disposed towards moral sensibility" (Howell 1997, p. 10). From this, it follows that once someone becomes aware of misfortune or an injustice, an ethical imperative will arise to do something to alleviate the suffering of others. This imperative, Haskell points out, stimulates us to mitigate another's suffering not only for their benefit, but also for the benefit of ourselves. In effect, altruism has cognitive and emotional bases that result in a kind of "empathic motivation"(Monroe 1996, p. 13).

The Smith-Haskell hypothesis suggests that the rise of a worldwide market system would result in the formation of a new cognitive framework in which individuals perceive themselves in relation to society. From this it would follow that people can no longer lightly disregard social injustices and other forms of human suffering. In effect, people are pushed "over the threshold from separating passive sympathy to being engaged in some form of humane action" (Haskell 1985, p. 556). Individuals now want to do something about the suffering of others which had previously aroused no more than passive sympathy (Haskell 1985, p. 853). The hypothesis is consistent with recent studies of consumerism that routinely point out the relationship between the market and increased consumer choice and personal freedom. These studies suggest that the more dynamic a market system, the greater the interconnectiveness individuals have with one another. It is also consistent with the writings of Charles Taylor (1964; 1992) who argues that the growth of capitalism brought with it an increased value of individualism and a corresponding emphasis on greater personal responsibility and, thus, indirectly, voluntaristic action.

The more fully integrated or interdependant a community is within the global economy, the greater the willingness for individuals to enter into cooperative arrangements, as well as to feel a heightened sense of responsibility to alleviate the misfortune and suffering of others. On the other hand, communities less linked to a national or global economy are likely to have a weakly internalized set of social values such as justice and altruism (Humphrey 1996, p. 33). To date, there are only two studies (Haskell 1985; Jankowiak 2004) that have applied Smith's insights in an effort to account for the shift in social and moral consciousness as it pertains to 17th century Europe and contemporary urban China. Thanks to this pioneering research program, there is now data from fifteen other societies that lend further support to the Smith-Haskell hypothesis. This original contribution to knowledge has enormous implications for refining our existing theories of cooperation, moral empthy, and altruism.

## How do cultural variations emerge from universal mechanisms?

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**Abstract:** Diverse cultural norms governing economic behavior might emerge from a dynamic interaction of universal but flexible predispositions that get calibrated to biologically meaningful features of the local social and physical ecology. This impressive cross-cultural effort could better elucidate such gene-culture interactions by incorporating theory-driven experimental manipulations (e.g., comparing kin and non-kin exchanges), as well as analyses of mediating cognitive processes.

For decades, psychologists attributed behaviors to "Western culture," without bothering to check a single non-Western society. For example, the mutual attraction between powerful older males and attractive younger females was regularly blamed on the cultural norms of American society, but actual cross-cultural research instead revealed this sex discrepancy to be stronger in non-Western societies (Kenrick & Keefe 1992; Kenrick & Li 2000). In recent years, cultural psychologists actually do make comparisons, though commonly between only two cultures at a time. Anthropologists have traditionally focused on single cultures, often using research methods subject to interpretative bias. Henrich et al.'s project, involving simultaneous examination of several cultures using relatively rigorous methods, promises clearer insights about what varies across cultures, what does not, and why. We offer suggestions for empirical and theoretical enhancements that could yield a clearer picture of who exactly this "economic man" is.

***Experimental variations could elucidate the culture-evolution interface.*** By administering a constant set of controlled methods, Henrich et al. worked to increase the validity of their cross-cultural comparisons. But to understand the interacting ultimate and proximate causes of individual game behavior, more than correlational analysis is required. The reported research could have better elucidated underlying psychological processes by incorporating key elements of experimental methodology – manipulating relevant independent variables and exploring mediating cognitive processes. Obvious candidates for experimental manipulations follow from the authors' general commitment to a co-evolutionary view of gene-culture interaction. For instance, numerous evolution-based studies of animals, including Homo sapiens, support the broad assumption that organisms evolve mechanisms that maximize the success of kin (Alcock 2001; Lahamet al. 2005; Smith et al. 1987). Inclusive fitness considerations have direct implications for game theory analyses of human behavior, as illustrated in Figure 1.

In several studies conducted by ourselves and our colleagues, participants were exposed to simple dilemma-type games with coplayers who were either anonymous strangers (as in the typical game), friends, or biological relatives. Participants are reliably more generous and cooperative with relatives than with strangers (treating friends somewhere in between) (Ackerman et al. 2003; Ledlow & Linder 2003).

We presume that people everywhere have similar psychological mechanisms governing the way they treat kin, and yet another set of similar mechanisms for interacting with strangers. We also presume that people in traditional societies (often labeled "collectivist") have more regular and expected interactions with kin, whereas modern urbanites have more individualized interactions with strangers. This raises interesting questions about the cognitive processes underlying the relative selfishness of Quichua and Machiguenga participants compared to Americans. We would have expected that people living in small villages, who commonly interact with kin, would be the most generous in economic games. Their selfishness would make more sense if they believed they were playing against a member of a different group. For example, if random pairings of Quichua and Achuar participants meant individuals often thought they were making offers to members of another tribe, that would explain the relative selfishness of Quichua (although not the comparatively more generous behavior of

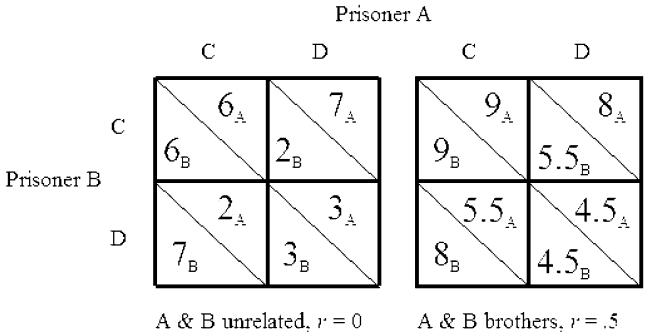



Figure 1 (Kenrick & Sundie). Cooperation becomes the dominant strategy in a variant of the traditional prisoner's dilemma where, considering inclusive fitness, the payoffs for each player are recalculated to be his own plus half of his brother's (Kenrick & Sundie, in press).



https://doi.org/10.1017/S0140525X05340143 Published online by Cambridge University Press

Achuar). These apparently puzzling results could be clarified with experimental studies systematically manipulating recipient relationship, along with closer examinations of mediating cognitive processes (what goes on in the minds of relatively selfish vs. generous players within each group).

***Interactionist models: Blank slate or coloring book?*** We believe many interesting "cultural variations" are simply dynamic outcomes of relatively universal multi-setting mechanisms calibrated to local social and physical ecologies. For example, humans everywhere have similar psychological mechanisms controlling mating (such as capacity for romantic love, attachment, and jealousy triggered by particular social stimuli). Whether a culture is relatively monogamous, polygynous, or polyandrous, however, is partly a function of features of the social and physical environment (such as resource distribution and sex ratios) (Crook & Crook 1988; Kenrick et al. 2003b). Even culinary preferences, formerly considered a function of "purely cultural" factors, may emerge from fundamental psychological mechanisms interacting with local ecological factors (Sherman & Hash 2001).

Our guess is that economic behaviors likewise emerge from a set of basic human psychological mechanisms involving fairness and resource distribution, constrained in different ways by kinship, age, status, and other biologically meaningful variables (Fiske 1992; Sugiyama et al. 2002). Evolutionary theorists generally presume that few cultural differences are attributable to genetic differences between groups (consider how second generation immigrants favor the cultural norms of their parents' adopted country rather than the ancestral land). Cultural theorists, however, are often a bit quick to interpret such phenomena as favoring a blank slate view, in which more or less anything is possible. Henrich et al. present their findings in a manner suggesting that evolved predispositions and cultural factors operate independently (one part the general human tendency not to be completely selfish, and one part learning the local norms).

Economic decisions may indeed be one part universal added to one part free-ranging culture. But the more interesting possibility involves true interaction – with universal mechanisms calibrating themselves to local ecological conditions. Exactly how these interactions unfold requires more of this truly cross-cultural comparison, in combination with experimental manipulations to elucidate underlying processes. We believe such investigations will not reveal many parts of the slate to be blank, or to be pre-painted in the genes (Kenrick et al. 2003a). Instead, interactions between genes and culture are better conceptualized as a coloring book, with distinctly drawn lines directing experience in different domains, but particular palettes chosen to complement the locally popular behavioral hues.

## Let's add some psychology (and maybe even some evolution) to the mix

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**http://psych.mcmaster.ca/dalywilson/martin.html**
**http://psych.mcmaster.ca/dalywilson/toko.html**
**http://www.gregdingle.com/research**
**http://psych.mcmaster.ca/dalywilson/margo.html**

**Abstract:** Henrich et al.'s nice cross-cultural experiments would benefit from models that specify the decision rules that humans use and the specific developmental pathways that allow cooperative norms to be internalized. Such models could help researchers to design further experiments to examine human social adaptations. We must also test whether the "same" experiments measure similar constructs in each culture, using additional methods and measures.

The work that Henrich et al. report is impressive in its cross-cultural scope and fascinating in detail. Any experimental economist implicitly operating on the premise that American undergraduates are representative of humankind must feel chastened. To some extent, this is *déjà vu* for psychologists, who have repeatedly seen cross-cultural studies complicate simple views of human nature, but the ecological reasons for cultural diversity have less frequently been explored (e.g., Gangestad & Buss 1993; Low 1990; Sherman & Hash 2001), as Henrich et al. do in their regressions (target article, Fig. 5) and case-specific ethnographic accounts (sect. 8).

As much as we appreciate their research, however, we have some qualms about the ways in which the authors interpret it. First, as Henrich et al. note, the Ultimatum Game had already debunked Homo economicus before anyone took it overseas, and yet by bashing a "selfishness axiom" that is a straw man, they may mislead readers into thinking that the proposition that motives are "ultimately" (functionally) selfish has also taken a beating. It has not. People may very well possess sincere preferences for fairness, magnanimity, and adherence to local norms, but whether such preferences have evolved because they helped our ancestors reap reputational or other long-term benefits of cooperation is a distinct question that these studies do not address. The authors apparently believe their results speak to such evolutionary issues, since the target article's concluding discussion begins and ends with repeated references to evolution, but we looked in vain for specifics about how "culture-gene coevolutionary theory" (or indeed *any* brand of evolutionizing) either informs this research or points the way forward.

The authors analyze both cross-cultural and within-society sources of variance, but leave readers wanting the two levels better integrated. Henrich et al. recognize the need for psychological theories of learning, framing effects, and various motives or preferences, in order to account for diversity at both levels, but in our view, their discussion of such psychological phenomena still lacks the specificity needed to develop testable hypotheses for future research. To their credit, they cleverly address whether risk or ambiguity aversion might explain certain results, but only within the constraints of modeling people as rational maximizers, which is arguably a non-starter. A complete account will eventually include an explanation of how the generic human mind (even if such a thing exists only in infancy) responds to environmental contingencies, and what the specific developmental pathways might be that translate ecological and societal variability into behavioral variability. For example, cross-culturally general cognitive and emotional responses may lead people to act cooperatively to the extent that they expect others to do likewise (Price 2005), with learning processes tailoring a person's cooperativeness to what is locally adaptive or reinforced. We look forward to a model that details the specific processes by which this might occur.

Over a quarter century ago, Pruitt and Kimmel (1977) complained that the field of experimental gaming, with over 1000 studies already published, was a "method bound approach, lacking in theory and with little concern for external validity" (p. 363). Are these complaints still relevant? The ecological validity issue is answered, at least in part, by Henrich et al.'s successful efforts to find predictors of game play in real world social phenomena (Fig. 5 of the target article), but the accusations of being method bound and short on theory are a little harder to shake. Are the Ultimatum, Public Goods, and Dictator Games being used in cross-cultural research because they are experimental tools that are well designed to illuminate the psychology of cooperation, or because there is already a literature on them? And is there still a paucity of theory?

Drawing psychological inferences from an experimental simulation of an isolated component of social reality is always tricky, but


https://doi.org/10.1017/S0140525X05340143 Published online by Cambridge University Press