

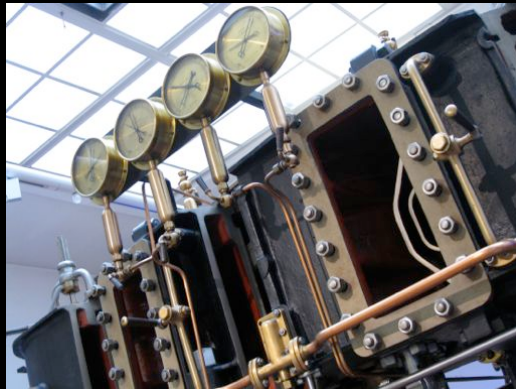
**ONTOLOGICAL DISTINCTIONS
IN SUPERNATURAL CONCEPTS**

Erika Salomon, Spring 2011

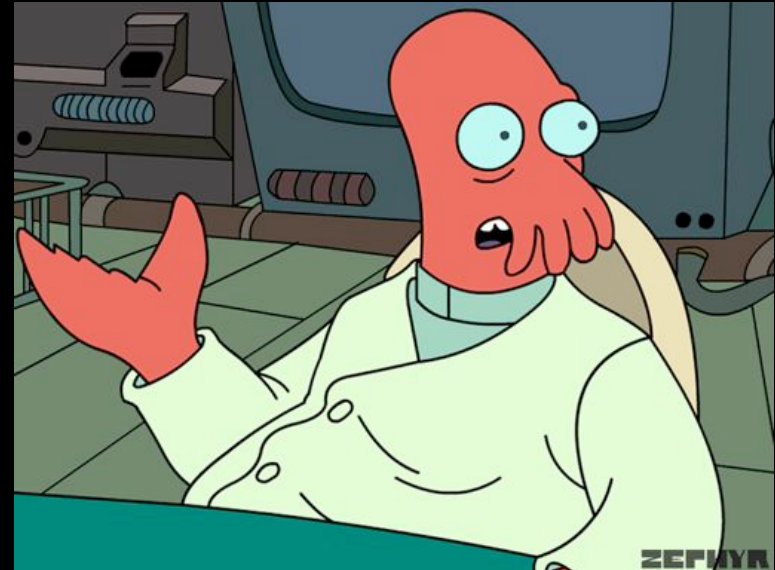


ONTOLOGY

- How we divide the world into basic categories (Keil, 1979):



AGENTS AND NON-AGENTS



INTENTIONAL AGENTS AND CAUSALITY

- Intentional agents have intentions, desires, goals, etc.
- Agents and non-agents alike are responsible for effects in causal chains.
- Evidence of basic ontological distinction in infants, who look longer when an event is caused by a non-agent (Saxe, Tenenbaum, & Carey, 2005)
- Gelman & Kremer (1991) found that children as young as 4 distinguish between self-generated motion of agents and non-agents.

EMERGENCE OF THE COGNITIVE SCIENCE OF RELIGION

- Anthropomorphization (Guthrie, 1980)
- Ritual agents and patients (Lawson & McCauley, 1990)
- Optimally counter-intuitive agents (Boyer, 1994)
- Hyperactive agency detection device (Barrett, 2000)
- Automatic violation detection & punishment (Bering & Johnson, 2005)



WHAT ABOUT NON-AGENTS?

But what about supernatural concepts lacking intentional agency?

- Holy water
- Sorcerer's stone
- The Force
- Luck
- Psychic energy

- Healing crystals
- Qi
- Karma
- Quintessence
- Substance dualism



RESEARCH QUESTION

- Do people make the same ontological distinction between agents and non-agents in both the supernatural and natural domains?
- Can we find evidence for supernatural concepts that are:
 - Non-intentional
 - Causally involved in the world

DESIGN

- 4 vignettes:
- Person
- who has a goal,
- invokes the help of some aid,
- and achieves goal.

Laura was having breathing problems and felt sick all of the time. She wanted to feel better and decided to go to a doctor. She asked the doctor to help her feel healthy.
After a few days, she felt much better.

2 X 2 DESIGN

Aid varied on two factors:

- Naturalness (natural, supernatural)
- Ontological category (substance, agent)

	Substance	Agent
Natural	Soil	Doctor
Supernatural	Fountain of youth water	God

DEPENDENT MEASURES

Supernatural Properties:

- The aid has **special powers**, such as magical or other supernatural powers.

Intentional Agency:

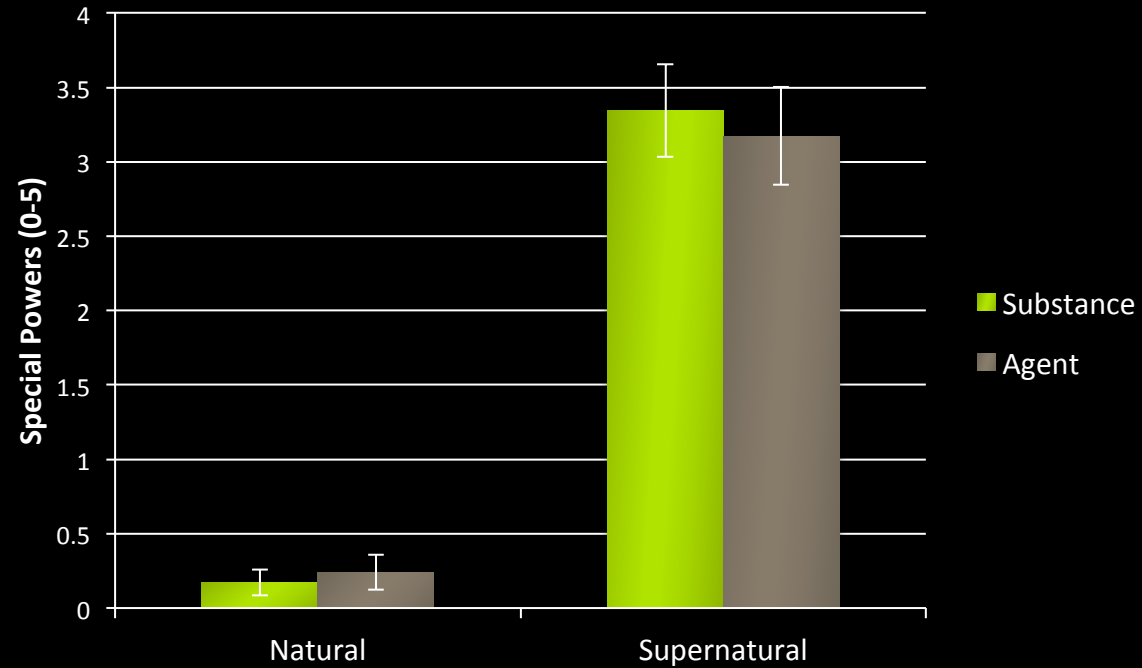
- The aid **worked really hard** to achieve the goal.
- The aid **wanted** the character to achieve the goal.
- The aid **intended** for the character to achieve goal.

Causal Involvement:

- The aid was **responsible** for the character's achieving the goal.

RESULTS: SPECIAL POWERS

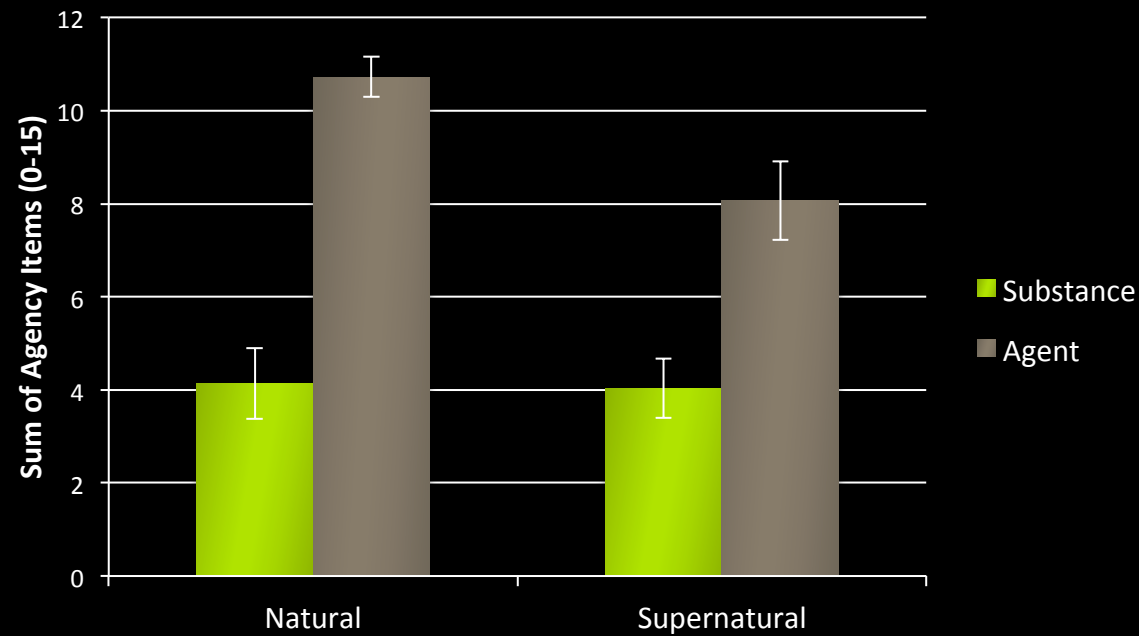
Aid has special powers



Main effect of Naturalness: $F = 150.72$; $p = .00$

RESULTS: AGENCY

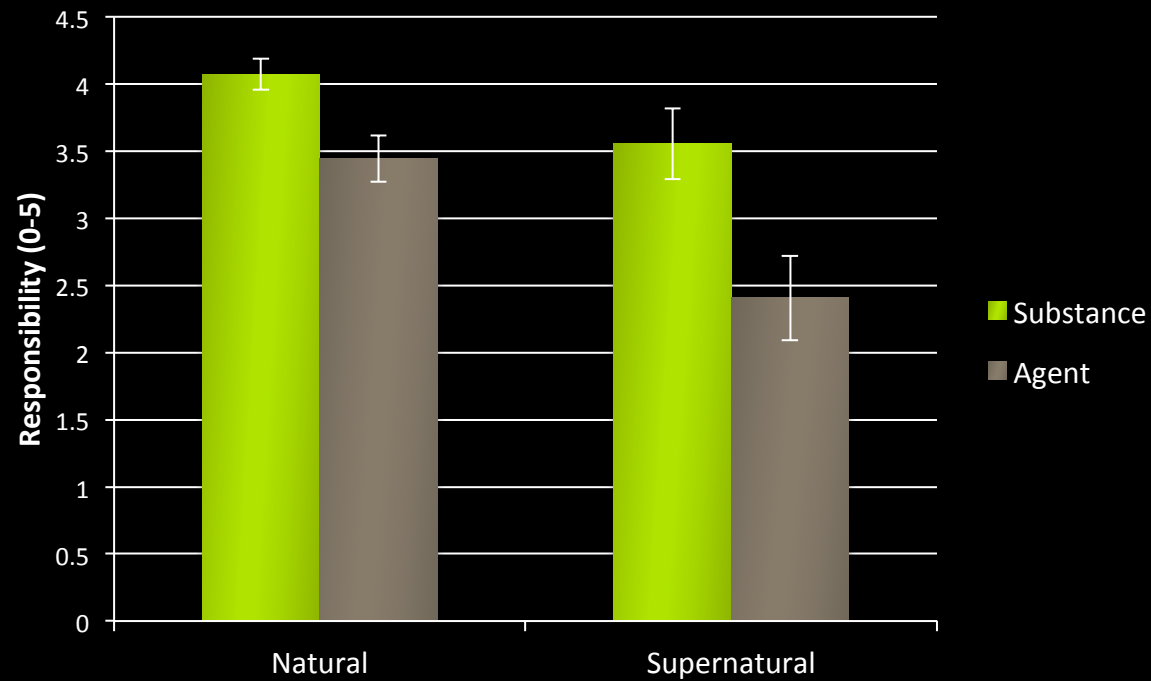
Sum of Agency Items (worked really hard,
wanted, intended)



Alphas: .84 - .91
Interaction: $F = 5.64$; $p = .03$

RESULTS: CAUSAL RESPONSIBILITY

Aid is responsible for goal achievement



Main effect of Ontological: $F = 13.84$; $p = .00$
Main effect of Naturalness: $F = 14.99$; $p = .00$

CONCLUSIONS

- Distinction between agents and non-agents is clear in both natural and supernatural domains.
- Non-intentional substances may both have supernatural properties and be causally involved in the world.
- There may be diminished causal or intentional agency for supernatural agents.

FUTURE RESEARCH

What are moderators of perceived causal role for supernatural agents?

- Properties of supernatural agent (e.g., creator)
- Properties of event (e.g., natural disaster)

What are the consequences of invoking agentic versus non-agentic supernatural concepts?

- Perceived Randomness (Caruso, Waytz, & Epley, 2010)

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ACKNOWLEDGEMENTS

- Jesse Lee Preston
- PRAM Lab

- Jesse M. Bering
- E. Thomas Lawson
- Neil Young