

# Society for Philosophy and Psychology



38th Meeting  
21-23 June 2012  
University of Colorado at Boulder

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Society for Philosophy and Psychology and

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SESSIONS ARE LOCATED IN WOLF AND FLEMING BUILDINGS  
(NUMBERS 32 AND 101 ON THE MAP ON PAGE 28)

**CONTENTS**

Welcome and Thank You.....	2
Officers of the SPP.....	3
General Information.....	4
Program Schedule.....	5
Posters.....	11
Abstracts.....	15
Map of Boulder.....	26
Map of CU-Boulder Campus.....	28
Program Quick Guide.....	30

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**WELCOME!**

Welcome to the campus of University of Colorado for the 38th meeting of the Society for Philosophy & Psychology. An excellent program has been assembled by the program chairs: Fiery Cushman (Psychology, Brown University) and Jonathan Weinberg (Philosophy, University of Arizona).

Along with SPP, the conference is made possible by the generous support of the University of Colorado at Boulder (CU-Boulder) Graduate Committee on the Arts and Humanities, the CU-Boulder College of Arts and Sciences Dean's Fund for Excellence, the CU-Boulder Institute of Cognitive Science, the CU-Boulder Department of Computer Science, and the CU-Boulder Department of Philosophy.

In addition to those mentioned above, thanks go to all who refereed papers for the conference or served on the prize committees. Special votes of thanks are owed to SPP Information Officer Michael Anderson, Stanton Prize Coordinator Adina Roskies, all the other members of the Executive Committee of SPP.

We hope that in addition to enjoying the conference itself you'll have a chance to explore the University of Colorado campus and the city of Boulder. And we hope that you will join SPP next year at Brown University in Providence, Rhode Island (dates TBA, likely in mid-June).

Brian Scholl, SPP President  
Rob Rupert, Local Host  
Boulder, June 2012

# Officers of the Society for Philosophy and Psychology

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**LOCAL ARRANGEMENTS FOR THE 2012 MEETING IN BOULDER, CO**  
Rob Rupert

**LOCAL ARRANGEMENTS FOR THE 2013 MEETING IN PROVIDENCE, RI**  
Bertram Malle

The Society for Philosophy and Psychology is a 501(c)(3) tax-exempt charitable organization.

## **GENERAL INFORMATION**

### **On-Site Contacts**

For questions that arise at the conference, please contact Rob Rupert <robert.rupert@colorado.edu>, or Tom Polger <thomas.polger@uc.edu>.

### **Information for Chairs and Speakers**

Each contributed session consists of 3 papers allocated a total of 60 minutes each for presentation, commentary and questions. Speakers are encouraged to prepare remarks of about 35 minutes, leaving 10 minutes for commentary, 10 minutes for questions and 5 minutes for transition between speakers. Chairs will strictly enforce the total time allocated to each speaker, and will follow the order of presentations listed in the program. *This last detail is especially important, so that attendees can rely on the start and finish times for each session when planning their time.*

### **Information about Posters, Poster Madness, and the SPP Poster Prize**

The presenting author or other designated presenter should be at the poster during the times specified on the program.

We are also planning for Poster Madness. During Poster Madness, each poster presenter will have the opportunity to give a brief 50 second presentation on their poster. The idea is that poster presenters can use the Poster Madness presentation session to give a quick advertisement to the topic of their poster. Because presentation time for each quick Poster Madness talk is limited, all speakers are limited to using a single slide for their Madness and are required to submit their slide before the session, so that they may be loaded onto the laptop in advance.

Information about the SPP Poster Prize will be distributed at Poster Madness.

### **Book and Publisher Exhibit**

Exhibits during conference hours in Fleming Foyer.

- Cambridge University Press
- The MIT Press
- Oxford University Press
- Routledge / Taylor & Francis

### **Alcohol**

All visitors are subject to CU-Boulder alcohol policies.

### **Internet Access**

Campus wireless Internet access (WiFi) will be provided to conference attendees. The login and password information for connecting to the campus network will be provided at registration.

# Program of the 38th Meeting Society for Philosophy and Psychology and

21-23 June 2012  
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## THURSDAY, JUNE 21

**8:00-8:30**      **Registration, Coffee, and Book Display**      FLEMING FOYER

**8:30-9:45**      **Invited Lecture**      FLEMING 155  
Susan Schneider, University of Pennsylvania  
Rethinking Physicalism

**10:00-1:00**      **Contributed Session 1: Consciousness and Central Processes**      WOLF 205

Benjamin Kozuch, Results of Lesions to the Prefrontal Cortex Cast Doubt  
on Higher-Order Theories of Consciousness

*Commentator: Liad Murdik*

Brandon Liverence, Varieties of Attentional Effects on Perception, and  
Criteria for 'Mental Paint'

*Commentator: Michael Anderson*

Tim Fuller and Richard Samuels, Do Theories of Scientific Inference  
Have Implications for Ordinary Cognition? Fodor on Holism and  
Cognitive Architecture

*Commentator: Steve Crowley*

**10:00-1:00**      **Contributed Session 2: Knowledge**      WOLF 206

Michael Roche, Self-Knowledge of Belief: A Defense of Alex Byrne's  
Transparency Account

*Commentator: Joseph Levine*

Christina Starman and Ori Friedman, The Folk Conception of Knowledge

*Commentator: Louise Antony*

Nicholas Leonard, Against Nagel's Solution to the Harman-Vogel Paradox

*Commentator: Michael Huemer*

1:00-2:15 Lunch and SPP Executive Committee Meeting WOLF 202

**2:15-3:45 Cutting Edge Session 1: Mental State Attribution and Inference** WOLF 205

Joanna Korman and Bertram Malle, Practical Rationality in Action  
Explanation: A Crucial Role for Belief Reasons

Brent Strickland, Matthew Fisher, Frank Keil & Joshua Knobe, Syntax  
and Intentionality: An Automatic Link Between Language and  
Theory-of-Mind

Mark Alicke, David Rose and Dorian Bloom, Culpable Control and  
Unintended Outcomes

Jorie Koster-Hale, Rebecca Saxe and Liane Young, Using Multi-voxel  
Pattern Analyses to Find Neural Correlates of Moral Judgment in  
Neurotypical and ASD Populations

**2:15-3:45 Cutting Edge Session 2: Representation** WOLF 206

Chris Zarpentine, The Language of Thought and the Problem of  
Conceptualization

Brian Keane, Hongjing Lu, Thomas Papathomas, Steven Silverstein and  
Philip Kellman, Is Interpolation Cognitively Encapsulated?  
Measuring the Effects of Belief on Kanizsa Shape Discrimination  
and Illusory Contour Formation

Mariela Aguilera, Cartographic Systems and Nonlinguistic Inference

Elinor Amit, Alek Chakroff and Joshua D. Greene, Greater Reliance on  
Visual vs. Verbal Processing Distinguishes Primary vs. Secondary  
Emotions

**3:45-4:00 Coffee Break** FLEMING FOYER

**4:00-5:15 Stanton Prize Lecture** FLEMING 155

Joshua Greene, Harvard University  
Integrative Moral Cognition: A Humean Journey in Reverse

**5:15-6:30 Poster Madness** FLEMING 155

**6:30-8:00 Poster Session 1 & Reception** WOLF 201  
COMMONS, CAFÉ AND PATIO

**FRIDAY, JUNE 22**

**8:00-8:30      Registration, Coffee, and Book Display      FLEMING FOYER**

**8:30-9:45      Invited Lecture      FLEMING 155**  
Terry Horgan, University of Arizona  
Reasons-Responsive Moral Judgments

**10:00-1:00      Contributed Session 3: Morality and Affect      WOLF 205**

Erik Wielenberg, Disgust and Moral Knowledge

*Commentator: Nina Strominger*

Geoffrey Goodwin & Adam Benforado, Judging the Goring Ox:  
Examining Intuitions About Punishing Animals to Better  
Understand the Retributive Motive

*Commentator: Jonathan Phillips*

Katrina Sifferd and William Hirstein, On the Criminal Culpability of  
Successful and Unsuccessful Psychopaths

*Commentator: Victor Kumar*

**10:00-1:00      Contributed Session 4: Reduction & Its Discontents      WOLF 206**

Douglas Keaton, An Old-School Approach to Mental Causation

*Commentator: Chris Howard*

Kari Theurer, Compositional Explanatory Relations and Mechanistic  
Reduction

*Commentator: John Bickle*

Jake Wright, Superagents

*Commentator: J. D. Trout*

**1:00-2:15      Lunch**

**2:15-3:15      Cutting Edge Session 3: Psychology of Modality      WOLF 204**

Andrew Shtulman and Lester Tong, Cognitive Parallels Between Modal  
Judgment and Moral Judgment

Brian Edwards and Lance Rips, An Analysis of People's Explanations of  
Their Counterfactual Inferences



Meredith Meyer, Sarah-Jane Leslie, Susan Gelman and Sarah Stilwell,  
Essentialist Beliefs About Bodily Transplants in the United States  
and India

**2:15-3:15      Cutting Edge Session 4: Moral Judgment      WOLF 205**

Clayton Critcher, Erik Helzer, David Tannenbaum & David Pizarro, When  
Doing Good Isn't Good Enough

Ivar Hannikainen, Fiery Cushman and Ryan Miller, A Novel Measure of  
Agent and Victim Foci in Moral Decision-Making

James Dungan, Alek Chakroff & Liane Young, Purity Versus Pain:  
Distinct Moral Concerns for Self Versus Other

**2:15-3:15      Cutting Edge Session 5: Developmental Metaphysics      WOLF 206**

Deena Weisberg and Alan Leslie (presented by Sydney Levine), Young  
Children Distinguish Pretend Situations from Reality and from  
Each Other

Lindsey Powell and Elizabeth Spelke, Social Categorization and Inference  
in Preverbal Infants

Caren Walker, Patricia Ganea and Alison Gopnik, Causal Learning from  
Fiction

**3:15-3:30      Coffee Break      FLEMING FOYER**

**3:30-6:15      Invited Symposium: Automatic & Controlled Processes      FLEMING 155**

Daphna Shohamy, Columbia University  
Nathaniel Daw, New York University  
Tamar Gendler, Yale University

**6:30-8:00      Poster Session 2 & Reception      WOLF 201  
COMMONS, CAFÉ AND PATIO**

**SATURDAY, JUNE 23**

**8:00-8:30      Registration, Coffee, and Book Display      FLEMING FOYER**

**8:30-9:45      Invited Lecture      FLEMING 155**  
Sharon Thompson-Schill, University of Pennsylvania  
Beyond Embodiment

**10:00-1:00      Contributed Session 5: Philosophical Expertise      WOLF 205**

Kevin Tobia, Expert Intuition

*Commentator: Kaija Mortensen*

Eric Schwitzgebel and Joshua Rust, The Self-Reported Moral Behavior of  
Ethics Professors

*Commentator: Eddy Nahmias*

Patrick Arnold, How to Answer a Situationist Challenge to Virtue  
Epistemology

*Commentator: Michael Sechman*

**10:00-1:00      Contributed Session 6: Concepts      WOLF 206**

Guillaume Beaulac and Pierre Poirier, “Concept” Heterogeneity and  
Definitions

*Commentator: Chad Gonnerman*

Daniel Weiskopf, The Human Stain: Concepts, Anthropic Kinds, and  
Realism

*Commentator: Sheldon Chow*

Joseph McCaffrey, Reconceiving Conceptual Vehicles: Lessons from  
Semantic Dementia

*Commentator: Dan Burston*

**1:00-2:15      Lunch and SPP Business Meeting      KOELBEL ATRIUM**

**2:15-3:15      Cutting Edge Session 6: Influence of Morality on Other Domains      WOLF 205**

George Newman, Joshua Knobe & Paul Bloom, The Moral Nature of the  
True Self

David Rose, David Danks & Edouard Machery, Demoralizing Causation

Steven Sloman, Philip Fernbach, Scott Ewing and Andrew Lee, A Causal Model of Intentionality Judgment

**2:15-3:15**      **Cutting Edge Session 7: Free Will and Agency**      WOLF 206

Takayuki Suzuki, Koji Tsuchiya & Makoto Suzuki, Do We Really Have the Concepts of Free Will and Responsibility?

Andrew Monroe, Kyle Dillon & Bertram Malle, Free Will, the Soul, and Moral Blame

Liane Young, The Conflicted Self Does Not Cause Its Own Actions

**3:15-3:30**      **Coffee Break**      FLEMING FOYER

**3:30-4:30**      **Presidential Address**      FLEMING 155

Brian Scholl, Yale University  
Philosophical Vision

**4:30-7:15**      **Invited Symposium: Cognitive Science Meets Epistemology**      FLEMING 155

Michael Bishop, Florida State University  
Alvin Goldman, Rutgers University  
Peter Todd, Indiana University, Bloomington

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POSTER SESSION 1

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TO BE LOCATED IN WOLF 201 COMMONS, CAFÉ, AND PATIO

Toward a Pragmatic Conception of Mental Disorder	Abigail Gosselin
The Dual Functions of Indirect Speech: Strategic Speaking and Self-Shielding	Aleksandr Chakroff, et al.
Feelings as Representations of Value	Brian Ballard
Fragility of Belief	Chris Jenson
Perception of Features and Perception of Objects	Daniel Burnston, et al.
Sartwell's Minimalist Account of Knowledge Defended	David Sackris
On the Inevitability of Anthropomorphic Bias in Comparative Psychology	Devin Sanchez Curry
Why We Punish: The Normative Correlates of Third Party Sanctioning	Erik Thulin, et al.
Influence of Outcome Valence in the Subjective Experience of Episodic Past, Future and Counterfactual Thinking	Felipe De Brigard, et al.
Can Embodied Cognition Deny Representation and Still Explain Intentionality?	Gregory Nirshberg
Differences in the 1st and 3rd Person Perspectives in Realistic Moral Dilemmas	Heather Salazar, et al.
Debunking Deontology: The Role of the Emotions	Isaac Wiegman
Frontal-Parietal Network Differences for Item and Category Working Memory	Javier Gomez-Lavin, et al.
Introspection: A Cross-Cultural Analysis of Descriptive Experience Sampling	Jessica Wilson
Whose Truth? What Evidence?	Joseph Ulatowski, et al.
What are the Cognitive Costs of Racism? A Reply to Gendler	Joshua Mugg

Grounding Content	Kelly Trogon
Delusions as Malfunctioning Beliefs	Kengo Miyazono
Self-Deception, Moral Development and Moral Motivation	Lina M. Cáceres C.
Anxiety-related Behavior of Orphan Chimpanzees ( <i>Pan troglodytes schweinfurthii</i> ) at Gombe National Park, Tanzania	Maria Botero, et al.
Acquiring Ownership and the Attribution of Responsibility	Max Palamar, et al.
Quantifying the Response Profiles of Neural Circuits: Do Brain Regions Have Personalities of their Own?	Michael Anderson, et al.
Intelligibility is Necessary for Explanation, but Accuracy May Not Be	Mike Braverman, et al.
A Theory-Theory Account of Mirror Neurons	Shannon Spaulding
Determining Relevance: Close Enough is Good Enough	Sheldon Chow
Harm, Affect, and the Moral/Conventional Distinction: Revisited	Sydney Levine, et al.
Intuitions in a New Light: Expanding the Methods of Experimental Philosophy	Taylor Davis, et al.

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POSTER SESSION 2

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TO BE LOCATED IN WOLF 201 COMMONS, CAFÉ, AND PATIO

10 Month Old Infants Detect Emotional Reactions that are Incongruent with Goal Outcomes	Amy Skerry, et al.
How (not) to Define Morality: An Analysis of Haidt's and Kohlberg's Approaches	Bruce Maxwell, et al.
Modifying the Interventionist Solution to the Problem of Causal Exclusion	Danny Pearlberg
Are Embodied Concepts Used in Natural-Language Processing?	Deepak Mirchandani
When Psychology Undermines Beliefs	Derek Leben
Experimental Phenomenology and Extended Cognition	Dobri Dotov, et al.
The Perception of Empty Space	Gabrielle Jackson
Finding a Place for Concepts: Context and Eliminativism	Grant Goodrich
Are You With Me or Against Me? Identification or Objectification as Mediated by Perceived Relative Status	Ida Hallgren
Children's Choices and Judgments of Hypothetical Moral Scenarios	Janani Prabhakar, et al.
Intuitions and Self-Deception	Jason Kido Lopez
Resolving the Paradox of Moral Focus: Why You Forced Him To Do it Even Though He Wasn't Forced To	Jonathan Phillips, et al.
Putting Your Best Foot Forward: Punishment and Forgiveness Differentially Influence Dimensions of Mind Perception	Jordan Theriault, et al.
Moral Beliefs, Personal Need for Structure, and Political Conservatism	Joshua Rottman, et al.
Meta-Semantic Arguments Against Skepticism	Justin Fisher
The neural correlates for evaluating psychological versus physical harm in neurotypical and autism spectrum individuals	Lily Tsoi, et al.

Phenomenal Consciousness, Conscious States, and the Hard Problem	Mikio Akagi
The Role of Explanation in Two Year Olds' Prosocial Actions	Nadia Chernyak, et al.
Unconscious Phenomenal Experience: An Oxymoron – Or Is It?	Nina Atanasova
Paying Attention to Consciousness	Rik Hine
Grasping the Horns of the Neural Correlates of Consciousness: Finding a way between implicit processing and reportability	Robert Foley
Remembering the Dinosaur: The Constructive Trace Theory of Memory	Sarah Robins
Preschoolers Use the Past to Explain Ownership	Shaylene Nancekivell, et al.
The Moral Mind: Asymmetric Blame and Praise for Mental States	Steve Guglielmo, et al.
Sometimes Psychopaths Get it Right: A Utilitarian Response to “The Mismeasure of Morals”	Tyler Paytas

### **Cartographic Systems and Nonlinguistic Inference**

Mariela Aguilera

Cognitive ethologists and comparative psychologists often assume that non human animals are capable of making inferences. But a wide philosophical tradition has supposed that the capability to making inferences require some kind of language. Against these assumptions, I claim that inferential abilities do not necessarily require a language. In contrast, certain cartographic systems could be used to explain some forms of inferences. Despite their differences, maps as well as sentences are capable of warranting rational relations between contents they represent. Moreover, maps are appropriated to explain some features of animal reasoning.

### **Culpable Control and Unintended Outcomes**

Mark Alicke, David Rose and Dorian Bloom

There are many ways in which the outcomes of a behavioral event can fail to match an actor's focal goals. One interesting way, represented in many studies on the "Knobe Effect," is for an actor to accept outcomes that he or she foresees but does not desire. In the Knobe effect, harmful side effects are seen to have been produced intentionally to a greater extent than helpful ones. The Culpable Control Model (CCM) of blame was applied to explain these effects. We created 16 different conditions that expanded the Knobe effect to show that differences in evaluation between the harm and help conditions could explain each of its elements. Results supported the CCM interpretation in every instance.

### **Greater Reliance on Visual vs. Verbal Processing Distinguishes Primary vs. Secondary Emotions**

Elinor Amit, Alek Chakroff and Joshua D. Greene

Recent approaches to emotion distinguish between primary and secondary emotions (e.g., anger and happiness vs. shame and pride). Primary emotions are characterized as evolutionarily conserved, involving less conceptual cognition, having shorter duration, and evoking universally recognized facial expressions. Secondary emotions are characterized as unique to humans, involving complex conceptual cognition, having longer duration, and as being less observable. We provide empirical evidence that (1) those two clusters exist; and (2) primary emotions rely more on visual imagery while secondary emotions rely more on verbal processing. Implications for moral decision-making are discussed.

### **How to Answer a Situationist Challenge to Virtue Epistemology**

Patrick Arnold

The situationist challenge to virtue epistemology is long overdue, given both the long history of situationist critiques in virtue ethics as well as the wealth of empirical literature in social and cognitive psychology that paints a less than ideal picture of human reasoning and intellectual virtuousness. Mark Alfano makes significant progress in formulating such a challenge in his 2011 paper, "Expanding the Situationist Challenge to Responsibilist Virtue Epistemology," where he argues that the empirical literature on human rationality shows that people generally do not respond to epistemically relevant reasons, but to normatively irrelevant circumstantial factors, and respond in ways that worryingly flout intellectual virtuousness and create a situationist debunking of the empirical reality of global intellectual virtues.

While there are a number of revisions of virtue theories that potentially allow it to avoid the situationist challenge—the most prominent being John Doris's "localization" of virtues—in



response to Alfano, I argue that the virtue epistemologist has a viable way to deflect the situationist challenge without rejecting any crucial normative or descriptive components of virtue epistemology, while also remaining anti-skeptical.<sup>1</sup> I argue both that the virtue theorist can incorporate situational factors into virtuousness without retreating to localization of the virtues, and that while the irrationality in human cognition plagues intellectual virtues, the social and cognitive sciences have offered equally powerful ways of improving or sidestepping our cognitive shortcomings—a malleability which is both expected and required by traditional virtue theories in ethics and epistemology. Virtue epistemology, I conclude, can consistently and convincingly avoid the situationist challenge by including sensitivity to situational factors as part of virtue, and by drawing on social and cognitive psychology to improve intellectual virtues.

### **‘Concept’ Heterogeneity and Definitions**

Guillaume Beaulac and Pierre Poirier

We aim at a rehabilitating the notion of “definition” in concept science – a notion associated to what is now known as the classical theory of concepts. We defend three broad ideas from which follow a re-evaluation of the place of definitions in the concepts literature. First, we follow Machery (2009) in rejecting the natural kind assumption in concept science, viz. there are more than one body of information that play the roles attributed to concepts. Second, we adopt a dual-process view of the mind – the view that two broadly opposed types of processes are needed to explain how the mind works. Third, we reject the necessary-and-sufficient model of definitions. This allows us to reconsider the role of definitions in cognition since, as we will argue, the traditional objections to the classical theory of concepts do not hold in the present framework.

### **When Doing Good Isn’t Good Enough**

Clayton Critcher, Erik Helzer, David Tannenbaum and David Pizarro

Research on moral judgment typically studies what features of actions make them praiseworthy or impermissible. An intuitive assumption is that performing a praiseworthy action intentionally would merit moral praise. This perspective neglects a key consideration that three studies identified as crucial: whether a moral agent likely acted out of a commendable moral rule (e.g., a utilitarian desire to minimize total lives lost). Although moral agents rarely explicitly state their reason for acting, participants were sensitive to person and situational cues that were thought to signal what moral rules a person appreciated: the agent’s deficits in emotional or rational thinking (Study 1), the agent’s time for deliberation (Study 2), and the agent’s visual perspective (Study 3). Participants then praised agents to the extent that the agents were believed to appreciate the moral rule that would justify their actions. In short, moral credit is awarded not for “good” actions but for principled actions.

### **A New Model of Moral Cognition: Distinct Moral Concerns for Self Versus Other**

James Dungan, Alek Chakroff & Liane Young

Recent efforts to partition the space of morality focus on the descriptive content of moral domains (e.g., harm versus purity). Here, we present behavioral and neural evidence for a model in which a novel dimension interacts with domain content to determine our intuitive moral judgments: whether the action targets the self or another. We present studies demonstrating that purity norms function to protect ourselves from impurities, while harm norms function to protect us from interpersonal harms. These findings are discussed in relation to research showing that mental states are recruited differently across domains, suggesting distinct functions for distinct moral norms.

## **An Analysis of People's Explanations of Their Counterfactual Inferences**

Brian Edwards and Lance Rips

When engaging in counterfactual thought (e.g., if I hadn't stopped for coffee, would I still have missed the bus?), people must imagine changes to the actual state of the world. In this study, we investigated how people reason about counterfactual scenarios by asking participants to make counterfactual inferences about a series of causal devices and provide explanations of their reasoning. Participants' inferences and explanations were consistent with theories of counterfactual reasoning that propose that people avoid breaking deterministic causal links (i.e., A always causes B), but are willing to break probabilistic causal links (i.e., A sometimes causes B) to keep prior causal events in the same states as in the actual world. When the causal links were deterministic, participants used modus-tollens-like reasoning to infer that the states of prior causal events would have been different in the counterfactual world. In contrast, when the links were probabilistic, participants said that the states of "cause" variables do not depend on the states of their effects and cited the links' unreliability as an explanation for why the states of prior causal events would have been the same in the actual and counterfactual worlds. Our data suggest that these principles play an important role in counterfactual reasoning.

## **Do Theories of Scientific Inference Have Implications for Ordinary Cognition? Fodor on Holism and Cognitive Architecture**

Tim Fuller and Richard Samuels

What implications do accounts of scientific theory construction and confirmation have for cognitive science? We argue that failing to distinguish between different types of theories of scientific inference – including normative, population-level, competence, and performance theories – has led to fundamental misunderstandings of the implications. In particular, we charge Fodor with such a misunderstanding. His influential critiques of theories of cognitive architecture are inappropriately based on a multiply ambiguous conception of the holistic nature of non-demonstrative inference in science. In contrast, we outline more promising relations that hold between theories of scientific inference and cognitive science.

## **Judging the Goring Ox: Examining Intuitions About Punishing Animals to Better Understand the Retributive Motive**

Geoff Goodwin & Adam Benforado

Prior research on the psychology of retribution is complicated by the difficulty of truly separating retributive and general deterrence motives. We isolate the operation of retribution by investigating intuitions about punishing animals, which allows us to remove general deterrence as a relevant consideration. We find that the greater the perceived loss from a violent animal attack, the more people believe that the animal deserves to be killed. Individuals are also sensitive to an animal's culpability, and are more inclined to inflict pain and suffering upon culpable animal attackers. These results raise questions about the nature and scope of retributive motives.

## **Act/Impact Morality Scale: A Measure of Agent- and Victim- Foci in Moral Judgment**

Ivar Hannikainen, Fiery Cushman & Ryan M. Miller

Moral offenses are typically constituted of an agent and a victim. We hypothesized that one can condemn these actions by focusing on the agent's action or on the victim's experience. So we developed an instrument to capture individual differences in focus during moral judgment. Agent focus correlated with greater condemnation of personal moral harm (Experiment 1) and purity violations (Experiment 2). Agent and victim foci were also associated with different sets of moral foundations (Experiments 3 & 4). Lastly, we found reliable differences in agent and victim foci along the political spectrum. These findings point towards two contrasting approaches to moral judgment

### **Is Interpolation Cognitively Encapsulated? Measuring the Effects of Belief on Kanizsa Shape Discrimination and Illusory Contour Formation**

Brian Keane, Hongjing Lu, Thomas Papathomas, Steven Silverstein and Philip Kellman

Contour interpolation is a perceptual process that fills-in missing edges on the basis of how surrounding edges (inducers) are spatiotemporally related. Cognitive encapsulation refers to the degree to which perceptual mechanisms act in isolation from beliefs, expectations, and utilities (Pylyshyn, 1999). Is interpolation encapsulated from belief? We addressed this question by having subjects discriminate briefly-presented, partially-visible fat and thin shapes, the edges of which either induced or did not induce illusory contours (relatable and non-relatable conditions, respectively). Half the trials in each condition incorporated task-irrelevant distractor lines, known to disrupt the filling-in of contours. Half of the observers were told that the visible parts of the shape belonged to a single thing (group strategy); the other half were told that the visible parts were disconnected (ungroup strategy). We found that distractor lines strongly impaired performance in the relatable condition, but minimally in the non-relatable condition; that strategy did not alter the effects of the distractor lines for either the relatable or non-relatable stimuli; and that treating relatable fragments as a unit improved performance while treating non-relatable fragments as a unit did not. These results suggest that 1) filling-in effects during illusory contour formation cannot be easily removed via strategy; 2) filling-in effects cannot be easily manufactured from stimuli that fail to elicit interpolation; and 3) actively grouping fragments can readily improve discrimination performance, but only when those fragments form illusory contours. Taken together, these findings indicate that while discriminating filled-in shapes depends on strategy, filling-in itself may be encapsulated from belief.

### **An Old-School Approach to Mental Causation**

Douglas Keaton

I offer a novel approach to mental causation that is non-reductive yet does not appeal to familiar strategies, such as appeals to compatibilism, contrastive causation, or the so-called “disjunctive move.” Rather, I argue that the basics of causal role functionalism, exploited in new ways, allow for and indeed require a subtler sort of “causal inheritance” than the simplistic sort that Kim, for example, used to generate reductionist arguments. I do not offer a comprehensive theory of mental causation but rather a new way of looking at the standard framework that will, I believe, allow for the construction of various new views.

### **Thinking in Patterns: Using Multi-Voxel pattern Analyses to Find Neural Correlates of Moral Judgment in Neurotypical and ASD Populations**

Jorie Koster-Hale, Rebecca Saxe and Liane Young

Actions are judged morally wrong if the actor intended to cause harm, but not if the same outcome was caused accidentally. This difference between intentional and accidental harm depends on thinking about another person’s thoughts, a cognitive function associated with a specific and selective group of brain regions (the ‘Theory of Mind network’), and especially one region, the right temporo-parietal junction (RTPJ). Prior research has found that (i) interfering with activity in the RTPJ, via transcranial magnetic stimulation, can shift moral judgments away from reliance on beliefs (Young et al 2010), and (ii) high-functioning individuals with Autism Spectrum Disorder (ASD) rely significantly less on beliefs, for moral judgments, than matched neurotypical (NT) control participants (Moran et al 2011). Puzzlingly, however, the average response in Theory of Mind regions is not different for intentional versus accidental harmful actions, in NT or ASD participants. Using Multi-Voxel Pattern Analyses (MVPA), we find that RTPJ – and not other regions in the Theory of Mind network – shows sensitivity in the pattern, but not magnitude, of response to the difference between intentional and accidental harms. Second, we find that individual differences in pattern classification predict individual differences in behavior: individuals with more discriminable neural patterns showed a larger difference in

moral judgments of accidental versus intentional harms. Finally, we find that the difference between intentional and accidental harms is not encoded in the voxel-wise pattern in participants with ASD, mirroring their moral judgments. In adults with ASD, higher symptom severity scores negatively correlated with pattern discriminability.

### **Results of Lesions to the Prefrontal Cortex Cast Doubt on Higher-Order Theories of Consciousness**

Benjamin Kozuch

According to higher-order theories of consciousness, a mental state is conscious only if it is represented by another mental state. Higher-order theories entail that there will be some areas (or networks of areas) in the brain such that, because they produce (the right kind of) higher-order states, the disabling of these areas will bring about deficits in consciousness. In this paper, I first argue that the prefrontal cortex is where any higher-order representations are likely to be produced. Then I survey prefrontal lesion data, looking for evidence of deficits in visual consciousness. I argue none are to be found, and that this presents a compelling case against higher-order theories, objections notwithstanding.

### **Against Nagel's Solution to the Harman-Vogel Paradox**

Nicholas Leonard

The Harman-Vogel paradox involves a pattern of knowledge ascriptions that threatens the principle that knowledge is closed under entailment. The pattern is this: A proposition, *p*, can be easier to know than another proposition, *q*, even if it is recognized that *p* entails *q*. Jennifer Nagel has recently put forth an interesting argument that, if sound, would explain away the Harman-Vogel paradox. More specifically, Nagel has argued that by appealing to Dual Process theories of cognition, we can give a psychological explanation as to how the Harman-Vogel Paradox can be dissolved. In this paper I argue that Nagel's solution to the Harman-Vogel paradox is both too strong and too weak and that it must, therefore, be abandoned.

### **Varieties of Attentional Effects on Perception, and Criteria for 'Mental Paint'**

Brandon Liverence

Empirical demonstrations that attention alters the character of perception have fueled recent philosophical arguments for the existence of 'mental paint', which in turn is taken to militate against representationalism and direct realism. I show here that such demonstrations do not serve as sufficient evidence for mental paint, because they can instead be conceptualized as instances of attention enhancing — but not fundamentally changing — perception. In contrast, I describe the results of several new experiments that meet stricter criteria for mental paint, showing that sustained attention warps spatial perception in surprising and counterintuitive ways.

### **Reconceiving Conceptual Vehicles: Lessons from Semantic Dementia**

Joseph McCaffrey

What are the vehicles of conceptual thought? Recently, cognitive scientists and philosophers of psychology have developed theories about what kinds of representations concepts are. At one extreme, amodal theories claim that concepts are amodal representations whose vehicles are distinct from those of the representations used in perceptual processes. At the other end of the spectrum, neo-empiricism claims that concepts are strictly perceptual representations. Between these views are pluralistic theories, which hold that certain concepts are amodal, while others are perceptual. How should we decide between these competing views? In this paper, I examine how evidence from the neuropsychological disorder semantic dementia bears on the philosophical debate about conceptual vehicles. After first spelling out how neuropsychology might inform theories of conceptual vehicles, I argue that the pattern of deficits in semantic dementia undermines recent neo-empiricist predictions about where and how conceptual knowledge is

organized in the brain. Furthermore, I claim that recent work on semantic processing in the anterior temporal lobe, the brain region implicated in semantic dementia, makes it plausible that amodal—albeit in a modest sense—processes are involved in representing certain kinds of concepts. However, I do not intend my analysis of semantic dementia to lend support to amodal theories or any particular pluralistic view; instead I draw lessons about how theorizing about conceptual vehicles should proceed if it turns out that amodal and perceptual resources both underlie conceptual thought.

### **Essentialist Beliefs About Bodily Transplants in the United States and India**

Meredith Meyer, Sarah-Jane Leslie, Susan Gelman and Sarah Stilwell

We investigated whether American and Indian people's reasoning about organ transplants showed evidence of essentialist thinking (the tendency to attribute category members' outward features to an internal underlying force or essence). Respondents endorsed the possibility of transplants conferring donors' attributes on recipients, consistent with essentialism. They also endorsed essentialist effects even when denying that transplants would change a recipient's category membership (e.g., endorsing the idea that a recipient of a pig's heart would act more pig-like, but denying that the recipient would become a pig). This finding runs counter to predictions from the "minimalist" position (Strevens, 2000), an alternative to essentialism.

### **Free Will, the Soul, and Moral Blame**

Andrew Monroe and Bertram Malle

A common challenge laid against ordinary people's concept of free will is that it is imbued with deep metaphysical beliefs and a reliance on a dualistic soul. Contrary to this view, recent empirical work suggests that the folk concept is pragmatic and lacks many of the metaphysical assumptions commonly attributed to it. However, it is possible that the idea of a soul still lurks within the folk concept, entangled with free will. The current study offers a novel way to disentangle the soul from free will and to test each concept's role in moral judgment. Participants were randomly assigned to read a description about one of five agent types (e.g., human, robot, cyborg). We measured which capacities (e.g., choice, a soul, intentional action) people attributed to each agent and used this to predict ascriptions of free will and moral judgments (e.g., blame). Results showed that having a soul was unrelated to the capacity for free will. Moreover, neither a soul nor free will were prerequisites for attributing blame. Thus, while people may retain a belief in a soul, this study shows that such beliefs are unrelated to ascriptions of free will and moral judgment.

### **The Moral Nature of the True Self**

George Newman, Joshua Knobe and Paul Bloom

We examine whether people are more likely to see the true self reflected in behaviors they deem to be morally good than in behaviors they deem to be morally bad. Experiments 1 and 2 find that changes to morally good behavior are thought to result from the emergence of the true self, while changes to morally bad or neutral behaviors are not. Experiment 3 finds that individual differences in moral values explain differences in beliefs about the true self. Experiment 4 finds that this moral view of the true self is independent of the particular type of mental state (beliefs versus feelings) in question.

### **Social Categorization and Inference in Preverbal Infants**

Lindsey Powell and Elizabeth Spelke

Human adults think of themselves and others as members of social categories and use those categories to make predictions about others' behavior. The research presented here asks whether preverbal infants, who lack much exposure to real social category distinctions, already engage in similar categorization and inference processes. We found that infants introduced to groups of socially interacting, animate characters used the actions of some group members to generate expectations about the actions of other members of the same group. When infants were exposed to similar events featuring inanimate entities or asocial animate characters, they failed to make these sorts of behavioral generalizations. These results support the conclusion that a domain-specific tendency to represent others as members of social groups and to use these groups to make behavioral inferences is already present in the first year of life.

### **Self-Knowledge of Belief: A Defense of Alex Byrne's Transparency Account**

Michael Roche

Alex Byrne (2005, 2011) claims that we have a special access to our own beliefs, and attempts to explain this special access, not via appeal to some kind of mechanism of inner sense, but rather in terms of our ability to follow a certain epistemic rule. The account rejects the idea that one attains self-knowledge by focusing one's attention onto one's mind, requiring instead that one directs one's attention outward to the world. Brie Gertler (2011) argues that Byrne's account makes possible a certain kind of intolerable error. She then argues that the account can be amended so as to avoid this kind of error only at the cost of giving up its distinctive outward-directedness. I defend Byrne from Gertler's objection, arguing, in part, that the objection is based on an overly literal reading of a well-known remark made by Gareth Evans (1982), which serves as the inspiration for Byrne's account. My defense is significant, given that various philosophers have recently offered accounts of self-knowledge in the same vein as Byrne's. These accounts would appear to be subject to an objection very much similar to Gertler's objection to Byrne's account.

### **Demoralizing Causation**

David Rose, David Danks and Edouard Machery

Recently, a number of authors—including Hitchcock & Knobe (2009) and Alicke, et al. (in press)—have argued that normative considerations are ubiquitous in causal cognition. In this paper, we first argue that these claims depend on a very large inferential leap that is not warranted either by the empirical data or on theoretical grounds. We then provide positive reasons—based both in theory and two novel experiments that we conducted—to think that the influence of normative considerations on causal cognition is not nearly as widespread as has been claimed by these authors. Norms can play a significant cognitive role, but their influence is not ubiquitous.

### **The Self-Reported Moral Behavior of Ethics Professors**

Eric Schwitzgebel and Joshua Rust

We examine the self-reported moral attitudes and moral behavior of 198 ethics professors, 208 non-ethicist philosophers, and 167 professors in departments other than philosophy on eight moral issues. On some issues we also had direct behavioral measures that we could compare with the self-reports. Ethicists expressed somewhat more stringent normative attitudes on some issues, such as vegetarianism and charitable donation. However, on no issue did ethicists show significantly better behavior than the two comparison groups. Our findings on attitude-behavior consistency were mixed. We discuss implications for several models of the relationship between philosophical reflection and real-world moral behavior.

### **Cognitive Parallels Between Modal Judgment and Moral Judgment**

Andrew Shtulman and Lester Tong

Does variation in the tendency to judge extraordinary actions permissible track variation in the tendency to judge extraordinary events possible? We investigated this question in the context of a speeded-reasoning task and found that participants' modal judgments were predictive of their moral judgments, even when controlling for disgust sensitivity. Moreover, both sets of judgments were correlated with similar patterns of justification and response latency. These findings suggest that modal and moral judgment are linked by a common inference strategy, with some individuals focusing on why actions/events that do not occur could not occur and others focusing on how those same actions/events could occur.

### **On the Criminal Culpability of Successful and Unsuccessful Psychopaths**

Katrina Sifferd and William Hirstein

Psychopaths have been deemed by some philosophers to be less criminally responsible than other offenders because they lack personhood (Murphy 1972), rationality (Morse 2008), or certain motivations for action or inaction (Roskies 2003). We argue that only some psychopaths should be deemed less culpable due to diminished mental capacity. When one views the law's rationality requirement in terms of executive function of the brain, one can see the heterogeneous nature of the group "psychopaths." Recent research indicates that earlier findings of reduced autonomic activity (Hare, Frazelle et al. 1978; Osumi, Shimazaki et al. 2007), reduced prefrontal grey matter (Yang, Raine et al. 2005), and compromised executive activity may only be true of unsuccessful psychopaths. In contrast, successful psychopaths actually show autonomic and executive function that exceeds that of normals, while having no difference in prefrontal volume from normals (Ishikawa, Raine et al. 2001). Thus we claim that many unsuccessful psychopaths have a lack of executive function that should at least partially excuse them from criminal culpability. However, successful psychopaths may be fully culpable, because they possess the executive functions to allow them to notice and correct for their criminal tendencies via rule-following. We will also argue that current measures of executive activity are insensitive to the cognitive deficits of successful psychopaths. Their increased executive function, we hypothesize, occurs in conflict with, rather than in consonance with their increased autonomic activity. This produces a cognitive style characterized by self-deception and articulate-sounding, but unsound reasoning.

### **Metaphysics for Toddlers: Young Children Distinguish Pretend Situations from Reality and from Each Other**

Deena Skolnick Weisberg, Alan M. Leslie (Presented by Sydney Levine)

One of the hallmarks of pretend play is that it is socially constructed: Access to any given object's pretend identity crucially depends on prior knowledge of that specific pretend situation. Do young children understand this feature of pretense? Do they understand that pretense differs in this respect from reality, where objects' identities do not change based on the whims of those using them? Using an eyetracker, the current study asks these questions of two- and three-year-old children and answers both in the positive. Toddlers' metaphysical and social-cognitive abilities are thus far more sophisticated than previously suspected.

### **A Causal Model of Intentionality Judgment**

Steven Sloman, Philip Fernbach, Scott Ewing and Andrew Lee

We propose a causal model theory to explain asymmetries in judgments of the intentionality of a foreseen side effect that is either negative or positive (Knobe, 2003). The theory is implemented as a Bayesian network relating types of mental states, actions, and consequences that integrates previous hypotheses. It appeals to two inferential routes to judgment about the intentionality of someone else's action: bottom-up from action to desire and top-down from character and disposition. Support for the theory comes from several experiments that test various predictions of the model. The model fits intentionality judgments reasonably well with no free parameters.

### **The Folk Conception of Knowledge**

Christina Starman and Ori Friedman

How do people decide which claims count as knowledge, and which are mere beliefs? We report four experiments examining the effect of truth, justification, and "Gettiering" on knowledge attributions. These experiments show that: 1) people attribute knowledge to others only when their beliefs are both true and justified; 2) people attribute knowledge in Gettier situations; and 3) knowledge is not attributed in one class of Gettier cases, but only because the agent's belief is based on "apparent" evidence. These findings reveal a major difference in the epistemic intuitions of laypeople and philosophers.

### **Syntax and Intentionality: An Automatic Link Between Language and Theory-of-Mind**

Brent Strickland, Matthew Fisher, Frank Keil & Joshua Knobe

Three experiments showed that when responding unreflectively or under time pressure, participants had a systematic bias to consider grammatical subjects as acting more intentionally than grammatical objects. When encouraged to think deeply about the meaning of the sentences, this bias was eliminated. Control experiments rule out the possibility that these effects are due to word order. Instead, they suggest a privileged relationship between syntax and central theory-of-mind concepts. There are (at least) two ways of generating an intentionality judgment: (1) an automatic bias to treat grammatical subjects as intentional (2) a deeper, more careful consideration of a given event.

### **Do We Really Have the Concepts of Free Will and Responsibility?**

Takayuki Suzuki, Koji Tsuchiya and Makoto Suzuki

To study our concepts of free will and moral responsibility, it is important to see how we judge on free will and moral responsibility in ordinary cases. We presented participants with 14 scenarios asked 10 questions. By multiple regression analysis, we found that judgment on intention is a good predictor for judgment on free will, while there is no single good predictor for moral responsibility. We also found that there is an individual difference in predictors. These results suggest our concepts of free will and moral responsibility have more complex nature than we have thought.

### **Compositional Explanatory Relations and Mechanistic Reduction**

Kari Theurer

Recently, some mechanists have embraced reductionism and some reductionists have endorsed mechanism. However, the two camps disagree sharply about the extent to which mechanistic explanation is a reductionistic enterprise. Reductionists maintain that cellular and molecular mechanisms furnish sufficient explanations for mental phenomena. Mechanists deny this claim. I argue that this dispute turns on whether reduction is a transitive relation. I show that it is. Therefore, mechanistic explanations at the cellular and molecular level explain mental phenomena directly. I make my case in part by noting that the relation between levels of mechanism



is one of composition. Compositional relations are transitive. In addition, they are explanatory. I conclude that there are direct explanatory linkages from cellular and molecular mechanisms to mental phenomena within a hierarchy of nested mechanisms.

### **Expert Intuition**

Kevin Tobia

Recent experimental findings have demonstrated that in some cases ordinary people's intuitions are affected by factors of dubious relevance to the truth of these intuitions. Some defend the use of intuition as evidence in philosophy by arguing that philosophers are experts – that philosophers' intuitions are both different from those of ordinary people and more reliable. I conducted three experiments indicating that while philosophers and non-philosophers do indeed sometimes have different philosophical intuitions, the intuitions of both philosophers and non-philosophers are affected by framing effects, text size effects and environmental variables. I argue that this challenges the expertise defense of intuition.

### **Causal Learning from Fictional Stories: Children's Sensitivity to the Proximity Between Real and Fictional Worlds**

Caren Walker, Patricia Ganea and Alison Gopnik

Fictional information presents a unique challenge to the developing child. Children must learn when it is appropriate to transfer information from the fictional space and what contextual cues should be considered. Here we explore preschooler's causal inferences about fictional representations by examining their developing sensitivity to the proximity of the fictional world to reality, and the effect of this judgment on their generalization of novel causal properties. By 3-years of age, children are able to evaluate the data that they receive from fiction in order to inform their generalization of novel story content.

### **The Human Stain: Concepts, Anthropic Kinds, and Realism**

Daniel Weiskopf

Some concepts have the function of tracking mind-independent categories. Others have the function of tracking categories defined by our own judgments and responses. I argue that aside from these world-guided and response-dependent concepts there is also an important third category that is in certain respects intermediate between them: anthropic concepts. Anthropic concepts track categories that are mind-independent but also defined by their suitability for various human interests, goals, and projects. Many concepts normally thought to be natural kind concepts turn out to be anthropic on closer inspection; I discuss several examples drawn from the chemical, mineral, and biological domains. Moreover, anthropic concepts also may function to track genuine kinds in the world. I close by offering a defense of mild realism about these anthropic kinds.

### **Disgust and Moral Knowledge**

Eric Wielenberg

Scientific investigation of the cognitive processes responsible for human moral beliefs has yielded a growing body of evidence for the view that emotion and moral cognition are closely linked, and that our emotions often influence our moral judgments. This is not a new idea. What is new, however, is the existence of various detailed and empirically-grounded proposals about which emotions are involved in moral judgment and the specific roles these emotions play in generating such judgments.

A worry often associated with the idea that our emotions influence our moral beliefs is that such influence is incompatible with moral knowledge. Some allege that if our moral beliefs are products of emotion rather than reason, then such beliefs are not "perceptions of external truths" but merely "projections of internal attitudes." I examine this worry in connection with the

emotion of disgust. For those who worry about the impact of emotion on moral judgment, disgust is a particularly troubling emotion, at least in part because it appears to have evolved to serve a non-moral function and subsequently been co-opted into the moral domain. I first describe a model of moral cognition (the Underlying Principles model) that I claim is plausible given the presently available empirical evidence. I then show that when this model is combined with the work of the ancient philosopher Aristotle and the contemporary philosopher Juan Comesaña, the resulting view implies that disgust-related moral cognition can generate moral knowledge. This result suggests that the influence of the emotions on moral cognition does not inevitably exclude moral knowledge.

### **Superagents**

Jake Wright

In this paper, I offer an argument in favor of the existence of group minds, or superagents. This argument is in response to a common line against superagents: to believe in them requires dubious ontological commitments. I present an example of a group entity, clustered supercomputers, that is typically accepted as its own ontologically distinct entity. From this, we see a clear argument in favor of the group entity's existence. This is followed by a parallel argument concerning collectives and collective action. This parallel demonstrates that, rather than require dubious ontological commitments, we have good reason to believe in superagents because they allow us to explain otherwise inexplicable phenomena. The goal of this paper is to provide a plausible account of superagency, a concept that has been dismissed too quickly in collective action.

### **The Conflicted Self Does Not Cause Its Own Actions**

Liane Young

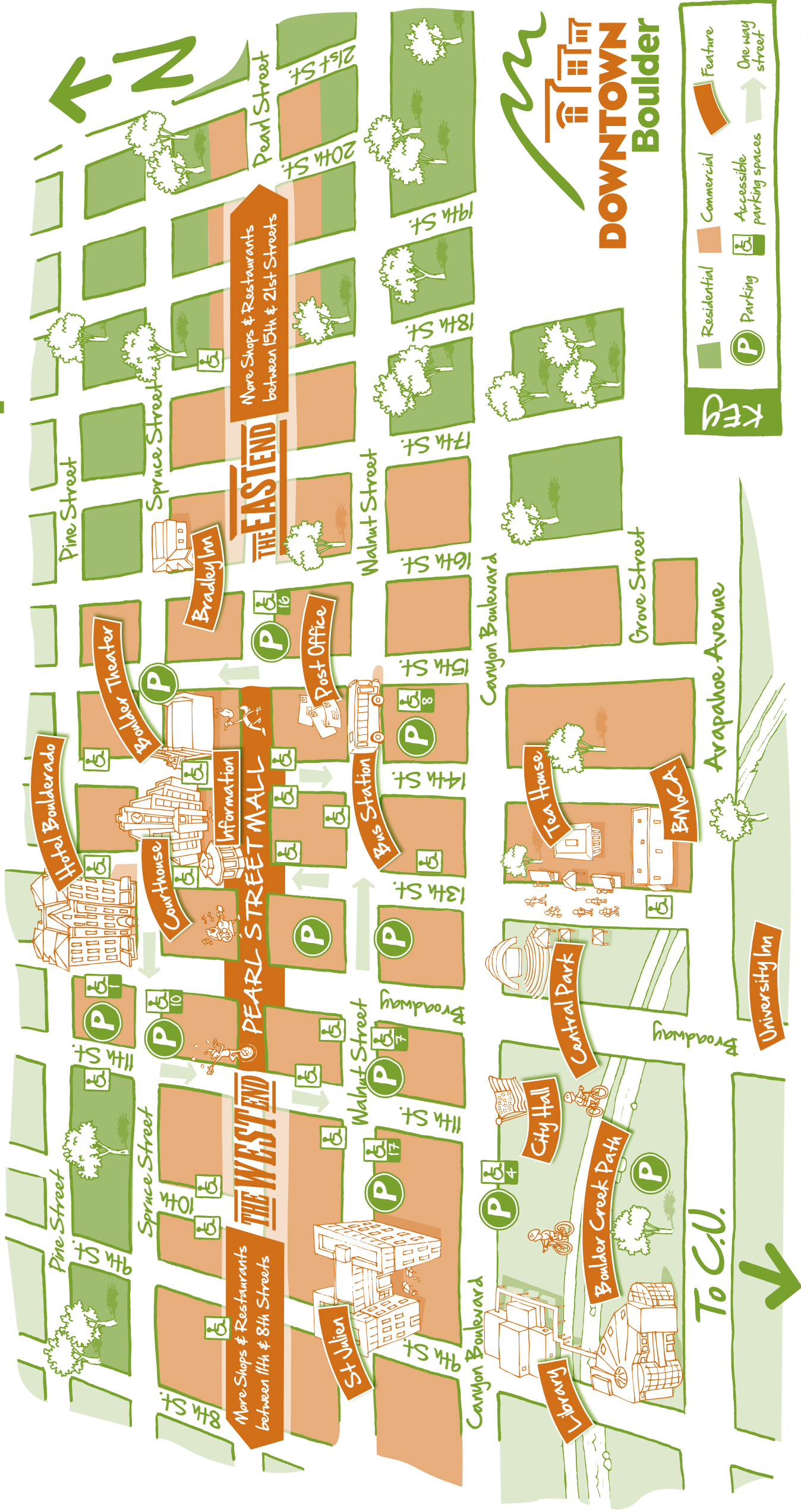
People are typically perceived as causing their own actions, e.g., when she raises her hand, she is perceived as the cause of that action. The present research reveals an exception to this rule: the case of internal conflict. When a person's fear (e.g., of a different race) or disgust (e.g., at a different sexual orientation) leads her to act in a certain way, is the person herself judged as causing the action? In Study 1, story protagonists who reject (versus endorse) the psychological states (fear, disgust) that cause their actions are judged as not causing their own actions (racism, homophobia). Study 2 shows this pattern extends to non-moral cases. Study 3 reveals this pattern is not due to differences in the perceived strength of the attitude or psychological state. Study 4 demonstrates that the presence of internal conflict, between psychological states, is the key determinant of these causal attributions; the conflicted self is afforded less causal efficacy. These findings have broader impact on debates about free will and responsibility, and folk intuitions about cognitive conflict (e.g., moral dilemmas) and implicit attitudes.

### **The Language of Thought and the Problem of Conceptualization**

Chris Zarpentine

I raise a problem for Fodor's version of the language of thought hypothesis involving conceptualization: a computational process which takes nonconceptual representations as input and yields conceptual representations as output. According to Fodor, computational processes are sensitive only to syntactic features. However, he also claims that nonconceptual representations are syntactically and semantically homogenous. But if there are no syntactic features for computation to utilize in the process of conceptualization, how can conceptualization be a computational process? I offer a diagnosis of this problem and conclude with a plea for greater attention to conceptualization, especially in work on affective representations.

# Downtown Boulder Map



## Apparel & Clothing

Alpaca Connection - 1334 Pearl St.  
American Apparel - 1126 Pearl St.  
Barbara & Company - 1505 Pearl St.

## Auto

Arapahoe Import Service - 1722 Arapahoe Ave.  
Boulder and Beyond Art Co-Op - 1211 Pearl St.  
Boulder Army Store - 1545 Pearl St.  
Boulder Bazaar - 1500 Pearl St.  
Boulder Nepal - 1328 Pearl St.  
Buffalo Exchange - 1813 Pearl St.  
Campus Street Sportsware - 1420 Pearl St.  
Chelsea - 2088 Broadway  
Common Era - 1500 Pearl St.  
Elm & Oak - 2037 13th St.

Free People - 1200 Pearl St.  
Fresh Produce - 1218 Pearl St.  
Gaiam Living - 1215 Pearl St.  
GoldmineVintage - 1123 Pearl St.  
GoLite - 1222 Pearl St.  
Gypsy Jewel - 820 Pearl St.  
Heads Up - 1300 Pearl St.

## Banks

American National Bank - 1360 Walnut St.  
Bank of the West - 1300Walnut St.  
Chase Bank - 1301 Canyon Blvd.  
CityWide Bank- 1611 Canyon Blvd.  
Colorado Business Bank - 2025 Pearl St.  
Colorado State Bank and Trust - 1505 Pearl St.  
FirstBank - 2120 Broadway  
Gypsy Jewel - 820 Pearl St.  
First National Bank - 1155 Canyon Blvd.  
Fractions Bank- 1095 Canyon Blvd.  
Great Western Bank - 1900 9th St.  
Guaranty Bank and Trust Company - 1375 Walnut St.  
Key Bank - 1911 Broadway  
US Bank - 1495 Canyon Blvd.

Vectra Bank - 1700 Pearl St.

Wells Fargo - 1242 Pearl St.

MAX Clothing Store - 1177Walnut St.

MontBell - 1500 Pearl St.

Old Tibet - 948 Pearl St.

OM Time - 2035 Broadway

Patagonia - 1212 Pearl St.

Playaya - 1211 A. Pearl St.

poppy - 2098 Broadway

p/Ana - 1147 Pearl St.

Sihouette - 2015 10th St.

The Ritz - 959Walnut St.

Savvy on Pearl - 1114 Pearl St.

Starr's Clothing & Shoe Company - 1630 Pearl St.

Tibet Gallery - 1916 13th St.

Topo Ranch - 1505 Pearl St.

Tough Luck Cowboy - 2050 Broadway

Umbra - 2043 Broadway

Urban Outfitters - 934 Pearl St.

Violette - 1631 Pearl St.

Volcom - 1223 Pearl St.

Weekends - 1200 Pearl St.

Where the Buffalo Roam - 1320 Pearl St.

Arts / Crafts / Galleries

15th Street Studio - 1708 15th St.

Art & Soul Gallery - 1615 Pearl St.

Art Mart - 1326 Pearl St.

Art Source International, Inc. - 1237 Pearl St.

Bolder World - 2015 Broadway

Boulder and Beyond Art Co-Op - 211 Pearl St.

Boulder Arts & Crafts Gallery - 1421 Pearl St.

Boulder Bazaar - 1500 Pearl St.

Boulder Map Gallery - 1708 13th St.

Boulder Museum of Contemporary Art - 1750 13th St.

Boulder Nepal - 1330 Pearl St.

Color Me Mine - 1938 Pearl St.

Cystal Galleries - 1302 Pearl St.

Earthwood Gallery - 1412 Pearl St.

## Apparel & Clothing cont...

Yehi Arts & Crafts - 1727 Pearl St.  
Zuni Fetishesh - 1424 Pearl St.

Arapahoe Import Service - 1722 Arapahoe Ave.  
Arapahoe Motors - 1914 Arapahoe Ave.  
Conoco - 1201 Arapahoe Ave.  
Diamond Shamrock - 1704 Arapahoe Ave.  
Independent Motors - 250 Pearl St.  
Peerless Tyre Co - 2008 Pearl St.  
Shell - 1480 Canyon Blvd.  
Vanetta Electric - 1981 8th St.

American National Bank - 1360 Walnut St.  
Bank of the West - 1300Walnut St.  
Chase Bank - 1301 Canyon Blvd.  
CityWide Bank- 1611 Canyon Blvd.  
Colorado Business Bank - 2025 Pearl St.  
Colorado State Bank and Trust - 1505 Pearl St.  
FirstBank - 2120 Broadway  
Gypsy Jewel - 820 Pearl St.  
First National Bank - 1155 Canyon Blvd.  
Fractions Bank- 1095 Canyon Blvd.  
Great Western Bank - 1900 9th St.  
Guaranty Bank and Trust Company - 1375 Walnut St.  
Key Bank - 1911 Broadway  
US Bank - 1495 Canyon Blvd.  
Vectra Bank - 1700 Pearl St.  
Wells Fargo - 1242 Pearl St.  
MAX Clothing Store - 1177Walnut St.  
MontBell - 1500 Pearl St.  
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OM Time - 2035 Broadway  
Patagonia - 1212 Pearl St.  
Playaya - 1211 A. Pearl St.  
poppy - 2098 Broadway  
p/Ana - 1147 Pearl St.  
Sihouette - 2015 10th St.  
The Ritz - 959Walnut St.  
Savvy on Pearl - 1114 Pearl St.  
Starr's Clothing & Shoe Company - 1630 Pearl St.  
Tibet Gallery - 1916 13th St.  
Topo Ranch - 1505 Pearl St.  
Tough Luck Cowboy - 2050 Broadway  
Umbra - 2043 Broadway  
Urban Outfitters - 934 Pearl St.  
Violette - 1631 Pearl St.  
Volcom - 1223 Pearl St.  
Weekends - 1200 Pearl St.  
Where the Buffalo Roam - 1320 Pearl St.

Beans, Inc. - 1300 Pearl St.  
Escondido Imports - 1400 Pearl St.  
Fast Eddie's Hot Dogs - 1300 Pearl St.  
Freddie's Hot Dogs - 1100 Pearl St.  
Volcom - 1223 Pearl St.  
Glacier Gelato & Sorbet - 1300 Pearl St.  
Glacier Ice Cream - 1400 Pearl St.  
Heads Up 1300 - Pearl St.  
McDevitt Taco Supply - 1300 Pearl St.  
Pearl St. Grill - 1100 Pearl St.  
Sol Stones - 1300 Pearl St.  
Sun Spot - 1200 Pearl St.  
Sunshine Shave Ice - 1200 Pearl St.  
Trek Light Gear - 1200 Pearl St.

## Carts

First Baptist - 1237 Pine St.  
First Congregational - 1128 Pine St.  
First Presbyterian Church - 1820 15th St.  
First United Methodist - 1421 Spruce St.  
Sacred Heart of Jesus Church - 1317 Wapleton St.  
Shambhala Center - 1345 Spruce St.  
St. John's Episcopal Church - 1419 Pine St.  
Trinity Lutheran - 2200 Broadway  
Art Mart - 1326 Pearl St.  
Bliss - 1643 Pearl St.  
Blue Skies - 1110 Pearl St.  
Bolder World - 2015 Broadway  
Boulderado Emporium Gift Shop - 2115 13th St.  
Crystal Galleries - 1302 Pearl St.  
Fiji - 1345 Spruce St.  
Into the Wind - 1408 Pearl St.  
Ku Cha House of Tea - 1141 Pearl St.  
Momentum - 1625 Pearl St.

## Churches

First Baptist - 1237 Pine St.  
First Congregational - 1128 Pine St.  
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First United Methodist - 1421 Spruce St.  
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Ku Cha House of Tea - 1141 Pearl St.  
Momentum - 1625 Pearl St.

## Gifts / Stationery / Toys

Art Mart - 1326 Pearl St.  
Bliss - 1643 Pearl St.  
Blue Skies - 1110 Pearl St.  
Bolder World - 2015 Broadway  
Boulderado Emporium Gift Shop - 2115 13th St.  
Crystal Galleries - 1302 Pearl St.  
Fiji - 1345 Spruce St.  
Into the Wind - 1408 Pearl St.  
Ku Cha House of Tea - 1141 Pearl St.  
Momentum - 1625 Pearl St.

## Gifts / Stationery / Toys cont...

poppy - 2098 Broadway  
Potila Imports - 1136 Pearl St.  
The Envelope Please - 1736 Pearl St.  
Tough Luck Cowboy - 2050 Broadway  
Two Hands Paperie - 803 Pearl St.

## Hair Salons & Day Spas

1313 A Salon - 1313 Spruce St.  
Bleu Chair Salon - 1966 13th St.  
Fresh Hair Salon - 1966 13th St.  
La Belle Nail Salon - 1962 13th St.  
Marianne's L'Eshthetique Medi Spa - 1215 Spruce St.  
Paul Morrison Colours - 2015 15th St.  
Pompadours Hair Salon - Aveda 1320 Pearl St.  
Roger the Barber - 1200 Pearl St.  
Sensorielle Spa - 1801 13th St.  
The Sidedoor Salon - 2070 Broadway  
St Julien Hotel and Spa - 900Walnut St.  
Sunburst-Full Service Salon - 956 Pearl St.  
ten20 Nail & Waxing Spa - 2005 Pearl St.  
The Parlour - 1037 Walnut St.  
Twig Salon & Spa - 1831 Pearl St.  
Voodoo Hair Lounge - 1537 Pearl St.  
West End Salon - 949 Walnut St.  
ZING Hair - 1100 Spruce St.

## Health / Fitness / Personal Care

Acupuncture & Oriental Medicine- 840 Pearl St.  
Barris Laser & Skin Care - 1966 13th St.  
Bodywork Bistro - 1100 Spruce St.  
Define Defense - 1801 11th St.  
Gaiam - 1215 Pearl St.  
Global Chiropractic - 2023 17th St.  
Lush Cosmetics - 1312 Pearl St.  
Massage Specialists - 1640 Broadway  
Om Time - 2035 Broadway  
One Boulder Fitness - 1800 Broadway  
Pharmaca Integrative Pharmacy - 1647 Pearl St.  
Plates Doctor - 1445 Pearl St.  
Rebecca's HerbalApothecary & Supply - 1227 Spruce St.  
Six Persimmons Apothecary - 840 Pearl St.  
St Julien Hotel and Spa - 900Walnut St.  
Tonic Herban Lounge - 2011 10th St.  
West End Wellness - 2019 10th St.

Home / Kitchen / Garden  
3rd & Vine Design - 1815 Pearl St.  
8th & Pearl Antiques - 740 Pearl St.  
Bartlett Interiors - 2020 Pearl St.  
Bayleaf on Pearl - 1222 Pearl St.  
Bedell & Co. Fine Antiques & Estate Jewelry - 767 Pearl St.  
Blue Skies - 1110 Pearl St.  
Boulder Furniture Arts - 1200 Pearl St.  
Chantique - 2020 11th St.  
Clutter - 1909 9th St.  
Design Within Reach - 2049 Broadway  
Electric - 935 Pearl St.  
Fabricate - 2023 17th St.  
Gypsy Jewel - 820 Pearl St.  
HW Design - 1913 Pearl St.  
HW Home - 1941 Pearl St.  
Mila Tibetan Carpets - 1711 Pearl St.  
Momentum - 1625 Pearl St.  
Oliverde - 2027 Broadway  
Now & Zen - 1638 Pearl St.  
Penzeys Spices - 1219 Pearl St.  
Peppercom - 1235 Pearl St.  
Red Pepper Kitchen & Bath - 726 Pearl St.  
Savory Spice Shop - 2041 Broadway  
Studio 3 - 1719 15th St.  
Top Hat Janitorial Supply - 1729 Pearl St.  
Trek Light Gear - 1200 Pearl St.  
West End Gardener - 777 Pearl St.

## Hotels / B&Bs

Boulder Creek Quality Inn & Suites - 2020 Arapahoe  
Boulder University Inn - 1632 Broadway  
Briar Rose Bed and Breakfast - 2151 Arapahoe Ave.  
Patagonia - 1212 Pearl St.  
PrAna - 1147 Pearl St.  
Rocky Mountain Anglers - 1904 Arapahoe Ave.  
Title 9 Sports - 1801 Pearl St.

## Jewelry

Angie Star Jewelry - 1807 Pearl St.  
Antiquariat - 2014 Broadway  
Bedell & Co. Fine Antiques & Estate Jewelry - 767 Pearl St.  
Blue Skies - 1110 Pearl St.  
Bolder World - 2015 Broadway  
Carla Morrison Fine Jewelry - 2017 10th St.  
Christine Marguerite Designs - 1721 Pearl St.  
Classic Facets Antique Jewelry - 942 Pearl St.  
El Loro Jewelry & Clog Co - 1416 Pearl St.  
Gypsy Jewel - 820 Pearl St.  
Hurdle's Jewelry - 1402 Pearl St.  
JAlbrecht Designs Master Goldsmiths - 951 Pearl St.  
Little Jewel - 1225 Pearl St.  
Pennyweights - 1441 Pearl St.  
Peter Rosen Jewelry Designer - 1600 Pearl St.  
Sol Stones - 1300 Pearl St.  
Starfish - 1136 Pearl St.  
Swiss Chalet - 1642 Pearl St.  
Todd Reed - 2015 Pearl St.

## Liquor/ Markets/ Smoke Shops

Alfalfa's Market - 1651 Broadway  
Boulder Mart - 1713 Pearl St.  
Buddha's & Goudha's Enlightened Smoke Shop - 2009 13th St.  
Cured - 1825 Pearl St.  
Green Piece Pipe & Hydro - 1200 Pearl St.  
Liquor Mart - 1750 15th St.  
Lolita's Market & Deli - 800 Pearl St.  
Mile High Pipe & Tobacco - 1144 Pearl St.  
The General Store - 1407 Walnut St.  
West End Wine Shop - 777 Pearl St.

## Night Spots / Bars

Absinthe House - 1109 Walnut St.  
Attic Bar & Bistro - 949 Walnut St.  
Bacaro Venetian Taverna - 921 Pearl St.  
Bitter Bar - 835 Walnut St.  
Boulder Theater - 2032 14th St.  
Catacombs - 2115 13th St.  
Centro Latin Kitchen & Refreshment Palace - 950 Pearl St.  
Conor O'Neill's Irish Pub & Restaurant - 1922 13th St.  
Cueve - 946 Pearl St.  
Johnny's Cigar Bar - 1801 13th St.  
Lazy Dog Sports Bar & Grill - 1346 Pearl St.  
Mountain Sun Pub & Brewery - 1535 Pearl St.  
Niño Club - 1124 Pearl St.  
Pearl St. Pub & Cellar - 1108 Pearl St.  
Round Midnight - 1005 Pearl St.  
Shooters Grill & Bar - 1801 13th St.  
Shug's Low Country Cuisine - 2017 13th St.  
Sundown Saloon - 1136 Pearl St.  
Tahona Tequila Bistro - 1035 Pearl St.  
Walrus Saloon - 1911 11th St.  
West End Tavern - 926 Pearl St.

Optical  
Envision Boulder - 1011 Pearl St.  
Sun Spot - 1200 Pearl  
Zeal Optics - 1230 Spruce St.  
Boulder Army Store - 1545 Pearl St.  
Full Cycle - 1795 Pearl St.  
GoLite - 1222 Pearl St.  
Gunsport - 1707 14th  
High Point Swim and Sport - 1738 Pearl St.

## Optical

Envision Boulder - 1011 Pearl St.  
Sun Spot - 1200 Pearl  
Zeal Optics - 1230 Spruce St.  
Boulder Army Store - 1545 Pearl St.  
Full Cycle - 1795 Pearl St.  
GoLite - 1222 Pearl St.  
Gunsport - 1707 14th  
High Point Swim and Sport - 1738 Pearl St.

## Outdoor & Sporting Goods cont...

MontBell - 1500 Pearl St.  
Newton Running Lab - 1300 Walnut St.  
Outdoor Divas - 1133 Pearl St.  
Patagonia - 1212 Pearl St.  
PrAna - 1147 Pearl St.  
Rocky Mountain Anglers - 1904 Arapahoe Ave.  
Title 9 Sports - 1801 Pearl St.  
University Bicycles - 839 Pearl St.  
Vecchio's Biciletteria - 1833 Pearl St.  
Wenger - 1122 Pearl St.

## Pets

Arapahoe Animal Hospital - 1730 15th St.  
Farfel's Farm - 906 Pearl St.

## Restaurants

Asian / Sushi / Indian  
Amu Japanese Bistro - 1221 Spruce St.  
Bombay Bistro - 1214 Walnut St.  
Hapa Sushi Grill & Sake Bar - 1117 Pearl St.  
Japango - 1136 Pearl St.  
Kasa Japanese Grill & Bar - 1468 Pearl St.  
Moongate Asia Bistro & Sushi Bar - 1628 Pearl St.  
Sherpa's Adventurers - 825 Walnut St.  
Sushi Tora - 2014 10th St.  
Sushi Zammai - 1221 Spruce St.  
Zoe Ma Ma - 2010 10th St.

## Brewpubs

Bj's Restaurant & Brewery - 1125 Pearl St.  
Mountain Sun Pub & Brewery - 1535 Pearl St.  
Walnut Brewery - 1123 Walnut St.

## Casual

Absinthe House - 1109 Walnut St.  
Attic Bar & Bistro - 949 Walnut St.  
Bitter Bar - 835 Walnut St.  
Bj's Restaurant & Brewery - 1125 Pearl St.  
Boulder Café - 1247 Pearl St.  
Cheesecake Factory - 1401 Pearl St.  
Conor O'Neill's Irish Pub & Restaurant - 1922 13th St.  
Corner Bar - 2115 13th St.  
Crepes ala Cart - 2018 Broadway  
Cueve - 946 Pearl St.  
Foolish Craig's Café - 1611 Pearl St.  
Foolish Craig's Café - 1611 Pearl St.  
HBurger Co - 1710 Pearl St.  
The Kitchen (Next Door) - 1035 Pearl St.  
Lazy Dog Sports Bar & Grill- 1346 Pearl St.  
Lucie's Creole Café - 2124 14th St.  
Mountain Sun Pub & Brewery - 1535 Pearl St.  
Old Chicago - 1102 Pearl St.  
Pearl St. Pub & Cellar - 1108 Pearl St.

Reuben's Burger Bistro - 1800 Broadway  
Shine Restaurant & Gathering Place - 2027 13th  
Shooters Grill & Bar - 1801 13th St.  
Shug's Low Country Cuisine - 2017 13th St.  
Snooze, An A.M. Eatery - 1617 Pearl St.  
Ted's Montana Grill - 1701 Pearl St.  
The Kitchen - (Next Door) 1039 Pearl St.  
The Rib House - 1801 13th St.  
Walnut Brewery - 1123 Walnut St.  
West End Tavern - 926 Pearl St.

Coffee / Tea / Desserts / Sweets  
Amante Coffee - 1035 Walnut St.  
Atlas Purveyors - 1505 Pearl  
Ben & Jerry's Scoop Shop - 1203 Pearl St.  
Boulder Baked - 1911 Broadway  
Boulder Dushanbe Tea House - 1770 13th St.  
Boxcar Coffee Roasters - 1825 Pearl St.  
Brewing Market Coffee - 1918 13th St.  
Glacier Ice Cream - 1400 Pearl St.  
Kh Cha House of Tea - 1141 Pearl St.  
Laughing Goat - 1709 Pearl St.

Coffee / Tea / Desserts / Sweets  
Amante Coffee - 1035 Walnut St.  
Atlas Purveyors - 1505 Pearl  
Ben & Jerry's Scoop Shop - 1203 Pearl St.  
Boulder Baked - 1911 Broadway  
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Kh Cha House of Tea - 1141 Pearl St.  
Laughing Goat - 1709 Pearl St.

## Coffee/ Tea/ Desserts/... cont...

Lindsay's Boulder Deli@Haagen Dazs - 1148 Pearl St.  
Malberry - 1433 Pearl St.  
Ozo Coffee - 1015 Pearl St.  
Piece, Love & Chocolate - 805 Pearl St.  
Rocky Mountain Chocolate Factory - 1300 Pearl St.  
Smooth Frozen Yogurt & Mochi - 1926 14th St.  
Spruce Confections - 767 Pearl St.  
Starbucks Coffee - 1427 Pearl St.  
Tee & Cakes - 1932 14th St.  
The Cup - 1521 Pearl St.  
Trident - 940 Pearl St.  
Twirl - 1727 15th St.  
Two Spoons - 1021 Pearl St.  
Unseen Bean - 2052 Broadway  
Woody Creek Bakery - 1207 Pearl St.

Contemporary / Fine Dining  
Black Cat 1964 - 13th St.  
Boulder ChopHouse & Tavern - 921 Walnut St.  
Boulder Dushanbe TeaHouse - 1770 13th St.  
Brasserie Ten Ten - 1011 Walnut St.  
Jax Fish House - 1738 Pearl St.  
Jill's - 900 Walnut St.  
The Kitchen - 1039 Pearl St.  
The Kitchen - (Upstairs) 1039 Pearl St.  
L'Atelier - 1739 Pearl St.  
Leaf Vegetarian Restaurant - 2010 16th St.  
Mateo - 1837 Pearl St.  
Mediterranean - 1002 Walnut St.  
Oak at Fourteenth - 1400 Pearl St.  
Pearl Street Steak Room - 1035 Pearl St.  
Q's Restaurant - 2115 13th St.  
Riff's Urban Fare - 1115 Pearl St.  
SALT Boulder Bistro - 1047 Pearl St.  
RTD Bus Station - 1800 14th St.  
U.S. Post Office - 1905 15th St.  
YWCA - 2222 14th St.

Italian / Mediterranean / Pizza  
Antica Roma - 1308 Pearl St.  
Arabesque - 1634 Walnut St.  
Bacaro Venetian Taverna - 921 Pearl St.  
Gondolor on Pearl - 1600 Pearl St.  
Nick-N-Willy's Pizza - 801 Pearl St.  
Pasta Jay's - 1001 Pearl St.  
Pastavino - 1043 Pearl St.  
Pizza Colore - 1336 Pearl St.  
Pizzeria Locale - 1730 Pearl St.  
Trattoria on Pearl - 1430 Pearl St.  
Mexican / Latin / South American  
Aji - 1601 Pearl St.  
Centro - 950 Pearl St.  
Chippotle Mexican Grill - 919 Pearl St.  
Illegal Pete's - 1447 Pearl St.  
Rio Grande Mexican Restaurant - 1101 Walnut St.  
TIACO - 1175 Walnut St.  
Tahona Tequila Bistro - 1035 Pearl St.

Quick Service / Sandwiches  
15th St. Coffee - 1727 15th St.  
Boulder Creek Market - 1801 13th St. #120  
Chippotle Mexican Grill - 919 Pearl St.  
Cured - 1825 Pearl St.  
Dish - 1918 Pearl St.  
Falefel King - 1314 Pearl St.  
Fast Eddie's Hot Dogs - 1300 Pearl St.  
Freddie's Hot Dogs - 1100 Pearl St.  
Illegal Pete's - 1447 Pearl St.  
Lindsay's Boulder Deli @ Haagen Dazs - 1148 Pearl St.  
Lolita's Market & Deli - 800 Pearl St.  
Pita Pit - 1509 Arapahoe Avenue  
Salvaggio's Deli - 1397 Pearl St.  
The Cup Espresso Café - 1521 Pearl St.  
Two Spoons - 1021 Pearl St.  
Woody Creek Bakery - 1207 Pearl St.  
Yellow Deli - 908 Pearl St.

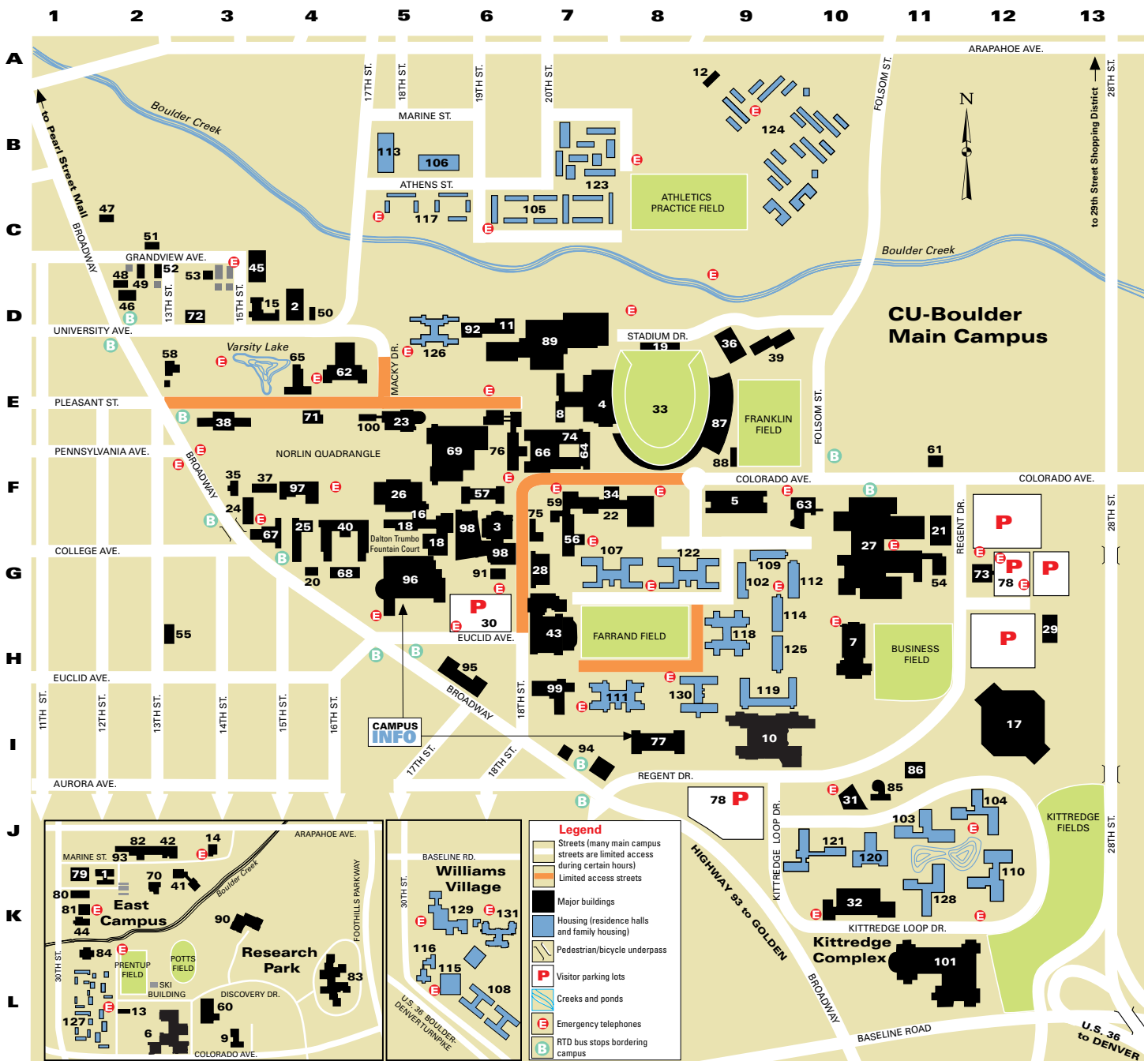
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Downtown Boulder Business Improvement District & City of Boulder Downtown/University Hill Management Division-Parking Services



# DOWNTOWN Boulder

**303-449-3774**  
**BoulderDowntown.com**  
**1942 Broadway Suite 301**





## University Buildings

1. Administrative and Research Center—East Campus (J-2) (ARCE)
2. Armory (D-4) (ARMR)
3. ATLAS Building (Alliance for Technology, Learning, and Society) (G-6) (ATLS)
4. Balch Fieldhouse (E-7) (FH)
5. Benson Earth Sciences (F-9) (BESC)
6. Biotechnology Building (Jennie Smoly Caruthers Biotechnology) (L-2) (BIOT)
- \* Bruce Curtis Building. *See Museum Collections.*
7. Business, Leeds School of (H-10). *See Koelbel Building.*
8. Carlson Gymnasium (E-7) (CARL)
9. Center for Astrophysics and Space Astronomy (L-3) (CASA)
10. Center for Community (I-9) (C4C)
11. Clare Small Arts and Sciences (D-6) (CLRE)
- \* Charlotte York Irey Studios (F-4). *See University Theatre.*
12. Children's Center—Main Offices (A-9) (DACR)
13. Children's Center at Smiley Court (L-2) (SMCC)
14. Computing Center (J-3) (COMP)
15. Continuing Education and Professional Studies (D-4) (CEDU)
16. Cooperative Institute for Research in Environmental Sciences (F-5) (CIRES)
17. Coors Events/Conference Center (I-12) (EVNT)
18. Cristol Chemistry and Biochemistry (G-5) (CHEM)
19. Dal Ward Athletic Center (D-8) (DALW)
20. Denison Arts and Sciences (G-4) (DEN)
21. Discovery Learning Center (F-11) (DLC)
- \* Drescher Undergraduate Engineering. (G-11) *See Integrated Teaching and Learning Laboratory.*
- \* Duane Physical Laboratories (F-7). *See Duane Physics and Astrophysics, Gamow Tower, Laboratory for Atmospheric and Space Physics, and JILA.*
22. Duane Physics and Astrophysics (F-7) (DUAN)
23. Eaton Humanities Building (E-5) (HUMN)
24. Economics (F-3) (ECON)
25. Education (G-4) (EDUC)
26. Ekeley Sciences (F-5) (EKLC)
27. Engineering Center (F/G-10/11) (EC)
28. Environmental Design (G-7) (ENVN)
29. Environmental Health and Safety Center (H-13) (EHSC)
30. Euclid Avenue AutoPark (G-6) (EPRK)
31. Fiske Planetarium and Science Center (J-10) (FISK)
32. Fleming Building (K-10) (FLMG)
33. Folsom Stadium (E-8) (STAD)
34. Gamow Tower (F-7) (DUAN)
35. Gates Woodruff Women's Studies Cottage (F-3) (COTT)
36. Grounds and Service Center (D-9) (GRNS)
37. Guggenheim Geography (F-3) (GUGG)
38. Hale Science (E-3) (HALE)
39. Health Physics Laboratory (D-9) (HPHY)
40. Helms Arts and Sciences/Mary Rippon Theatre (G-4) (HLMS)
- \* Henderson Building (G-4). *See Museum of Natural History.*
41. Housing System Maintenance Center (K-3) (HSMC)
42. Housing System Service Center (J-2) (HSSC)
43. Imig Music (H-7) (MUS)
44. Institute for Behavioral Genetics (K-1) (IBG)

continued on back

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45. Institute of Behavioral Science (C-3) (IBS)
46. IBS No. 1 (D-3) (IBS1)
47. IBS No. 2 (C-2) (IBS2)
48. IBS No. 3 (D-2) (IBS3)
49. IBS No. 4 (D-2) (IBS4)
50. IBS No. 5 (D-4) (IBS5)
51. IBS No. 6 (C-2) (IBS6)
52. IBS No. 7 (C-2) (IBS7)
53. IBS No. 8 (C-3) (IBS8)
54. Integrated Teaching and Learning Laboratory (G-11) (ITLL)
55. International English Center (G-2) (IEC)
56. JILA (G-7) (JILA)
  - \* Jennie Smoly Caruthers Biotechnology. *See Biotechnology.*
57. Ketchum Arts and Sciences (F-6) (KTCH)
  - \* Koelbel Building (H-10) (KOBL). *See Leeds School of Business.*
58. Koenig Alumni Center (E-2) (ALUM)
59. Laboratory for Atmospheric and Space Physics (F-7) (LASP)
60. LASP Space Technology Research Center (L-3) (LSTR)
61. Lesser House (F-11) (LESS)
  - \* Life Sciences Laboratories Complex (E-7). *See Muenzinger Psychology, Porter Biosciences, and Ramaley Biology.*
62. Macky Auditorium (D-4) (MCKY)
63. Mathematics Building (F-10) (MATH)
64. MCD Biology (E-7) (MCDB)
65. McKenna Languages (E-4) (MKNA)
66. Muenzinger Psychology (E-7) (MUEN)
67. Museum Collections (Bruce Curtis Building) (G-3) (MCOL)
68. Museum of Natural History, University of Colorado (G-4) (HEND)
69. Norlin Library (E-6) (LIBR)

70. Nuclear Physics Laboratory (K-2) (NPL)
71. Old Main (E-4) (MAIN)
72. Page Foundation Center (D-3) (PFDC)
73. Police and Parking Services (G-12) (PDPS)
74. Porter Biosciences (E-7) (PORT)
75. Power House (F-6) (POWR)
76. Ramaley Biology (E-6) (RAMY)
77. Regent Administrative Center (I-8) (RGNT)
78. Regent Drive AutoPark (G-12) (RPRK)
79. Research Laboratory, Rose Litman RL1 (J-1) (LITR)
80. Research Laboratory (K-1) (RL2)
81. Research Laboratory, Life Science RL4 (K-1) (LSRL)
82. Research Laboratory, RL6 (Marine Street Science Center) (J-2) (MSSC)
83. Research Park Advanced Technologies Center (L-4) (USW)
84. Research Park Greenhouse (K-1) (GH-3)
85. Sommers-Bausch Observatory (I-11) (OBSV)
86. Speech, Language, and Hearing Sciences (I-11) (SLHS)
87. Stadium Building (E-8) (STAD)
88. Stadium Ticket Building (F-9) (STTB)
89. Student Recreation Center (D-6/7) (REC)
90. Sybase (K-3) (SYBS)
91. Telecommunications Building (G-6) (TCOM)
92. Temporary Building No.1 (D-6) (TB01)
93. Transportation Center (J-2) (TRAN)
94. University Administrative Center and Annex (I-7) (UCTR)
95. University Club (H-6) (CLUB)
96. University Memorial Center (G-5) (UMC)
97. University Theatre (including Charlotte York Irey Studios) (F-4) (THTR)
98. Visual Arts Complex (G-6) (VAC)
99. Wardenburg Health Center (H-7) (WARD)
100. Woodbury Arts and Sciences (E-5) (WDBY)
101. Wolf Law Building (L-12) (WLFL)

## University Housing

102. Aden Hall—Quadrangle (G-9) (ADEN)
103. Andrews Hall—Kittredge Complex (J-11) (ANDS)
104. Arnett Hall—Kittredge Complex (J-12) (ARNT)
105. Athens Court (B/C-6/7) (ATCT)
106. Athens North Hall (B-6) (ATHN)
107. Baker Hall (G-7) (BKER)
108. Bear Creek Apartments—Williams Village (L-6) (BCAP)
109. Brackett Hall—Quadrangle (G-9) (BRKT)
110. Buckingham Hall—Kittredge Complex (K-12) (BUCK)
111. Cheyenne Arapaho Hall (H-7) (CHEY)
112. Cockerell Hall—Quadrangle (G-10) (CKRL)
113. College Inn Hall (B-5) (CICC)
114. Crosman Hall—Quadrangle (G-10) (CROS)
115. Darley Commons—Williams Village (L-6) (DLYC)
116. Darley Towers—Williams Village (K-5) (DLYT)
117. Faculty Staff Court (C-5/6) (FACT)
118. Farrand Hall (H-9) (FRND)
119. Hallett Hall (H-9) (HLET)
120. Kittredge Commons—Kittredge Complex (J-10) (KITT)
  - \* Kittredge Complex. *See Kittredge Commons, Andrews, Arnett, Buckingham, Kittredge West, and Smith Halls.*
121. Kittredge West Hall—Kittredge Complex (J-10) (KITW)
122. Libby Hall (G-8) (LIBY)
123. Marine Court (B-7) (MRCT)
124. Newton Court (B/C-9/10) (NTCT)
  - \* Quadrangle (Engineering Quadrangle). *See Aden, Brackett, Cockerell, and Crosman Halls.*
125. Reed Hall (H-10) (REED)
126. Sewall Hall (D-5) (SWLL)
127. Smiley Court (L-1) (SMCT)
128. Smith Hall—Kittredge Complex (K-11) (SMTH)
129. Stearns Towers—Williams Village (K-6) (STRN)
130. Willard Hall—South Wing (H-8) (WLRD)
  - \* Williams Village. *See Bear Creek Apartments, Darley Commons, Darley Towers, and Stearns Towers.*
131. Williams Village II—(K-6) (WV2)

	THU	FRI	SAT
8:30 AM	Coffee	Coffee	Coffee
8:45 AM	<b>Invited Speaker</b>	<b>Invited Speaker</b>	<b>Invited Speaker</b>
9:00 AM	S. Schneider	T. Horgan	S. Thompson-Schill
9:15 AM			
9:30 AM			
9:45 AM			
10:00 AM	<b>Contributed Sessions</b>	<b>Contributed Sessions</b>	<b>Contributed Sessions</b>
10:15 AM	<b>1 &amp; 2</b>	<b>3 &amp; 4</b>	<b>5 &amp; 6</b>
10:30 AM			
10:45 AM			
11:00 AM			
11:15 AM			
11:30 AM			
11:45 AM			
12:00 PM			
12:15 PM			
12:30 PM			
12:45 PM			
1:00 PM	Lunch	Lunch	Lunch
1:15 PM			
1:30 PM	Exec Comm Meeting		Business Meeting
1:45 PM			
2:00 PM			
2:15 PM	<b>Cutting Edge Sessions</b>	<b>Cutting Edge Sessions</b>	<b>Cutting Edge Sessions</b>
2:30 PM			
2:45 PM			
3:00 PM	<b>1 &amp; 2</b>	<b>3, 4, &amp; 5</b>	<b>6 &amp; 7</b>
3:15 PM			
3:30 PM		<b>Symposium</b>	<b>Presidential Address</b>
3:45 PM		D. Shohamy	
4:00 PM	<b>Stanton Lecture</b>	N. Daw	B. Scholl
4:15 PM	J. Greene	T. Gendler	
4:30 PM			
4:45 PM			
5:00 PM			<b>Symposium</b>
5:15 PM	Poster		P. Todd
5:30 PM	Madness		A. Goldman
5:45 PM			M. Bishop
6:00 PM			
6:15 PM			
6:30 PM	<b>Poster Session 1 &amp; Reception</b>	<b>Poster Session 1 &amp; Reception</b>	
6:45 PM			
7:00 PM			
7:15 PM			
7:30 PM			
7:45 PM			
8:00 PM			