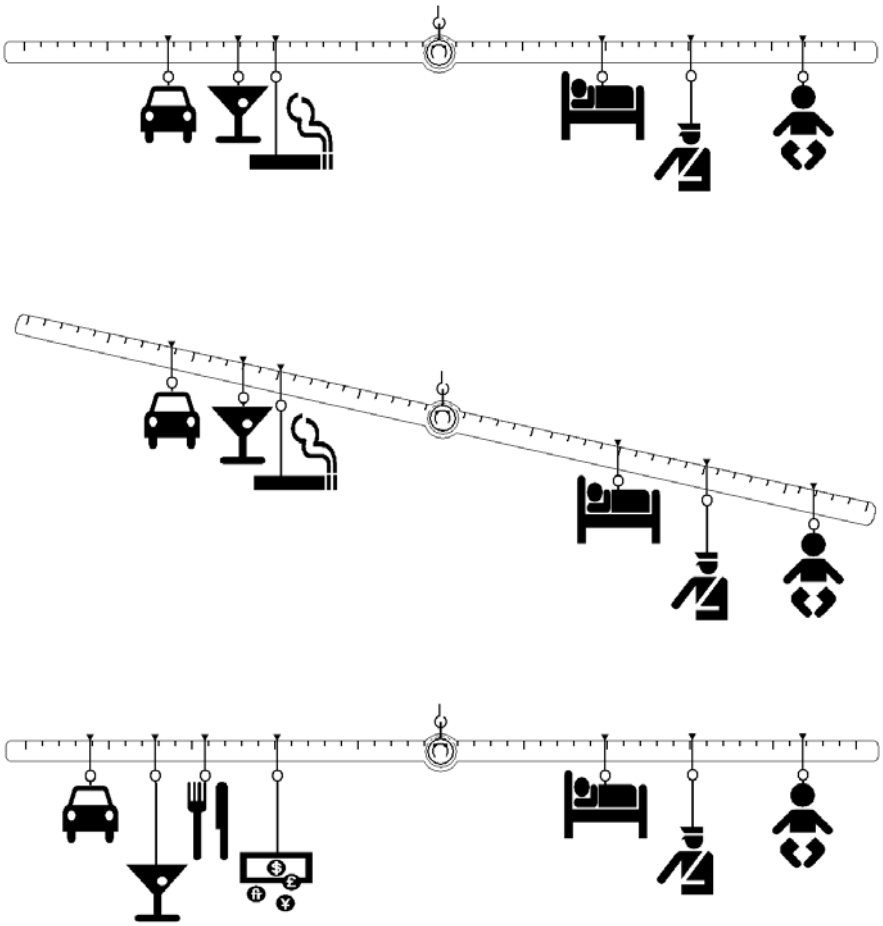
Models of Preference Change

Workshop, Freie Universität Berlin

14.-15. September 2006



Organisers

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Abstract

Preference change is an important topic in political philosophy, economics, psychology and decision theory. It poses a major problem for action explanation, since without the understanding of how long preferences remain stable, or of how they change after a certain period, any preference explanation is open to ad hoc modifications. It further poses a problem for normative purposes, since without an understanding of how preferences remain stable or how they change, the normative relevance of present preferences for future consequences cannot be determined.

Despite this obvious importance of preference change, we find that it is treated more as a phantom than as a phenomenon: it is often mentioned to motivate theoretical arguments, but it is hardly ever the subject of systematic research itself. In this workshop, we hope to begin mending this theoretical deficit. We will convene experts from philosophy, economics and psychology to debate and compare the different approaches that have been made in modelling preference change. In particular, we want to facilitate an interdisciplinary exchange, where philosophical theories of rational decision, economic techniques of modelling behaviour and psychological empirical research inform each other – while maintaining a clear focus on the philosophical issues of these different approaches, and the way they interpret the empirical evidence.

Workshop Address

Hauptgebäude der Freien Universität (so -called „Rost- und Silberlaube“)
Freie Universität Berlin
Habelschwerdter Allee 45
14195 Berlin

closest underground:
U-Bahnhof Thielplatz

Programm

Day 1: Thursday 14.9

14.15-14.30	***Welcome***
14.30-15.30	**Richard Bradley** London School of Economics *Representing Preference Change*
15.30-16.30	**George Loewenstein** Carnegie Mellon University *The Role Of Affect And Deliberation In Preference Change*
16.30-17.00	***Coffee Break***
17.00-18.00	**Till Grüne-Yanoff and Sven Ove Hansson** Royal Institute Of Technology, Stockholm *An Input-Assimilating Model Of Preference Change*
18.00-19.00	**Wlodek Rabinowicz** Lund University *Preference Revision And Utilitarianism*
20.00	***Dinner***

Day 2: Friday 15.9

9.15-10.15	**Luc Bovens** London School of Economics *Changing Mental States at Will*
10.15-11.15	**Wolfgang Spohn** Universität Konstanz *Dynamic Choice Problems Require Second-Order Evaluations*
11.15-11.45	***Coffee Break***
11.45-12.45	**Hans Rott** Universität Regensburg *Belief Change As Preference Change: Bounded Revision*
12.45-14.00	***Lunch Break***

14.00-15.00	**Werner Güth** Max Planck Institute Of Economics, Jena *Population-Dependent Costs Of Detecting Trustworthiness - An Indirect Evolutionary Analysis*
15.00-16.00	**Rainer Hegselmann** Universität Bayreuth *From Opinion Dynamics To Preference Dynamics*
16.00-16.30	***Coffee Break***
16.30-17.30	**Klaus Mainzer** Universität Augsburg *Preferences, Computer, And Cognition. Decisions In A Complex World*
17.30-18.30	**Robert Sugden** University Of East Anglia *Opportunity And Responsibility: Why Preference Change Need Not Be A Problem For Normative Economics*

Paper Abstracts

CHANGING MENTAL STATES AT WILL

Luc Bovens, London School of Economics

A common strategy to bring about a change in one's own beliefs, moral judgments or desires is to act ***as if*** one already had the projected beliefs, moral judgments or desires. There is a curious asymmetry between intentionally changing one's beliefs and moral judgments on the one hand and intentionally changing one's desires on the other hand in that the former phenomenon typically meets with qualms whereas the latter does not. I provide an explanation of this asymmetry by laying out the different role that ***as if*** actions play within the respective phenomena.

REPRESENTING PREFERENCE CHANGE

Richard Bradley, London School of Economics

Gary Becker famously characterised the economic method as "… the combined assumptions of maximising behaviour, market equilibrium and stable preferences, used relentlessly and unflinchingly". But Becker's commitment is not to the (false) empirical claim that *all* preferences are stable, but rather to the methodological doctrine that all changes in agents' revealed preferences can be represented as consequences of fixed tastes interacting with variable information. In this paper, I examine versions of this claim, formulated within an idealised model of rational agency. I give sufficient conditions for its truth in terms of the standard characteristics of Bayesian conditioning, but argue that these conditions are not universal. Finally I consider the prospects for a theory of preference revision freed from the Becker doctrine.

AN INPUT-ASSIMILATING MODEL OF PREFERENCE CHANGE

Till Grüne-Yanoff and Sven Ove Hansson, Royal Institute of Technology, Stockholm

We propose to model preference change as the change of an agent's preference state in response to the agent accepting a preference affect. The preference state of an agent is ruled by various inferential commitments. Accepting a preference affect will likely bring the preference state into inconsistency. The model shows how the preference state needs to be adjusted to restore consistency. In particular, it shows which path restoration will take, conditional on the previous preference state and the available dynamic information, and it determines how the ensuing preference state will look like.

POPULATION-DEPENDENT COSTS OF DETECTING TRUSTWORTHINESS - AN INDIRECT EVOLUTIONARY ANALYSIS

Werner Gueth, Max Planck Institute of Economics, Jena

If the (un)trustworthy are rare, people will talk about them, making their detection more reliable and/or less costly. When, however, both types appear in large numbers, detecting (un)trustworthiness will be considerably more difficult and possibly too costly. Based on Güth

and Kliemt (2000), we analyze how the composition of a population of trustworthy, resp. untrustworthy individuals evolves if the cost and reliability of type detection depend on the population composition.

FROM OPINION DYNAMICS TO PREFERENCE DYNAMICS

Rainer Hegselmann, Universität Bayreuth

In the last decade theoretical research on the dynamics of opinions has dramatically intensified. It was modelled and studied how individuals influence each other by interaction and opinion exchange. Important questions are: When does opinion formation within an interacting group lead to consensus, polarization or fragmentation? As to the research methodology and heuristics used in that research the keywords are: Agent based modelling, dynamical systems, KISS-principle, simulations. Probably methods and results of the research on opinion dynamics can be used to model and understand a bit better endogenous preference change under certain types of social interaction, especially group discussion. The talk will present approaches and results from the opinion dynamics research and than discuss problems of transferability.

THE ROLE OF AFFECT AND DELIBERATION IN PREFERENCE CHANGE

George Loewenstein, Carnegie Mellon University

There is an emerging consensus among psychologists and economists that human behavior is the product of two qualitatively different neural systems: a deliberative system that is very flexible, but slow and severely capacity constrained, and an affective system that is more rapid but reflexive and rigidly programmed. This introduces the possibility that preference change can occur at different levels, that preferences can change in one system and not the other (creating conflict between them) and that the deliberative system, which is reflective, can possess more or less insight into the nature of preference changes associated with the affective system. I will discuss empirical research into these issues and implications for understanding and formally modeling preference change.

PREFERENCES, COMPUTER, AND COGNITION. DECISIONS IN A COMPLEX WORLD

Klaus Mainzer, Universität Augsburg

Preferences and their representation in formal systems have a long tradition in logic and philosophy. Automated reasoning about preferences with ontologies and catagories had been discussed in philosophy, before they were formalized in artificial intelligence and applied in databases. But, in a complex world with nonlinear dynamics, there are no universal representations of preferences. Preferences are personalized, situated, context-dependent, and dynamic. We must act and decide with incomplete and fuzzy knowledge under the conditions of bounded rationality. Even in commercial affairs, motivations, emotions, and embodied interactions play an important role in our decision making. Thus, cognitive science and brain research come in. The computational theory of preferences and decisions must be supported and supplemented by cognitive studies, in order to develop human-oriented information systems. Interdisciplinary collaboration is a challenge in a complex information world.

References: P.C. Fishburn, Utility Theory for Decision Making, John Wiley & Sons: New York 1970; K. Mainzer, Thinking in Complexity. The Computational Dynamics of Matter, Mind, and Mankind, Springer: New York 4th edition 2004

PREFERENCE REVISION AND UTILITARIANISM

Wlodek Rabinowicz, Lund University

This talk is based on a paper written jointly with Bertil Strömberg. Richard Hare's classical argument for preference utilitarianism, in terms of hypothetical role reversals, contains a serious gap: Contrary to Hare's suggestion, a rational deliberator has no need to balance her preferences for the hypothetical cases in which she occupies different roles. The reason is that these preferences are all directed to different situations and thus are mutually compatible. We suggest that the gap can be filled, if one takes the universalizability requirement to imply that the deliberator should revise her diverging preferences for the different situations, so as to end up in a uniform preference state. If that move is to be minimal and the Euclidean metric is used, then uniform preference is obtained by averaging the input preferences, in a distinctly utilitarian fashion.

BELIEF CHANGE AS PREFERENCE CHANGE: BOUNDED REVISION

Hans Rott, Universität Regensburg

In this talk, I first review the basic idea of modelling (qualitative iterated) belief change as a kind of preference change. As an application, I then present the idea of 'bounded revision', a new binary revision operator taking an input sentence and a reference sentence, similar to the model of 'revision by comparison' as introduced by Fermé and Rott (Artificial Intelligence 157, 2004). In contrast to revision by comparison, bounded revision satisfies the Darwiche-Pearl axioms. It covers the ground between 'radical revision' and 'conservative revision', including 'moderate revision', which are all unary special cases obtained by setting one argument of the bounded revision operator to certain values.

DYNAMIC CHOICE PROBLEMS REQUIRE SECOND-ORDER EVALUATIONS

Wolfgang Spohn, Universitaet Konstanz

There are dynamic choice problems indistinguishable in their standard description, but intuitively to be solved by different decision rules, sometimes by sophisticated choice, sometimes by resolute choice. I shall argue that the problem can only be solved by a second-order evaluation of decision situations as superior or inferior that provides a general rule of how to adequately intertwine sophisticated and resolute choice in complex dynamic decision situations.

OPPORTUNITY AND RESPONSIBILITY: WHY PREFERENCE CHANGE NEED NOT BE A PROBLEM FOR NORMATIVE ECONOMICS

Robert Sugden, University Of East Anglia

Traditional normative economics treats each individual's preferences as an indicator of his/her welfare. Given this approach, preference change poses a severe problem: if an individual's preferences over outcomes change, which preference should be used in assessing welfare? One familiar answer to this question is to appeal to some supposed higher self which makes judgements (or expresses 'metapreferences') between these preferences. (For example, in discussions of self-control, there is often a judgement in favour of the ex ante preference for self-control over the ex post preference to evade control). An alternative answer is to appeal to some non-preference criterion of the person's well-being and to use this to judge which of a person's preferences best reflects his/her real interests. (Variants of this approach can be found in the current literature of 'libertarian paternalism'). In this paper, I present a critique of these answers from a perspective which in which value is attributed to individuals' opportunities to choose their own paths through life and to take responsibility for the outcomes. Building on the analysis presented in my paper 'The opportunity criterion: consumer sovereignty without the assumption of coherent preferences' (*American Economic Review*, 2004), I argue that normative analysis does not require a standpoint from which a person's different preferences can be assessed relative to one another. Instead, we can value the individual's opportunity to act on whatever preference he or she has at each moment of choice, and to be consistent or inconsistent over time as he or she chooses.

Registered participants

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Workshop Dinner

Thursday 14.9, 20.00

Place: Restaurant Diekmann im Châlet Suisse

Prices: Menu of the day (vegetarian options available) EUR 28.50, excl. drinks.

How to get there: When leaving the university building, make a right on Habelschwerdter Allee. Continue along Thielallee across Löhleinstrasse. Make a left on Bitterstrasse, and then left again along Königin-Louise Strasse, across Clayallee. After about 200m to your left on Im Jagen, you will find Restaurant Diekmann im Châlet Suisse.