Banff Annual Seminar In Cognitive Science

Apr 30-May 1

Inns of Banff

Friday Apr 30

4:30 PM Welcome and opening remarks

Please register with Peter Dixon if you have not already done so ($70 for faculty, $25 for students and postdoctoral fellows).

4:45 PM **Jonathan Fugelsang** (University of Waterloo)

Examining the Nature of Belief

Research in numerous fields, including decision making, social reasoning, and scientific thinking, has demonstrated that one's beliefs can influence how new information is gathered, interpreted and applied in multiple contexts. My colleagues and I have been involved in several lines of research examining the nature of belief-based processes, particularly as it pertains to causal beliefs. I will discuss three lines of research aimed at examining (1) the representation of belief at a semantic level, (2) the degree to which the application of belief can be consciously controlled, and (3) the possible mechanisms underlying the acquisition of belief. These three lines of research converge on the notion that beliefs can affect processing at a very low level. The implications of this low level of processing will be discussed in terms of the modifiability of beliefs in the face of new evidence in real life decision-making.

6:15 PM Dinner break

8:00-11:00 PM Reception and poster session (Sponsored by the *Canadian Journal of Experimental Psychology* and the Canadian Psychological Association)

Saturday May 1

8:30 AM Coffee, tea, juice, pastries

9:00 AM **Jonathan St. B. T. Evans** (University of Plymouth)

Dual Process Theories of Thinking and Reasoning: Facts and Fallacies

Dual-process theories have been widely applied to the psychology of reasoning, as well as a number of related fields (learning, decision making, social cognition). Broadly, the idea is that performance in thinking and reasoning reflects the combination of two kinds of thinking: fast, automatic and high capacity (type 1), and slow, controlled and low capacity type 2). Theories fall into two broad categories, according to whether they envisage type 1 and 2 processes proceeding in parallel, or else claiming that type 1 processes provide default intuitive responses that may or may not be moderated by slower, reflective type 2 processes. There is considerable empirical evidence to support the existence of dual processing in higher cognitive tasks. I will show, however, that a number of erroneous conceptions have emerged from these research programs. First, the widespread assumption that type 1 (heuristic) processes are responsible for cognitive biases and type 2 (analytic) processes for normatively correct reasoning is simply wrong. Nor is it correct to thinking of type 1 processes as contextualized while type 2 thinking is abstract and logical.

The common designation of type 2 thinking as conscious and controlled and type 1 thinking as unconscious and automatic is also highly problematic. I conclude with a sketch of a 'two minds' theory that can accommodate the existing literatures.

10:30 AM Coffee, tea, juice

11:00 AM **Norman R. Brown** (University of Alberta)

Historical-defined Autobiographical Periods: Their Origins and Implications

This presentation will consist of three sections. First, I review evidence indicating that historically-significant public events sometimes create historically-defined autobiographical periods (H-DAPs), and argue that this happens only when external events bring about wide-spread, profound and enduring changes in the fabric of daily life. The remaining sections address the implications of these claims. In the second section, I focus on collective memory and consider the possibility that H-DAP formation predicts the intergenerational transmission of the precipitating events and that the absence of H-DAPs predicts the opposite. In the third section, I discuss the theoretical implications of this research for a general understanding of personal memory. In particular, I contend that autobiographical memory is organized in a way that reflects marked changes in the fabric of daily life (FoDL). Typically, these FoDL transitions occur at the level of the indivual, but they can also occur at the level of the group. On this view, standard lifetime periods are associated with FoDL transitions at the individual level, and H-DAPs are associated with FoDL transitions at the group level.

12:30 PM Lunch break

2:00 PM **Raymond M. Klein & Matthew D. Hilchey** (Dalhousie University)

Using Inhibition of Return to Illustrate the Psychological Scientist's Challenge to Avoid Unreality and Uncontrol

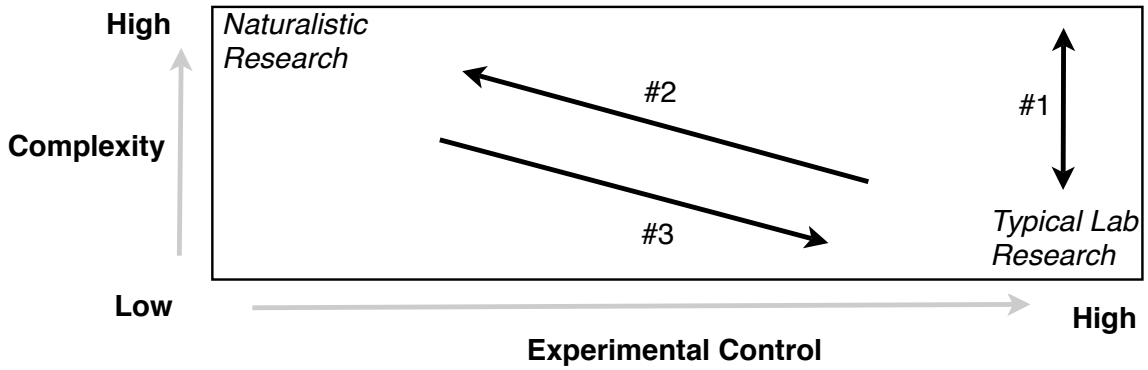
The task of reducing human thought and behavior "to a mechanical process of cause and effect" is, according to Hebb, the most difficult task in science. One reason is the conflict between the goals to achieve a useful degree of ecological validity *and* to control irrelevant variables and make precise measurements. Like the sailor in Greek mythology, who must navigate between two terrible hazards, Scylla and Charybdis, the psychological scientist must navigate between uncontrol and unreality. Research on inhibition of return will be used to illustrate these hazards and to provide some guidance for safe and fruitful navigation between them.

3:30 PM Coffee, tea, juice, cake

4:00 PM **Alan Kingstone** (University of British Columbia)

Everyday Human Attention: Now You See It, Now You Don't

As researchers we all know that cognitive processes vary and are affected by what is happening elsewhere in the system. In other words, cognitive processes depend critically on the specific situational context in which a subject is embedded. Thus, if we wish to engage and understand the cognitive processes that are engaged by everyday living, we need to examine human performance in real life situations.



In my talk I will present different approaches (illustrated above) that researchers may take in trying to link lab with real life. One approach (see arrow #1) is to take an effect that is normally studied in an impoverished and highly controlled setting (e.g., visual search or IOR) and varying the situational complexity of the situation while maintaining high experimental control. This approach might tell us a great deal about the paradigm-specific-effect, but it probably doesn't tell us much about the cognitive processes that are involved in everyday life; indeed, it's very possible that the effect being studied never occurs in real-life. Another approach (arrow #2) is to increase situational complexity while loosening control. This approach is much more promising, but as I will show, one may discover in the end that the behaviour one has been studying in controlled situations occurs because of that control. A third approach (arrow #3), called cognitive ethology, initially observes naturally occurring behaviour, and then progressively introduces experimental control. One major advantage of this approach is that one can discover immediately whether the naturally occurring effect does (or does not) persist when it is introduced into a controlled setting in the lab; and therefore one can discover whether the effect one is studying in the lab is likely (or not) to provide information about behaviour that really occurs in everyday life.

5:30 PM Closing remarks

6:00-8:00 PM Reception and poster session

Posters Friday 8:00-11:00

1. Petra McDougall (University of Lethbridge), *Is passive observation of wild animal behaviour possible?*
2. Alan Nielsen, Drew Rendall (University of Lethbridge), *Transparency, rule construction, and the bouba-kiki effect*
3. Kristine A. Peace, Alexandra Rocchio (Grant MacEwan University), *Believing the bizarre: Bizarre details, fantasy proneness, and credibility assessment*
4. Jennifer Ference, Christopher Sears, Kristin Newman, Charmaine Thomas (University of Calgary), *Endogenous disengagement of attention from emotional information in anxious individuals*
5. Catherine I. Phillips, Penny M. Pexman (University of Calgary), *Happy dog – sad dog: What do 4-year-old children understand about opposites?*
6. Christopher Madan, C. S. M. Lau, J. B. Caplan, E. Fujiwara (University of Alberta), *Emotion does not always enhance contextual-memory*
7. Amanda Loven, Jason Targer, Wen Wu, John Vokey (University of Lethbridge), *The implicit learning of style*
8. Connie Svob, Norman R. Brown (University of Alberta), *Impoverished event clustering in childhood autobiographical memory*
9. Josée Amyotte, Carrie Esopenko, Gordon Sarty, Ron Borowsky, Jacqueline Cummine (University of Alberta), *The effects of a basic naming and a go no-go naming task on the ventral and dorsal processing streams*
10. Shauna Sam, Nicole D. Anderson (Grant MacEwan University), *Word memory in grapheme colour synesthetes*
11. Krista Brower, Kristine A. Peace (Grant MacEwan University), *Are we 'plugged-in' to detecting deception?: Content cues to deception as a function of arousal feedback*
12. Aaron A. Brown, Glen E. Bodner (University of Regina), *Re-examining dissociations of remembering and knowing: Orthogonal judgments vs. independent ratings*
13. Lesley Terry, Paul Vasey (University of Lethridge), *Food, feeding, and female sexual arousal*
14. Justine McEachern, Aimee Skye (Grant MacEwan University), *Understanding the nature and alleviation of disgust*
15. Shannon M. Digweed (Grant MacEwan University), *Red squirrel vocalizations: To whom are calls addressed and how do they function?*
16. Juanita Whalen, Penny Pexman, Gemma Leonard (University of Calgary), *The cognitive processing of irony in middle childhood*
17. Ian Surdhar, Anthony Singhal (University of Alberta), *Proprioceptive modulation of early auditory processing in peripersonal and extrapersonal space*
18. A. Nicole Burnett, Glen E. Bodner (University of Calgary), *Levels of processing versus transfer-appropriate processing after two study trials*
19. Brent Pancheshen, Josee Amyotte, Amanda Miller, Jacqueline Cummine (University of Alberta), *The role of phonology in the go no-go naming task: An analysis of the frequency x regularity effect*
20. Arron W. S.Metcalfe, Jamie I. D. Campbell (University of Saskatchewan), *Arithmetic strategy use and operand recognition*
21. Renata Ruch, Shannon M. Digweed (Grant MacEwan University), *Acoustic cues to individual identity in domestic calf (bos taurus) vocalizations*
22. Jessica LeHuquet, Jennifer Ference, Christopher Sears (University of Calgary), *Individual differences in attention to emotional images*
23. Carrie Esopenko, Jacqueline Cummine, Naila Kulhman, Gordon Sarty, Ron Borowsky (University of Saskatchewan), *The relationship between bold parameters and response times in the frontocentral network*

Posters Saturday 6:00-8:00

24. Kasia Pisanski, Drew Rendall (University of Lethbridge), *Resonances override pitch in voice-based assessments of mate qualities*
25. Kristan A. Marchak, Christina L. Gagné, Thomas L. Spalding (University of Alberta), *The availability of lexical and semantic representations of opaque and transparent compounds during processing*
26. Kim Tan MacNeill, Lee-Ann McKay, Suzanne Hala (University of Calgary), *The effects of elaboration and generation on source monitoring in 4-year-olds*
27. Kristin Rostad, Penny Pexman (University of Calgary), *Desire understanding in 4- to 7-year-old children: Emerging appreciation of competing desires*
28. Cody Tousignant, Glen Bodner, Andreas Breuer, Christopher Warren (University of Calgary), *Context affects subjective beauty ratings of painted artworks*
29. Felicia Nordlund, Tugba Uzer, Peter J. Lee, Norman Brown (University of Alberta), *Life transitions and the organization of autobiographical memory*
30. Michele Wellsby, Paul D. Siakaluk, Penny M. Pexman, P. Ian Newcombe, William J. Owen (University of Northern British Columbia), *Does embodied knowledge facilitate processing of insults in a categorization task?*
31. Katherine Ensslen, Kristine A. Peace (Grant MacEwan University), *The stranger in the alley stole my purse!: The influence of schemas and repeated recall on memory*
32. Tugba Uzer, Peter J. Lee, Norman R. Brown (University of Alberta), *Autobiographical content versus object terms as cues for retrieval of autobiographical memories*
33. Kimberly Thatcher, Catherine Phillips, Penny Pexman (University of Calgary), *Children's understanding of synonymy*
34. Melissa Reimchen, John E. Granzow, John R. Vokey (University of Lethbridge), *Humming the implied fundamental: A source of musical expertise*
35. Yang Liu, Michelle Chan, Jeremy B. Caplan (University of Alberta), *Relative order judgements mechanisms in subspan and supraspan lists*
36. Mitchell LaPointe, John R. Vokey, Wen Wu, Jason Tangen (University of Lethbridge), *Object recognition depends on more than just the object*
37. Oliver Schweickart, Norman R. Brown (University of Alberta), *What you don't know can help you: How recognition informs binary choice under uncertainty*
38. Rachel Burton, Jeremy B. Caplan (University of Alberta), *A strategy that overturns the classic finding of independence in A-B / A-C learning*
39. Thomas Phenix (University of Regina), *Examining retrieval-induced forgetting across episodes in children*
40. Mikayla Kuchinsky, Kristine A. Peace (Grant MacEwan University), *Pin the memory on the liar: Content-based versus linguistic features in credibility determinations*
41. Michael Woloszyn (Thompson Rivers University), *Spectacles and dumbbells: Assessing three competing explanations of the Müller-Lyer illusion.*
42. Gordon Pennycook, Valerie Thompson (University of Saskatchewan), *Base rate neglect: Now you see it, now you don't*
43. Francess Tassone, Aimee Skye (Grant MacEwan University), *In the public eye: How and when does private self-knowledge bias our predictions of how we are viewed by others?*
44. Nicole D. Anderson, Garrett Kruger (Grant MacEwan University), *Loudness adaptation to pure tones and iterated ripple noise*
45. Deanna Forrester, Rodney Schmaltz (University of Lethbridge), *Rising to the top: Does being elevated increase feelings of power?*
46. Tom Rutherford, Carling Nugent, Louise Barrett, John Vokey, Peter Henzi, John Granzow (University of Lethbridge), *The didabats are tidying up! Emergent social behavior in simple robots*

Registrants

Scott Allen
University of Lethbridge
allens@uleth.ca

Josée Amyotte
University of Alberta
amyotte@ualberta.ca

Nicole D. Anderson
Grant MacEwan University
AndersonN26@macewan.ca

Charlie Belu
Grant MacEwan University
char.florica@gmail.com

Glen Bodner
University of Calgary
bodner@ucalgary.ca

Ron Borowsky
University of Saskatchewan
ron.borowsky@usask.ca

Krista Brower
Grant MacEwan University
BrowerK@mymail.macewan.ca

Aaron A. Brown
University of Regina
brown18a@uregina.ca

Norman R. Brown
University of Alberta
nrbrown@ualberta.ca

A. Nicole Burnett
University of Calgary
anburnet@ucalgary.ca

Rachel Burton
University of Alberta
rlburton@ualberta.ca

Jamie Campbell
University of Saskatchewan
jamie.campbell@usask.ca

Jeremy Caplan
University of Alberta
jcaplan@ualberta.ca

Anthony Chaston
Mount Royal College
achaston@mtroyal.ca

Emma Climie
University of Calgary
eaclimie@ucalgary.ca

Jacqueline Cummine
University of Saskatchewan
jacqueline.cummine@usask.ca

Shannon M. Digweed
University of Lethbridge
shannon.digweed@uleth.ca

Peter Dixon
University of Alberta
peter.dixon@ualberta.ca

Katherine Ensslen
Grant MacEwan University
EnsslenK2@mymail.macewan.ca

Carrie Esopenko
University of Saskatchewan
carrie.esopenko@usask.ca

Jonathan St. B. T. Evans
University of Plymouth
J.Evans@plymouth.ac.uk

Jennifer Ference
University of Calgary
jennifer.ference@gmail.com

Michael Friesen
MacEwan University
mikefriesen@shaw.ca

Deanna Forrester
University of Lethbridge
deanna.forrester@uleth.ca

Jonathan Fugelsang
University of Waterloo
jafugels@uwaterloo.ca

Yara Haddadin
University of Calgary
yara.haddadin@gmail.com

Ian Hargreaves
University of Calgary
ishargre@ucalgary.ca

Lynne Honey
Grant MacEwan University
honeyl@macewan.ca

Alan Kingstone
University of British Columbia
alan.kingstone@ubc.ca

Raymond M. Klein
Dalhousie University
klein@or.psychology.dal.ca

Mikayla Kuchinsky
Grant MacEwan University
KuchinskyM@mymail.macewan.ca

Mitchell LaPointe
University of Lethbridge
mitchell.lapointe@uleth.ca

Jessica LeHuquet
University of Calgary
jlehuque@ucalgary.ca

Yang Liu
University of Alberta
ly6@ualberta.ca

Shirley Lo
University of Calgary
kidmui@gmail.com

Amanda Loven
University of Lethbridge
amanda.loven@uleth.ca

Samantha Lowden
University of Calgary - Student
smlowden@ucalgary.ca

Kim Tan MacNeill
University of Calgary
kmtanmac@ucalgary.ca

Christopher Madan
University of Alberta
cmadan@ualberta.ca

Kristan A. Marchak
University of Alberta
kmarchak@ualberta.ca

Petra McDougall
University of Lethbridge
petra.mcdougall@uleth.ca

Justine McEachern
Grant MacEwan University
McEachernJo@mymail.macewan.ca

Lee-Ann McKay
University of Calgary
lamckay@ucalgary.ca

Arron W. S. Metcalfe
University of Saskatchewan
arron.metcalfe@usask.ca

Weimin Mou
University of Alberta
wmou@ualberta.ca

Alan Nielsen
University of Lethbridge
alan.nielsen@uleth.ca

Felicia Nordlund
University of Alberta
fnordlun@ualberta.ca

William Owen
University of Northern British Columbia
owenw@unbc.ca

Brent Pancheshen
University of Alberta
panchesh@ualberta.ca

Lisa Pascal
University of Calgary
lmpascal@ucalgary.ca

Kristine A. Peace
Grant MacEwan University
PeaceK@macewan.ca

Gordon Pennycook
University of Saskatchewan
grp992@mail.usask.ca

Thomas Phenix
University of Regina
tom.phenix@uregina.ca

Catherine I. Phillips
University of Calgary
ciphilli@ucalgary.ca

Natalia Pieczykolan
University of Alberta
npieczyk@ualberta.ca

Kasia Pisanski
University of Lethbridge
k.pisanski@uleth.ca

Avery Popien
University of Lethbridge
avery.popien@uleth.ca

Verna Raab
Mount Royal College
vraab@mtroyal.ca

Melissa Reimchen
University of Lethbridge
melissa.reimchen@uleth.ca

Kristin Rostad
University of Calgary
krrostad@ucalgary.ca

Renata Ruch
Grant MacEwan University
RuchR@MyMail.MacEwan.ca

Tom Rutherford
University of Lethbridge
tom.rutherford@uleth.ca

Shauna Sam
Grant MacEwan University
sams1@mymail.macewan.ca

Oliver Schweickart
University of Alberta
oliver.schweickart@ualberta.ca

Chris Sears
University of Calgary
sears@ucalgary.ca

Julie Sharp
University of Alberta
jsharp@ualberta.ca

Paul Siakaluk
University of Northern British Columbia
siakaluk@unbc.ca

Aimee Skye
Grant MacEwan University
skyea2@macewan.ca

Ian Surdhar
University of Alberta
isurdhar@ualberta.ca

Connie Svob
University of Alberta
svob@ualberta.ca

Francess Tassone
Grant MacEwan University
tassonef@mymail.macewan.ca

James Taylor
Mount Royal College
jctaylor@mtroyal.ca

Cheryl Techentin
Mount Royal University
ctechentin@mtroyal.ca

Lesley Terry
University of Lethridge
lesley.terry@uleth.ca

Kimberly Thatcher
University of Calgary
kimberlythatcher@hotmail.com

Valerie Thompson
University of Saskatchewan
valerie.thompson@usask.ca

Cody Tousignant
University of Calgary
catousig@ucalgary.ca

Tugba Uzer
University of Alberta
uzer@ualberta.ca

John Vokey
University of Lethbridge
vokey@uleth.ca

Michele Wellsby
University of Northern British Columbia
wellsby@unbc.ca

Chris Westbury
University of Alberta
chrisw@ualberta.ca

Juanita Whalen
University of Calgary
jwhalen@ucalgary.ca

Michael Woloszyn
Thompson Rivers University
mwoloszyn@tru.ca

Acknowledgment

The organizers gratefully acknowledge the support of the Departments of Psychology at the University of Alberta, the University of British Columbia, the University of Calgary, the University of Lethbridge, the University of Manitoba, the University of Saskatchewan, Simon Fraser University, the University of Northern British Columbia, and the University of Victoria, as well as the Canadian Society for Brain, Behaviour, and Cognitive Science and the *Canadian Journal of Experimental Psychology.*

Notes