Building Connections in an Uncertain World  
Willemien Kets, Tilburg University (W.Kets@uvt.nl)  
BDG • Monday, July 16, 2007 • 3:30 p.m. • Noyce Conference Room

This paper examines the costs and benefits of diversity. When the state of the world is uncertain and individuals only have an imperfect signal of the state, they can pool their information to improve their knowledge of the state. While information of those with disparate information may be especially valuable, communication among individuals with different views of the world may be harder than among those with similar views.

Cultural Emergence in Game Ensembles: An Experimental Study  
Jenna Bednar, University of Michigan (jbednar@umich.edu)  
BDG • Tuesday, July 17, 2007 • 3:30 p.m. • Noyce Conference Room

In this paper we describe laboratory experiments that produce behavioral spillovers across strategic contexts. In these experiments subjects play two distinct games simultaneously with different opponents. We find that behavior is highly context dependent: when games are paired in ensembles, play differs from the isolated controls. Behavior is also influenced by which other game composes the ensemble, and in predicted ways. These results suggest that people do not treat each strategic situation in isolation but instead construct common strategies that work across both games. Such behavior we can interpret as cultural—as influenced by the larger context which embeds a strategic situation. Furthermore, the fact that these behavioral spillovers are induced by incentives provides evidence that institutions can affect culture. The findings imply that the effect of a particular institution on behavior depends upon the full institutional context.

Social Exclusion and Cooperation  
Juan Camilo Cardenas, Universidad de los Andes (jccarden@uniandes.edu.co)  
BDG • Wednesday, July 18, 2007 • 3:30 p.m. • Noyce Conference Room

This is the 6 Latin American cities project. I have now data from some 3,000 citizens in the 6 cities (representative samples by education, age, education, income groups). The data includes games on trust, cooperation, risk behavior and risk-pooling. There are some interesting findings regarding the effect of "social distance" measured as education achievements and the reduction of trust. There are statistical challenges from the data that would be interesting to share with the group (e.g., city and session effects); also, how good were these
anonymous citizens at predicting the fraction of cooperators just by looking around the room and hearing the basic demographics of the group.

A General Mathematical Theory of Behavioral and Aggregate Discounting
Robert L. Axtell, George Mason University (raxtex@gmu.edu)
and Gregory J. McRae, MIT (mcrae@mit.edu)
BDG • Monday, July 23, 2007 • 3:30 p.m. • Medium Conference Room

A mathematical formalism is developed for the existence of unique invariants associated with wide classes of observed discounting behavior. These invariants are exponential discount rate spectra, derived from the theory of completely monotone functions. Exponential discounting, the empirically important case of hyperbolic discounting, and so-called sub-additive discounting are each special cases of the general theory. This formalism is interpreted at both the individual and social levels. Almost every discount rate spectrum yields a discount function that is hyperbolic with respect to some exponential. Such hyperbolic discount functions may not be integrable, and the implications of non-integrability for intertemporal valuation are assessed. In general, non-stationary spectra lead to discount functions that are not completely monotone. The same is true of discount rate spectra that are not proper measures. This formalism unifies theories of non-constant discounting, declining discount rates, gamma discounting, and related notions.

Economic Exchange under Sexual Selection
Paul Seabright, Universite de Toulouse (seabrigh@cict.fr)
Seminar • Tuesday, July 24, 2007 • 12:15 p.m. • Medium Conference Room

In most animal species sexual selection arises from the relative scarcity of female gametes to male gametes, and is associated with the evolution of traits favoring either contests of strength between males or display to females. Females mate with those males that can demonstrate the highest quality genes, and male investment is uniquely in gene quality and signals of gene quality. In a few species including human beings, males can compensate for lower genetic quality by offering scarce economic resources to females in exchange for mating opportunities, and as a result males invest in the ability to accumulate economic resources for exchange even at the expense of the quality of their genes, and even though in equilibrium females do not interpret higher economic resources as signals of higher gene quality. This paper develops a model of investment allocation between economic and genetic resources and shows how the matching process between males and females determines an equilibrium “price of mating” as well as an endogeneous degree of polygamy, both of which are increasing in the productivity of economic investment. The model demonstrates a sense in which males can be said to specialize in controlling scarce economic resources as a response to their relative underendowment of scarce genetic resources.
Choosing Gambles in Utero

Anna Dreber, Stockholm School of Economics (Anna.Dreber@hhs.se)

BDG • Wednesday, July 25, 2007 • 3:30 p.m. • Medium Conference Room

Most decisions are made under conditions of uncertainty. Thus, risk preferences are important to decisions, ranging from foraging to stock picking. Consequently, risk preferences are one of the most crucial parameters in economics and everyday life. Nevertheless, little is known about the determinants. Using a laboratory measure previously validated by economists, we show that risk aversion positively correlates with 2D:4D – the ratio between the length of the 2nd (index) finger and the 4th (ring) finger. This is a biological measure that is thought to positively correlate with prenatal estrogen and negatively correlate with prenatal testosterone and is fixed early in life. Our findings are the first to indicate that an important economic preference is partially predetermined. These results also suggest that prenatal hormones influence risk preferences 20 odd years later. Thus, before the language one speaks is determined, one's stock portfolio is already taking shape.

Larger Group can Alleviate Collective Action Problem

Sung-Ha Hwang, University of Massachusetts Amherst
(sungha@econs.umass.edu)

BDG • Thursday, July 26, 2007 • 12:15 p.m. • Medium Conference Room

This paper shows how larger group can enhance punishing behavior in the collection action. The main idea is that if cheater behaves individually and punisher does collectively in the punishing process, then Lanchester N-square law can be applied to the punishing process and the smaller number of punisher can successfully eliminate cheaters as the size of group become larger.

Animal Personalities

Sander van Doorn (vandoorn@santafe.edu)

BDG • Monday, August 6, 2007 • 12.15 p.m. • Medium Conference Room

In recent years evidence has been accumulating that personalities are not only found in humans but also in a wide range of other animal species. Individuals differ consistently in their behavioral tendencies and the behavior in one context is correlated with the behavior in multiple other contexts. The existence of animal personalities (also termed behavioral syndromes, coping styles or temperaments) provides an intriguing challenge to the adaptationist programme in behavioral research. It focuses the attention on limited (less than optimal) behavioral plasticity and behavioral carryovers across situations, as opposed to optimal flexibility in each isolated situation. Personalities often seem to result from constraints imposed by the architecture of behavior, but that observation certainly does not tell the full story: selection experiments and comparative studies indicate that the constraints on behavior are flexible and subject to evolution. In this presentation, I would therefore like to explore potential adaptive
explanations for animal personalities. I will present ideas that may explain variation in the willingness to take risks, and variation in responsiveness to environmental cues, which represent two personality dimensions that have received considerable attention from behavioral biologists.

**Microfinance Lifespans: A Study of Attrition and Exclusion in Self-Help Groups in India**

*Rohini Somanathan*, Delhi School of Economics (rohini@econdse.org)

BDG • Wednesday, August 8, 2007 • 3:30 p.m. • Medium Conference Room

We explore changes in the composition of *Self-Help Groups*, the dominant institutional form within the microcredit sector in India. We study member attrition and group failure in two rural and relatively poor areas of the country: the districts of Keonjhar and Mayurbhanj in northern Orissa and Raigarh in Chattisgarh. We survey all the SHGs created by PRADAN in these areas and find that of a total of over a thousand groups created over the period 1998-2006, about 10% were no longer active by the end of this period and 14% of women left groups while they were still functioning. All, 23% of members in our data are no longer in the group that they are first observed and 20% are no longer part of a SHG network. We estimate duration models of group and member survival. The most important determinant of group survival appears to be the availability of some educated members, perhaps due to their resulting ability to manage accounts and provide leadership in other aspects of group functioning. Member departures from existing groups on the other hand depend much more heavily on social interactions within groups and the extent to which members are related by family ties, to other group members. The most socially disadvantage communities are particularly vulnerable to these effects of group heterogeneity and cohesion.

**Why We Grow Large and then Grow Old: Economics, Biology and Mortality**

*Hillard Kaplan* (hkaplan@unm.edu) and *Arthur Robson* (robson@sfu.ca)

Colloquium • Thursday, August 9, 2007 • 3:30 p.m. • Noyce Conference Room

We present an economic theory of human life history that solves two important related problems in the evolutionary theory of aging. First, the theory accounts not only for a phase of increasing mortality late in life, but also for a phase of decreasing mortality early in life. Second, it accounts for extended survival after reproduction has ceased. The model features both the quantity and the quality of somatic capital, where it is optimal to initially build up quantity, but then to allow quality to deteriorate. It also incorporates a budget constraint that reflects intergenerational transfers.
Peaceable Kingdoms and War Zones: Preemption, Ballistics and Murder in Newark

Rajiv Sethi, Columbia University (rs328@columbia.edu)
Seminar • Friday, August 10, 2007 • 12:15 p.m. • Medium Conference Room

Between 2000 and 2006 the murder rate in Newark doubled while the national rate remained essentially constant. Newark now has eight times as many murders per capita than the nation as a whole. Furthermore, the increase in murders came about through an increase in lethality: total gun discharges rose much more slowly than the likelihood of death per shooting. In order to explain these trends we develop a theoretical model of murder in which preemptive killing and weapon choice play a central role. Strategic complementarity amplifies changes in fundamentals, so areas with high murder rates (war zones) respond much more strongly to changes in fundamentals than those with low murder rates (peaceable kingdoms). In Newark, the changes in fundamentals that set off the spiral were a collapsing arrest rate (and probably a falling conviction rate), a reduction in prisoners, and a shrinking police force.

Cooperation In Large Networks: An Experimental Approach

Juan Camilo Cardenas

We present a new design of a simple public goods experiment with a large number of players, where up to 80 people in a computer lab have the possibility to connect with others in the room to induce more cooperators to contribute to the public good and overcome the social dilemma. This experimental design explores the possibility of social networks to be used and institutional devices to create the same behavioral responses we observe with small groups (e.g., commitments, social norms, reciprocity, trust, shame, guilt) that seem to induce cooperative behavior in the private provision of public goods. The results of our experiment suggest that the structure of the network affects not only the players’ ability to communicate, but their willingness to do so as well. Finally, we find that the local connectivity structure of the network has an important role as determinant of the willingness of the players to engage in a more costly type of collective action, namely the endogenous creation of new links to individuals previously out of reach.

Dynamics of Rules in Common-Pool Resources.

Juan Camilo Cardenas

We just finished the field work on this project and we have now data from 3 games (forestry, irrigation and fisheries) conducted in the 3 different villages that live mostly from one of these resources. These were conducted both in Thailand and Colombia. I may have for next week some preliminary results on the question of whether the kind of game and/or type of resource might affect the way each village plays the game, along with other results regarding the compliance and preferences over different types of external rules.
Experiments with Public Officials on Pro-sociality
Juan Camilo Cardenas (with Rajiv Sethi)

We will have regression results on what attributes and characteristics of both the public officials and the poor seem to determine how the former rank the latter for receiving help. We presented some preliminary results last year.

The Size of the Pie Matters, Not Just How You Slice It
Anna Dreber

Third party punishment has been proposed as a tool to test social norms. We explore third party responses to changes in the setup of a Dictator game. We start with the standard Dictator game, but we allow the third party to both reward or punish the dictator in different scenarios. We then look at other variations of the game in which we vary the number of receivers \((n=1, 2\text{ or } 8)\) and/or the size of the pie (using a allocation multiplier). Neither efficiency concerns nor inequity aversion alone can explain our results, contradicting previous work on this subject. This suggests complicated interactions between efficiency, equity and the number of receivers, with an asymmetry weighting response to greediness more than to generosity.

The Evolution of Nobility
Anna Dreber

We examine a hitherto unexplored aspect of intergenerational transmission of economic status, namely hereditary nobility and its valuation in the marriage market. Using data on Swedish marriages 1985-2004 we test the hypothesis that nobility have a greater probability of marrying “up” in terms of wealth. Our main finding is a sizeable and statistically significant positive effect for nobility, robust to a number of model specifications. Our results indicate that preferences, and especially mate preferences, depend on both perceived status and the consumption of material goods. While positive assortative mating in education, income and wealth in the Swedish marriage market has been found to have increased over the same time period, we find that the relative frequency of homogamous marriages among the nobility has been steadily declining.

Homo economicus
Carlos Rodriguez-Sickert

The *Homo economicus* or Economic man is an individual that acts so as to maximize his well being given the constraints he faces. The *Homo economicus* is the prevalent model of human behavior among economists, but has permeated other social sciences through the so-called rational choice theory. The essay discusses the historical antecedents of this account of human behavior, the characterization of the model grounded on this abstraction; criticisms, both
internal (within the economic discipline) and those coming from other social sciences criticism coming within the discipline and external. The essay concludes with final thoughts on the prospects of *Homo economicus* within economics in particular and social sciences in general (entry for the *Handbook of Economics & Ethics*, Edward Elgar).

**Adaptive Dynamics**  
*Sander van Doorn*

Adaptive dynamics theory offers versatile tools to study the evolution of traits subject to frequency-dependent selection. Adaptive dynamics can be seen as an extension of evolutionary game theory. It differs from evolutionary game theory in two aspects. First, fitness is not defined in terms of fixed payoffs associated with particular outcomes of a game, but derived from ecological or population dynamical principles, and, second, apart from evolutionary stability, also the dynamical stability or attainability of strategies is taken into consideration. The primary focus of the adaptive dynamics program is on evolutionary biology. Yet, several results of adaptive dynamics theory are of relevance to those who apply game theory in their research. For example, adaptive dynamics theory provides insights in the relationships between different stability concepts, and reveals that the fitness functions obtained from standard game-theoretical analyses are mathematically degenerate.