

# Generous by nature: Risk, need, and the evolution of human cooperation

Lee Cronk

Matthew M. Gervais

C. Athena Aktipis

# !Kung:

- “Sharing is . . . targeted to the needs of the recipients.”
- “Meat sharing . . . is . . . not necessarily appreciated or reciprocated, and other food sharing is carried out quietly and there doesn't seem to be any scorekeeping involved.”

Howell 2010



Hadza:

“We have no debt”

-Woodburn 1998

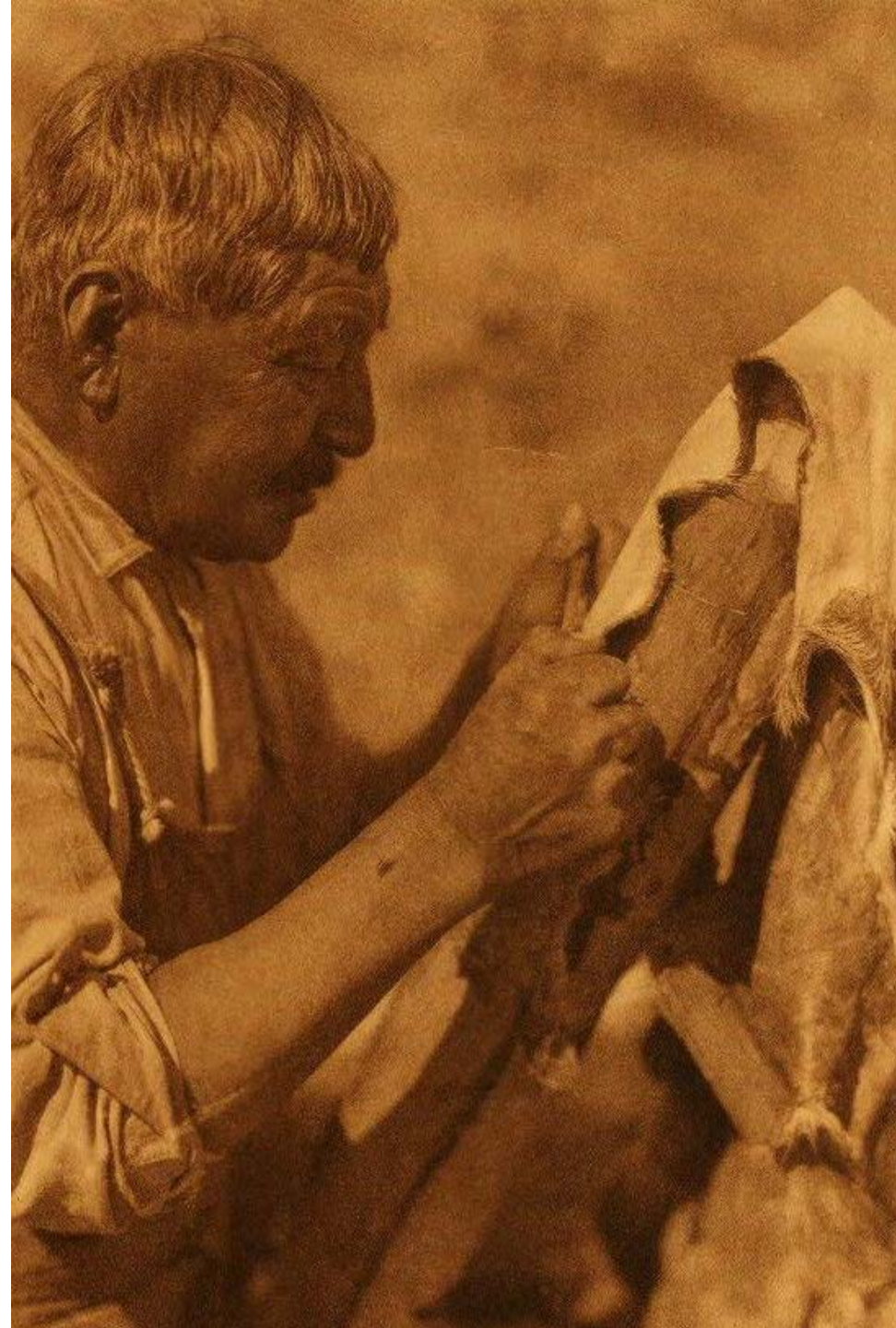


# Washo:

- “[sharing] is characterized by the attitude that each person will do what is appropriate, not by an expectation of equivalent return as in reciprocity”

Price 1975, p. 6

Lake Tahoe



# Batek:

“Batek share most food. Hunters give portions of meat to nearby households and to every family in a small camp. Gatherers share their products with all in need.”

Endicott 1999:300



## Dolgan and Nganasan:

“... certain individuals supply resources through kinship and friendship networks, often in a sustained one-way flow.”

-Ziker 2002:48



# Koryak:

“In the North, a loner does not survive.”

-Gerkey 2010



# Fijians:

“... *kerekere* ... can be used repeatedly to effect a flow of goods from the affluent to those who are *leqa*, ‘in need.’”

Sahlins 1962:145-6



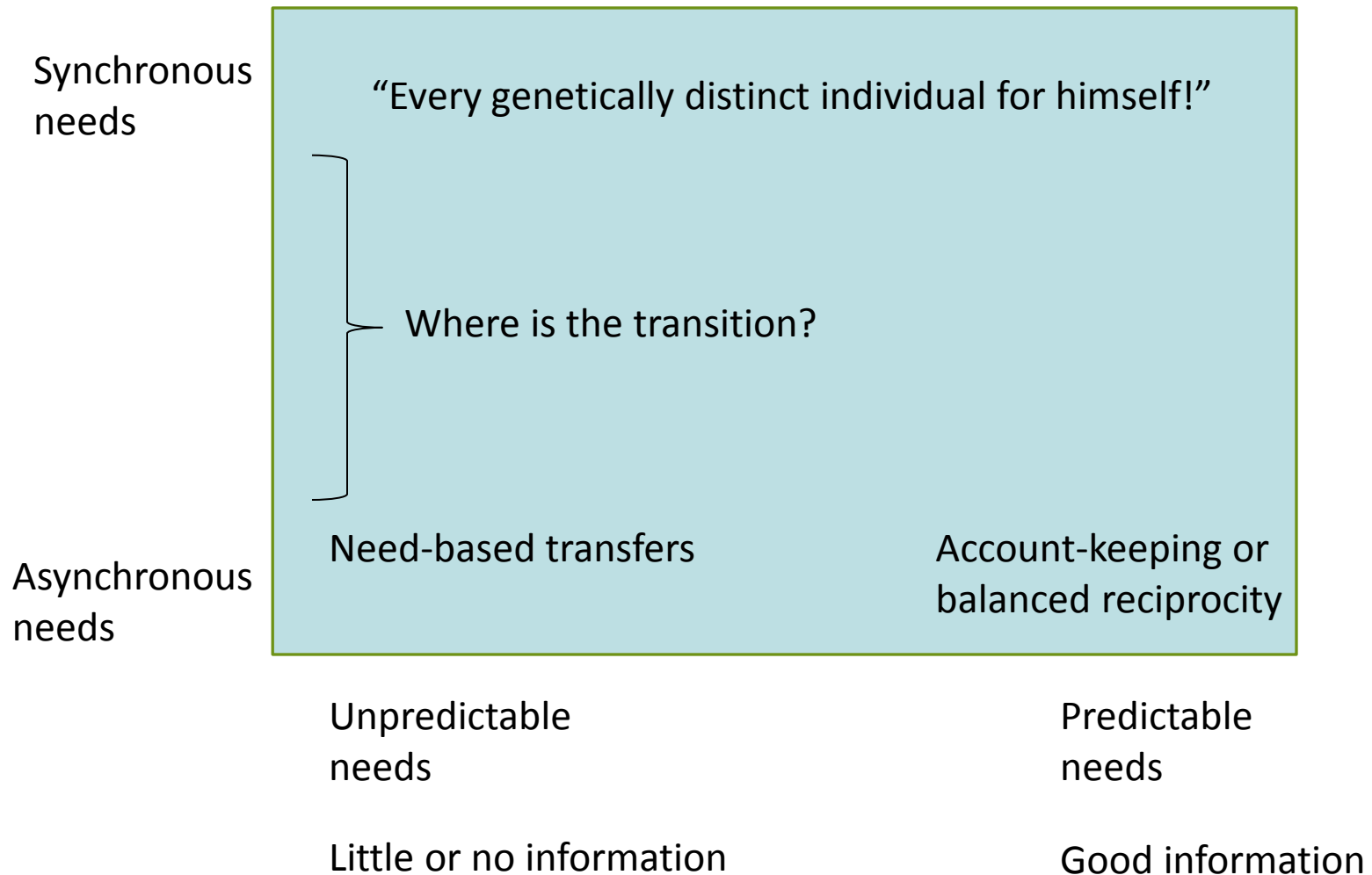


# The Maasai and Osotua

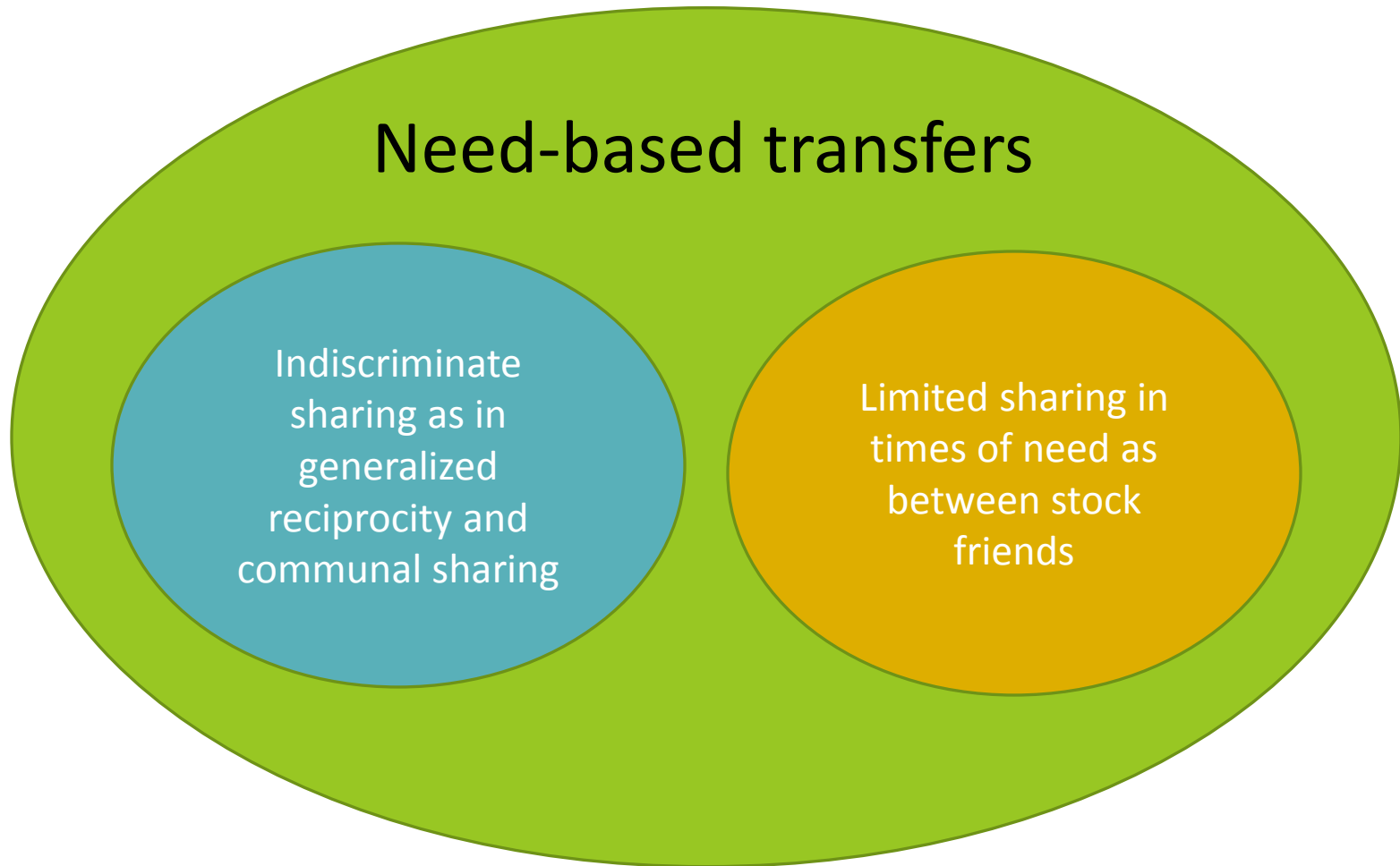


# Need-based transfers

# Need-based transfers vs. balanced reciprocity (Sahlins) and tit-for-tat reciprocity (Axelrod)



Need-based transfers vs. generalized reciprocity (Sahlins) and communal sharing (Fiske)



- **Why are need-based transfer systems so common in the ethnographic record?**
- **How do need-based transfer systems vary across societies, and do variations reflect different risks?**
- **Did risk-pooling through need-based transfers enhance our ancestors' ability to deal with increased environmental variability?**
- **Did such an adaptation enhance their ability to colonize a wide variety of environments, including marginal ones?**



# The Human Generosity Project

[www.humangenerosity.org](http://www.humangenerosity.org)





# The Human Generosity Project

- Multidiscipline
- Multi-method
- Multisite



# The Human Generosity Project

- Laboratory experiments
- Agent-based models
- Fieldwork
- Outreach





# The Human Generosity Project

## Field site research protocol

- Characterization of risks and hazards
- Norms of NBTs & other forms of generosity
- Social networks
- Actual instances of NBTs & other forms of generosity
- Experiments and surveys
  
- Our research protocol is open and flexible



# The Human Generosity Project

## Field sites:

- Hadza (Tanzania)
- Maasai (Kenya and Tanzania)
- Karimojong and Tepeth (Uganda)
- Mongolian herders
- Fijians
- Ik (Uganda)
- Malpai area ranchers (Arizona and New Mexico)

# Hadza



Supervisor: Colette Berbesque  
(University of Roehampton)

Risks: Injury, illness, food

Data collection: Qualitative,  
sharing networks, spinner game



# Maasai



Supervisor: Dennis Sonkoi  
(Rutgers)

Risks: Drought, theft, disease of  
livestock

Data collection: Qualitative,  
sharing networks, risk-pooling  
game



# Karimojong and Tepeth



Supervisor: Padmini Iyer  
(Rutgers)

Risks: Drought, theft, disease of  
livestock

Data collection: Qualitative,  
sharing networks, risk-pooling  
game



# Mongolia



Supervisor: Tom Conte (Rutgers)

Risks: Droughts, winter storms resulting in lack of forage for livestock

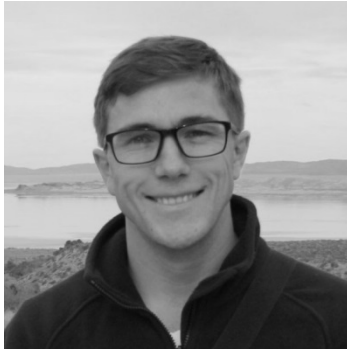
Data collection: Qualitative, sharing networks, CPR games with shocks



The Human  
Generosity Project



# Fiji



Supervisor: Matt Gervais  
(Rutgers)

Risks: Cyclones, injury

Data collection: Qualitative,  
*kerekere* patterns, RICH games



Ik



Supervisor: Cathryn Townsend  
(Rutgers)

Risks: Food shortages

Data collection: Qualitative,  
sharing networks, experimental  
games



Photo credit: [familycareuganda.com](http://familycareuganda.com)





# Malpai



Supervisors: Lee Cronk (Rutgers)  
and C. Athena Aktipis (ASU)

Risks: Injury and illness

Data collection: Qualitative,  
sharing networks



The Human  
Generosity Project





# The Human Generosity Project

Our research protocol is open and flexible!



# The Human Generosity Project

## Additional directions:

- Improving disaster response
- Resource management
- Environmental variability, risk, and evolution

# Improving disaster response



“Volunteers, including Terry Ritchie, sort donated stuffed animals in a Simms Lane warehouse in Newtown Thursday, Dec. 27, 2012.” Photo: Michael Duffy; [www.ctpost.com](http://www.ctpost.com)



The Human  
Generosity Project

# Resource management

## Sharing risk and resources in water management: Need-based transfers from small-scale societies to large-scale systems



### **Lee Cronk**

*Co-Director, The Human Generosity Project  
Professor, Department of Anthropology  
Rutgers University*

### **Athena Aktipis**

*Co-Director, The Human Generosity Project  
Assistant Professor, Department of Psychology  
Arizona State University*

### **Amber Wutich**

*Associate Professor  
School of Human Evolution and Social Change  
Arizona State University*

### **John T. Murphy**

*Researcher  
Argonne National Laboratory  
University of Chicago Computation Institute*

### **Dave White**

*Moderator  
Co-Director, Decision Center for a Desert City  
Arizona State University*

Humans across the world face the problem of how to mitigate risk and manage limited resources.

Sharing systems used by small-scale societies, such as the Maasai of East Africa, create networks of resource transfers that reduce the risk associated with ecological volatility and other shocks without requiring centralized control over resource distribution.

These sharing systems often use the criteria of transferring resources based on the need of the recipient.

Join us as we discuss the applications of such need-based sharing systems to large-scale systems including the water governance challenges in the Phoenix metropolitan area.

This Water/Climate Briefing is coordinated in partnership with the:



**The Human  
Generosity Project**



**The Human  
Generosity Project**

**Thursday, January 15, 2015**

**12:00-1:30 p.m.**

**Lunch will be served**

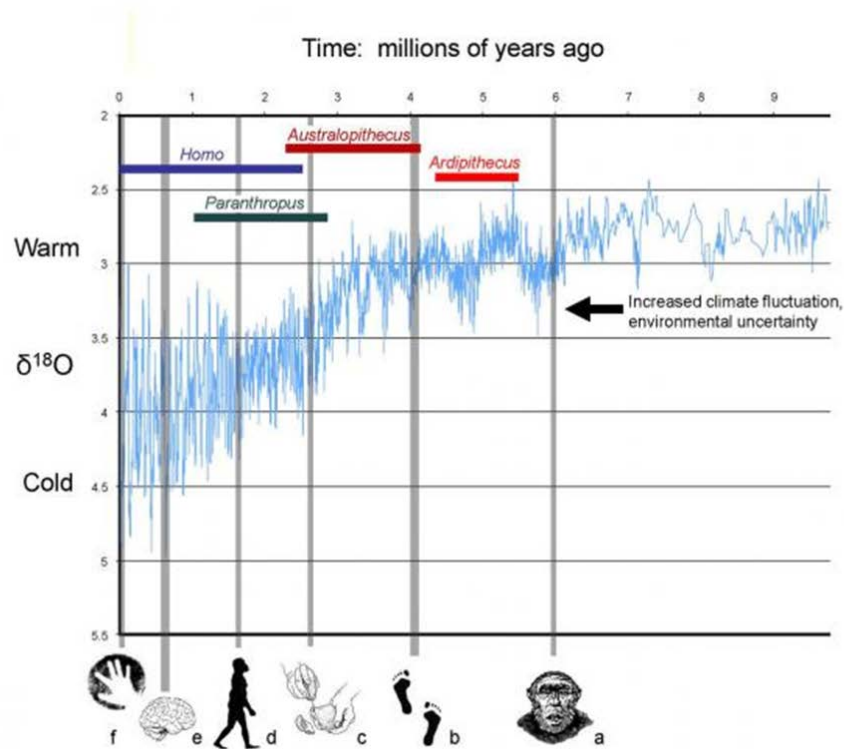
**Please RSVP to: [katie.peige@asu.edu](mailto:katie.peige@asu.edu)**

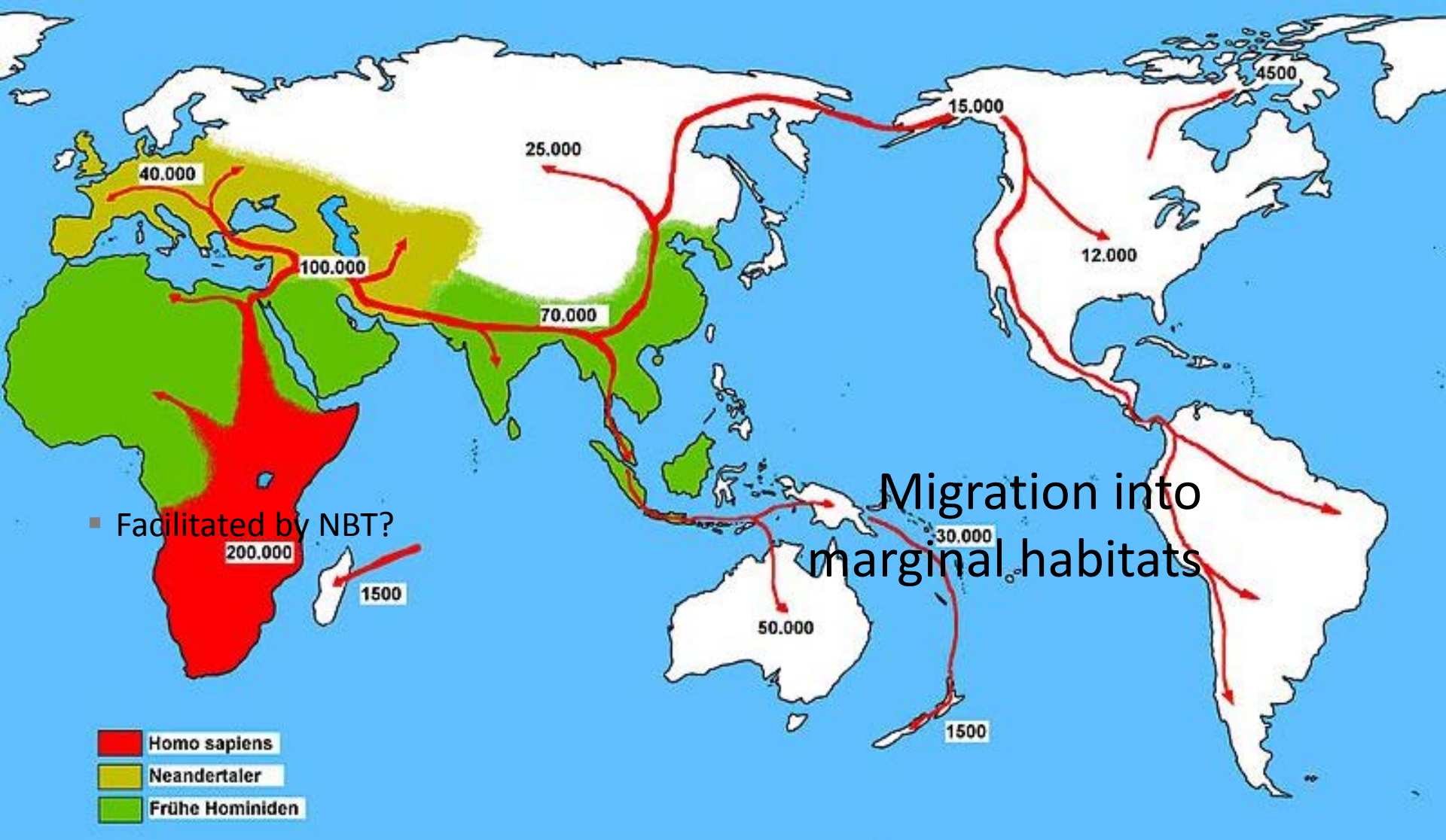
**Where:** Decision Center for a Desert City, 21 East 6th Street, Suite 126B, Tempe

**Map:** <http://dcdc.asu.edu/about-us-contact>

**Website:** <http://dcdc.asu.edu>

# Environmental variability, risk, and evolution





Facilitated by NBT?

Migration into marginal habitats

# Acknowledgments



## The Human Generosity Project

- Rolando de Aguiar
  - Dan Hruschka
  - Marco Campenni
  - Andy Chang
  - Hillary Lenfesty
  - Tom Fikes
  - Tom Conte
  - Dennis Sonkoi
  - Padmini Iyer
  - Collete Berbesque
  - Cathryn Townsend
  - Yan Hao
  - Dieter Armbruster
  - Barry Sopher
  - Steve Gazzillo
  - Carlo Maley
  - Amy Boddy
- Institutes of Health CA144331 (C.A.A.),
  - National Science Foundation SES-0345945 to the Decision Center for a Desert City
  - Center for Evolution and Cancer, UCSF
  - The John Templeton Foundation “Generous by Nature” grant (C.A.A. and L.C.)
  - Exploratorium Science Museum
  - ASU Department of Psychology
  - Center for Human Evolutionary Studies, Rutgers
  - Wissenschaftskolleg zu Berlin
  - Institute for Advanced Study
  - Center of Theological Inquiry

