
Preferences in Reasoning

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REFLECTIVE REASONED DELIBERATION

Control of reasoning and action

- Reasoned construction of decision formulations
 - Alternatives, assumptions, arguments, preferences
 - Sequential, iterative, provisional, nonmonotonic
- Reasoned selection of decision-making method
 - Potential secondary deliberation
- Forming intentions or choosing actions
- Revision of ongoing formulation in light of concurrent reasoning, deliberation, and action

REASONING AND PREFERENCES

Arguments constructed from *reasons*

- $A \setminus B \Vdash C \setminus D$
- A without B gives C without D
- Uniform defeasibility
- Reasons for and against reasons

Preferences as conclusions of reasons

Expressing preferences using reasons

- Assume X ; if defeated, assume Y ; etc.

RATIONALITY IN REASONING

Preferences expressed by reasons

- Prefer making assumption to not, if possible

Reflective equilibrium

- Deliberative state satisfies reasons
- Deliberative state grounded in reasons
- Equilibria represent Pareto-optimal states
- Arrow's theorem applies

SOME ISSUES

Preferences are naturally

- Incomplete
- Inconsistent
- Invented
- Experimental
- Changing
- Learned and reasoned
- Fragile

Preferences play many non-comparative roles

SPECIFYING PREFERENCES

Goals as having preferential content

- P is better than $\neg P$

Generic preferences

- P is better than Q

Nonlinguistic specifications or evidence

Preferential specifications and compilation

- Integration of heterogeneous expressions
- Approximation

SEMANTICS OF GENERIC PREFERENCES

Partially explored spectrum of ideas

- Naive domination
- Ceteris paribus preference
 - Multiattribute (syntactic) approach
 - Realistic (semantic) approach
- Measure-theoretic/probabilistic
- Comparative similarity

PREFERENCE REVISION

Tracking preferences

- Detecting change
- Diagnosing change
- Rational choice of revisions, refinements, replacements

Representing change

- Dynamics of preference geometry