While longevity increases the premium on child survival, fertility-recruitment trade-offs may constrain balancing selection on child survival in both humans and chimpanzees; the human evolutionary trajectory is thus driven largely by reductions in adult mortality.

Unpacking the Bateman Gradient

Monique Borgerhoff Mulder (UCD) & Cody C. Ross (MPI-EVA): 3:45PM- 4:20PM

Despite growing recognition of the role of female choice and conflict in contributing to mating system variability, little comparative empirical data are available with which to prompt new conceptual and theoretical developments. In this talk I will first summarize the results of a large comparative study of reproductive skew across both human and nonhuman mammals (97 and 76 populations respectively), demonstrating that variance in female reproductive success plays a substantial role in driving sex differences in reproductive inequality. Then, drawing on one of these populations – specifically the longitudinal records of marriage from a Central African natural fertility population – I will show that women but not men benefit reproductively from increasing their number of distinct marital partners, holding constant the effective time-frame over which they have been married. I will discuss these findings in terms of the Bateman Gradient, the need to unpack the distinct, sex-specific pathways through which reproductive success can be optimized, and more generally the study of sexual selection across human populations.

An evolutionary theory of PTSD and moral injury: Evidence from the Turkana

Matthew R Zefferman, The Naval Postgraduate School, & Sarah Mathew, ASU: 4:20PM-4:55PM

Are combat stress symptoms genetically-evolved universal responses to traumatic experiences or socially-constructed and unique to western societies? We attempt to answer that question with a study of 213 Turkana pastoral warriors. We find that the Turkana have similar levels of some PTSD symptoms as American combat veterans, but lower levels of others. We argue that this difference is due to institutions that limit "moral injury" in the Turkana. Moral injury is an emerging construct in clinical psychology where individuals suffer from violations of deeply held moral beliefs. We argue that moral injury results from norm psychology that evolved to avoid the harm of social sanctions. We show that sanctioning institutions in the Turkana likely limit moral injury in combat.

Sunday, May 6th, 2018

Pathways to Cognitive Design

Cristina Moya, UCD, Annie Wertz, MPI for Human Development: 9:00AM-9:35AM

Genetic and cultural evolution can contribute to the design of cognitive mechanisms. Despite a shared recognition that both processes are tightly linked, researchers in the evolutionary social sciences tend to specialize in understanding one at the expense of the other. Furthermore, the empirical enterprise of understanding design origins is difficult. We aim to provide concrete illustrations of how to develop broader sets of hypothesis about design origins, and how different kinds of evidence can address these. We use examples from our own work on plant and symbolic group boundary cognition to provide a framework for considering the contributions of both processes to the design of cognitive systems. We hope this recognition of different pathways to design will broaden the hypothesis space in the evolutionary social sciences and encourage methodological pluralism in the investigation of the mind.

Evolution of Conditional and Unconditional Commitment

Tadeg Quillien, UCSB : 9:35AM- 9:55AM

Psychologists and evolutionary theorists have long recognized the strategic importance of showing commitment to one's partner in social relationships. However, formal evolutionary models have mostly highlighted the importance of commitment signals in asymmetric situations where one party can exploit the other (e.g. male desertion after mating). By contrast, here I show that even in simple symmetric coordination games, uncertainty about the partner's incentives can easily disrupt cooperative equilibria. This creates a strong selection pressure for agents to send costly signals of commitment to their partner. Using evolutionary game theory and agent-based simulations, I find that costly signaling is stable across a wide range of parameter space, outcompetes cheap talk, and can invade populations of non-signaling agents. Furthermore, evolution can design two qualitatively different kinds of commitment strategies. Agents adopting a strategy of conditional commitment signal their commitment, and then invest in a relationship only if their partner also signaled. Agents adopting a strategy of unconditional commitment truthfully signal that they will invest in a relationship even in the absence of a signal from their partner. These results suggest that commitment signaling is a multi-faceted phenomenon that has played a strong role in the evolution of social cognition.

Contagious Scratching in Chimpanzees (*Pan troglodytes*)

Brittany Florkiewicz, UCLA, & Erica Cartmill, UCLA: 9:55AM-10:15AM

Contagion is defined as a strong impulse to perform a behavior after witnessing another performing that behavior. Contagious behavior, which includes smiling, laughing, yawning, and scratching, is a common phenomenon in humans. Over the past decade, researchers have suggested that contagious behavior may play an important role in the evolution of important cognitive abilities such as empathy (Provine 2005) and ectoparasite detection (Kupfer and Fessler in press). The goal of this study is to add to the literature by examining whether contagious scratching is present in chimpanzees (*Pan troglodytes*) and the potential explanations for this behavior. Data collection took place in 2017 at the Los Angeles Zoo located in Los Angeles, CA. 30-minute focal follows were performed with 14 individuals ranging in ages 2 to 50 years old. During focal follows, any scratching behavior that was initiated 10 meters or less away from the focal individual was documented. Information such as individual ID, attention, distance, and scratching behavior from initiator was documented for each potential observer. We then compared initiating baseline rates of scratching to rates of scratching that follow after an observer witnesses a scratch using a Poisson regression. We found that the probability of scratching significantly increased in the 5 seconds following another's scratch. The probability of scratching

further increased when chimpanzees were looking at or were close to the initiating scratcher. We conclude that chimpanzees (like humans) display contagion for scratching and that this behavior is influenced by both proximity and visual attention. These findings are consistent with a parasite avoidance explanation. Further study is needed to determine whether social relationships influence the rate of contagious scratching, which would lend support to an empathy-based account.

Kinship, Fractionalization and Corruption

Erik O. Kimbrough, Chapman, Mahsa Akbari, SFU, & Duman Bahrami-Rad, SFU: 10:30AM-10:50AM

By shaping patterns of relatedness and interaction, marriage practices influence the relative returns to norms of nepotism/favoritism versus norms of impartial cooperation. In-marriage (e.g. consanguineous marriage) yields a relatively closed society of related individuals and thereby encourages favoritism and corruption. Out-marriage creates a relatively open society with increased interaction between non-relatives and strangers, thereby encouraging impartiality. We report a robust association between in-marriage practices and corruption across countries and across Italian provinces. A stylized corruption experiment comparing subjects from two countries with divergent marriage patterns provides complementary evidence that the degree of impartiality varies with marriage patterns.

The Evolutionary Psychology of Gun Ownership

Aaron Goetz, CSUF: 10:50 – 11:10AM

Two opposing models could explain gun ownership: a Formidability-Calibration Model, which would predict that formidable men would be more likely to own or intend to own firearms, particularly those designed to kill people, and a Vulnerability-Calibration Model, which would predict that less formidable, more vulnerable men would be more likely to own or intend to own firearms, as a compensatory. I surveyed a large and diverse sample of men (N=604) about their gun ownership. In accordance with the Formidability-Calibration Model, I documented that gun owners are stronger, more quick to become angry, more likely to spontaneously assess other men's formidability, more likely to get into fights, more likely to watch combat sports, and more likely to have received training in fighting. Gun owners, however, are not taller or heavier than those who do not own guns, probably because, in our modern environment, height and weight are no longer reliably diagnostic of formidability. *Intentions* to own guns, particularly handguns, produced similar results. These data suggest that one can predict men's gun ownership, not from their concerns about compensating for vulnerability, but from their formidability.