

Friends, allies, and companions: How modes of fitness interdependence shape social categories

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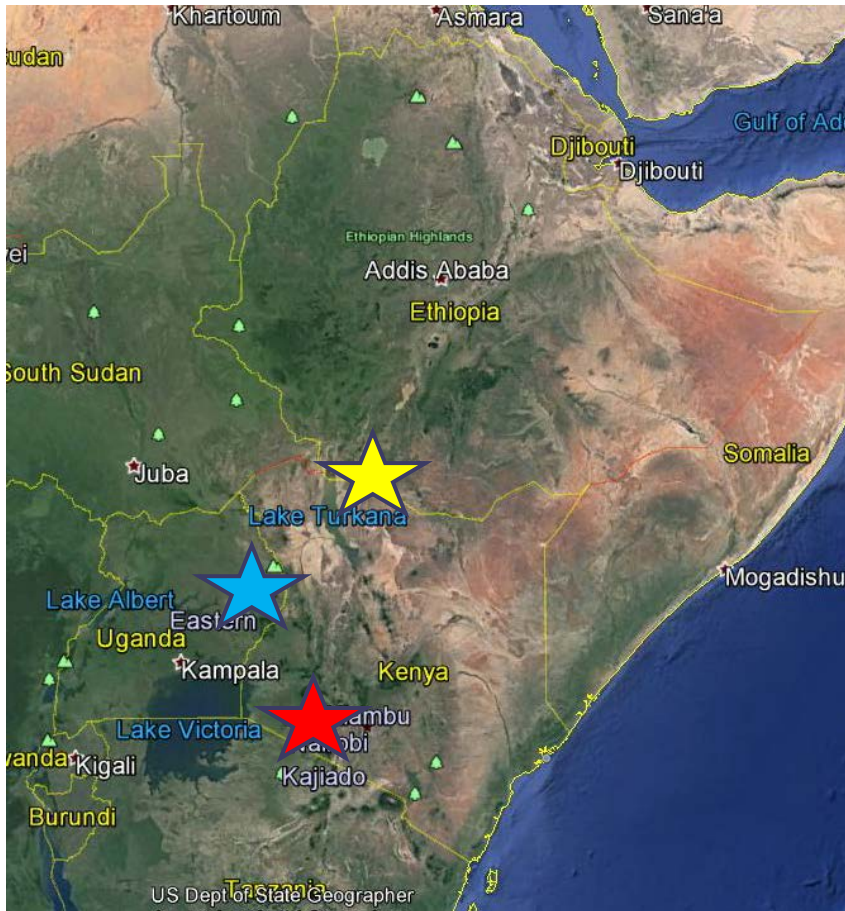
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“Friends” in English

- Acquaintance
- Ally
- Alter ego
- Associate
- BFF
- Bosom buddy
- Buddy
- Classmate
- Colleague
- Companion
- Chum
- Cohort
- Compatriot
- Comrade
- Consort
- Crony
- Familiar
- Intimate
- Mate
- Pal
- Partner
- Playmate
- Schoolmate
- Sidekick
- Soul mate



Friendship in three East African pastoralist societies



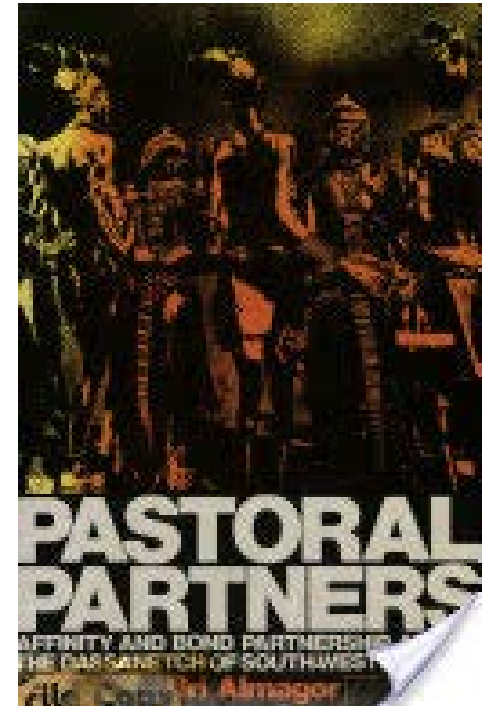
★ Dassanech

★ Karimojong

★ Maasai

“Friends” in Dassanech

- *Lil-metch afo:*
Bond partnership of lips
- *Lil-metch shisho:*
Bond partnership of gift
- *Lil-metch uru:*
Bond partnership of smearing
- *Lil-metch kerno:*
Bond partnership of holding
- *Lil-metch meto:*
Bond partnership of name-giving



“Friends” in Karimojong



- *Ekone a etau*: “friend of the heart,” or close friend
- *Ekone a ngakipi*: “friend of the water,” or good acquaintance

“Friends” in Maasai

- *Olcore*: Companion, buddy, pal
- *Esirit*: Childhood friend
- *Maoi ai*: literally, “my twin,” i.e., an especially close friend
- *Murata*: Age mate, i.e., someone in one’s own age set
- *Pakuo, pakiteng*, etc.: Terms of reference for friends to whom one has given or from whom one has received a particular kind of animal
- *Pasile*: *Pa* + *esile* (debt) – someone whose debt I have forgiven
- *Osotua*: literally, “umbilical cord,” i.e., a stock friend or risk-pooling partner



A bit more on osotua

- Involves gifts and favors of many kinds
- Involves respect (*enkanyit*) : “Osotua and enkanyit go together, osotua in the lead and enkanyit behind.”
- Is “weighty” (*keiroshi*)
- Involves gifts requested due to real need (*sina*)
- Involves gifts and favors given freely (*pesho*) and from the heart (*Itau*)
- Is not about payment (*alak*) or debt (*sile*)
- Involves no expectation of a balance in terms of amounts exchanged

Becoming osotua partners

- They often begin with childhood friendships (*isirito*, sing.: *esirit*) and exchanges of food and other small gifts
- These may lead to exchanges in adulthood of much more valuable gifts, which may lead to the formation of osotua partnerships.
- The overall process is somewhat similar to courtship, with prospective osotua partners getting to know each other and giving small gifts over a period of years.
- People often try to establish osotua relationships with people in different ecological zones and, thus, complementary risk profiles.

Fitness interdependence

- The degree to which an organism's ability to get its genes into future generations is positively or negatively influenced by the ability of another organism (or organisms) to get its genes into future generations.

- from the Workshop on Fitness Interdependence and the Study of Cooperation, Saguaro Lake, AZ, February 17 – 18, 2017

Fitness interdependence



ANIMAL BEHAVIOUR, 2005, 70, 901–908
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Cooperation through interdependence

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Fitness interdependence

(a) Hamilton's Rule: $rb - c > 0$

(b) Robert's Stakeholder Model: $sb - c > 0$

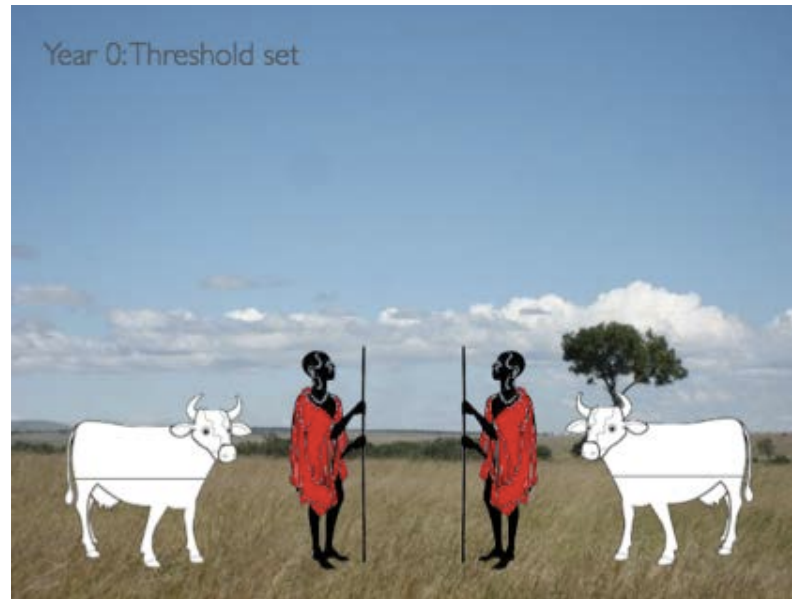
Where s = the altruist's stake in the welfare of the recipient

Fitness interdependence: How it arises

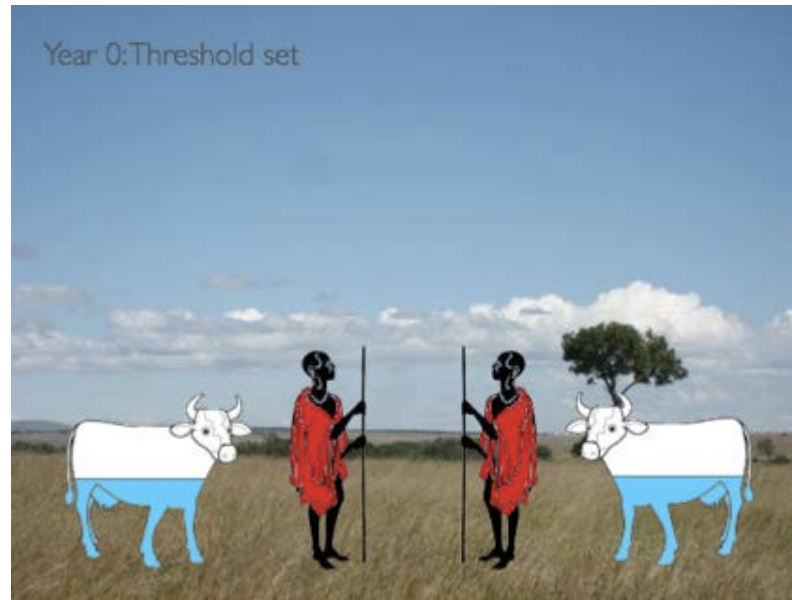
- Genetic relatedness (shared ancestors)
- Mating and marriage (shared descendants)
- Dependence on same parents or other caregivers (e.g., alloparents)
- Sharing of resources, mutual aid
- Membership in the same corporate descent group
- Membership in same religious group
- Warfare and other forms of intergroup conflict

Oсотua: A special term for fitness interdependence arising from the pooling of risk

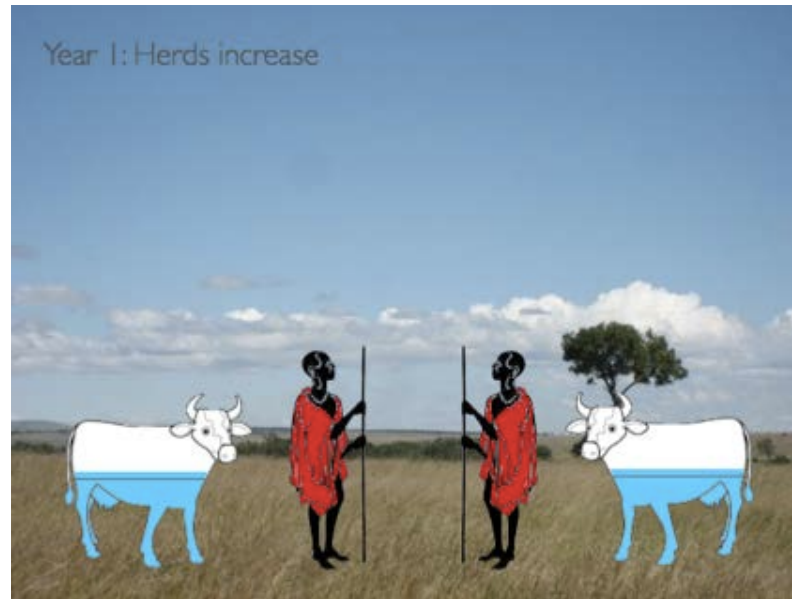
Oсотua in action



Oсотua in action



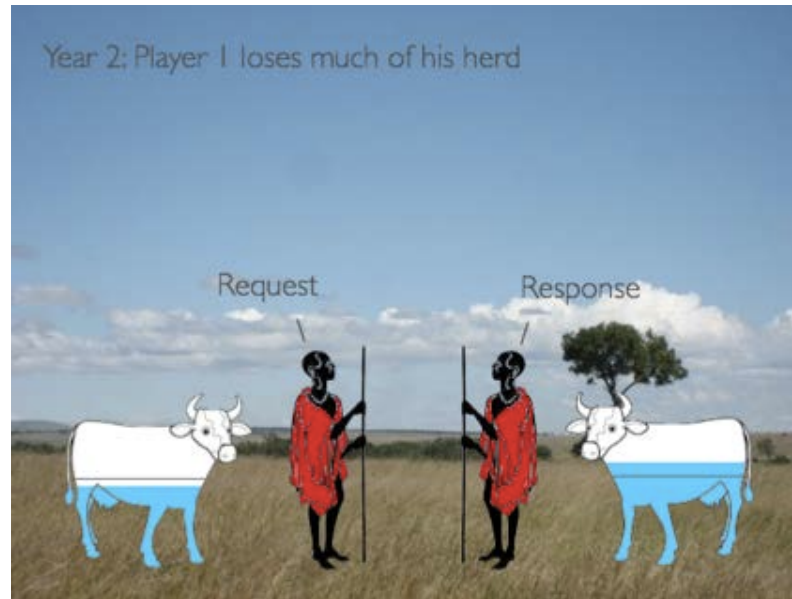
Oсотua in action



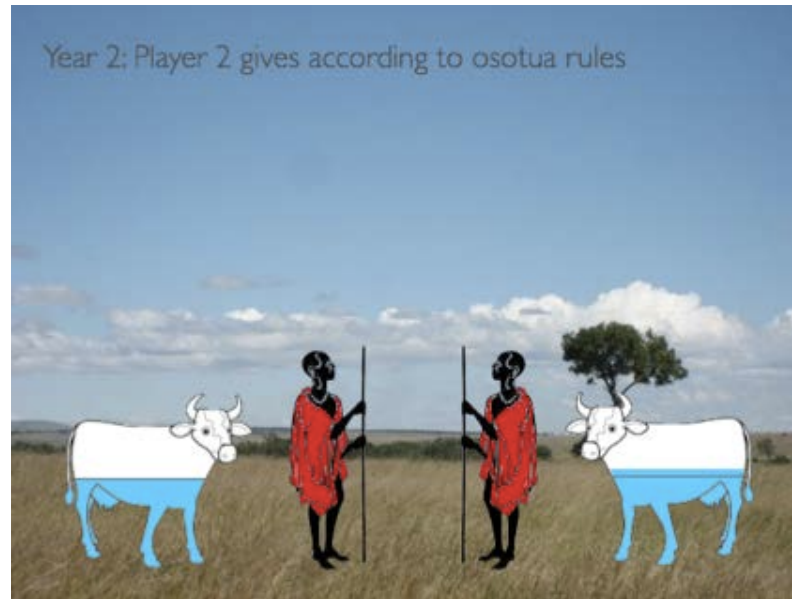
Oсотua in action



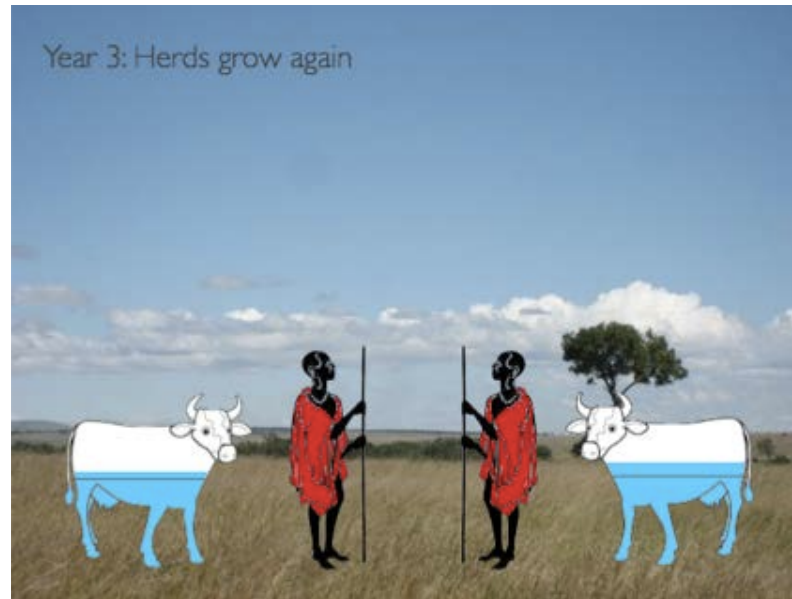
Oсотua in action



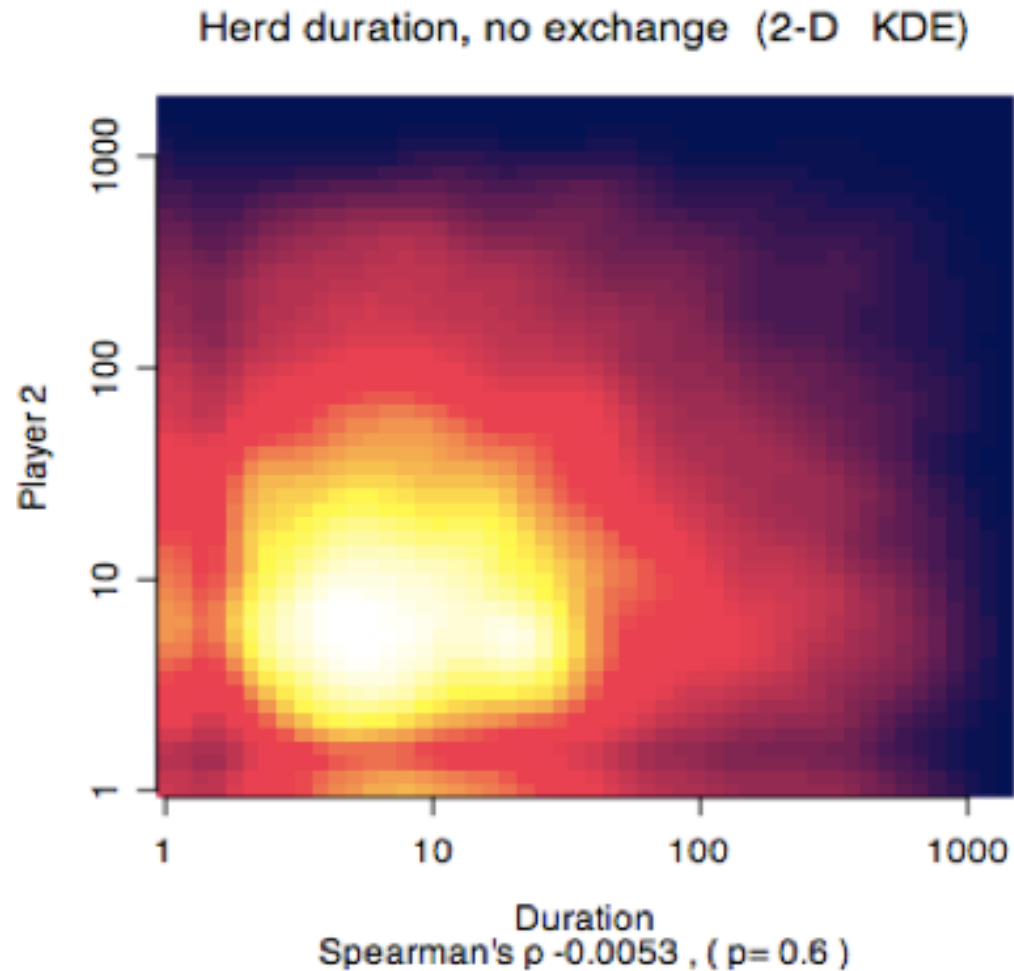
Oсотua in action



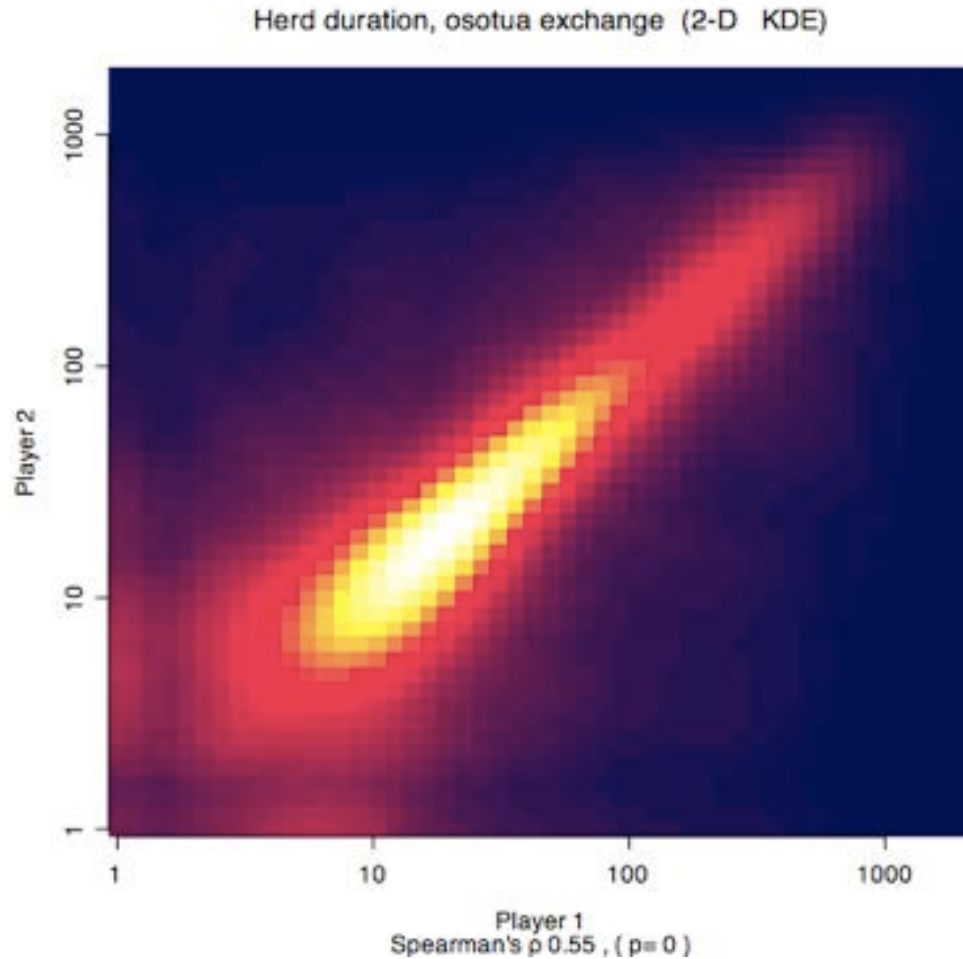
Oсотua in action

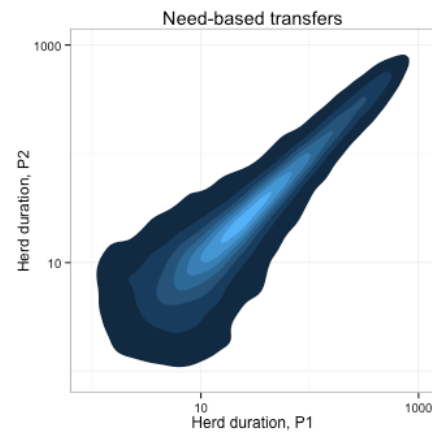
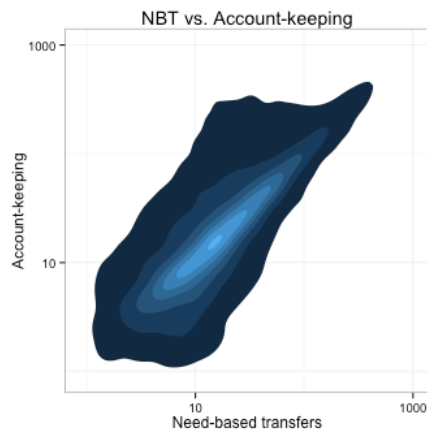
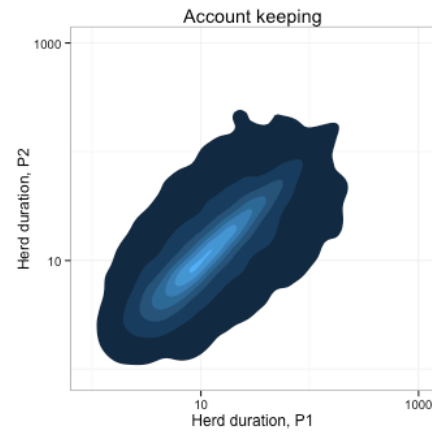
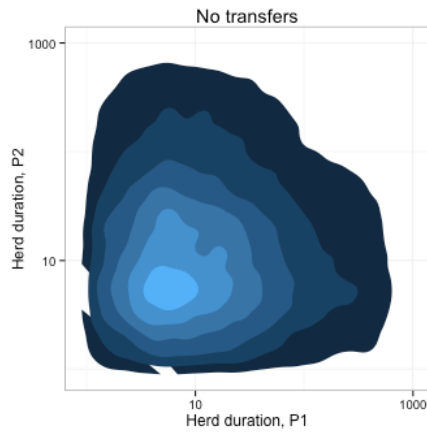


Herd duration: no transfers



Herd duration: osotua transfers





Three types of transfers

| Name | Definition | Adaptive logic | Proximate mechanisms | Examples |
|-------------------|---|---|---|--|
| Need-based | Transfers to those in need | Best for risk-pooling when future is uncertain | Love, empathy, intrinsic valuation of another person | <i>Osotua</i> and other risk-pooling systems |
| Debt-based | Transfers that must be repaid | Adaptive when timing of needs is predictable and alternates between parties | Economic calculation, extrinsic valuation of another person | Favor swapping, bank loans, Maasai <i>esile</i> system, trading work among ranchers |
| Bond-based | Transfers that serve to establish or maintain relationships | Signal of commitment | Desire to establish or maintain a relationship | Gifts between Maasai <i>isirito</i> friends, small gifts between <i>hxaro</i> partners |

A bit more on bond-based transfers

People Are More Generous to a Partner Who Pays Attention to Them

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A bit more on bond-based transfers

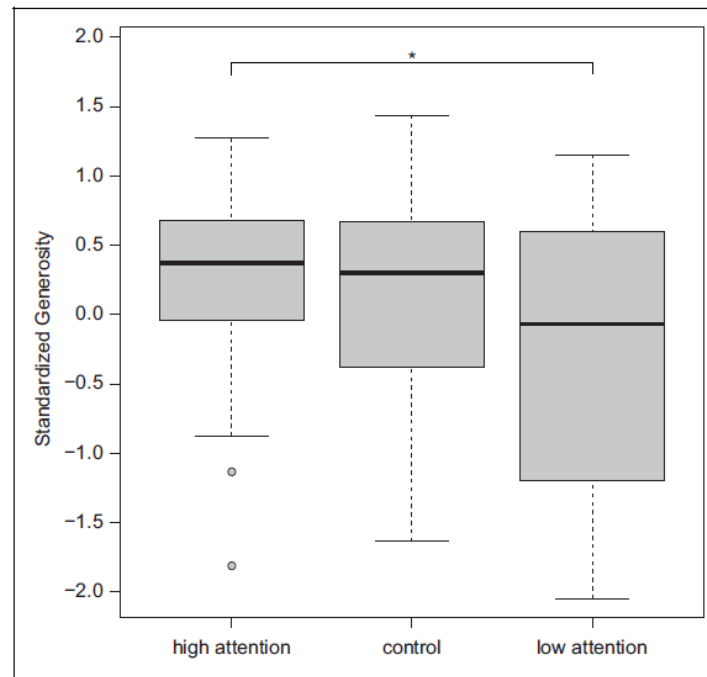


Figure 3. Mean generosity as a function of partner attention ($*p < .05$). The allocated amounts of the three dictator games were transformed to z-scores within each game. The three z-scores were aggregated within each participant to obtain a single generosity score.

**Synchronous
needs**

Few or no transfers

**Asynchronous
needs**

Need-based transfers

Debt-based transfers

Bond-based transfers

**Needs with unpredictable
timing**

**Needs with predictable
timing**

Acknowledgments



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