

Symposium at the 2013 meeting of the Psychonomic Society
(Toronto, 14-17 November)

Symposium Title: *Future Global Change and Cognition*

Symposium organizer: Stephan Lewandowsky (University of Bristol and University of Western Australia)
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Scheduling: Friday, 15 November, 9:50 am -12:00 noon

Symposium abstracts in the order in which they will be presented. Note that all but the first one are 15 minutes:

Stephan Lewandowsky (University of Bristol and University of Western Australia; stephan.lewandowsky@bristol.ac.uk): *Future Global Change and Cognition (10 minutes; all remaining talks are 15 minutes [i.e., 12+3])*.

Abstract: We are living in a period of considerable global change. From climate change to resource scarcity, food security, or the presumed “peak oil”, societies are facing multiple challenging problems. Cognitive psychology and allied disciplines have much to contribute to how people are likely to view those problems and how they will respond to them and manage them. This symposium highlights those psychological and cognitive aspects from an interdisciplinary perspective.

Marc Berman (University of South Carolina; bermanm@mailbox.sc.edu): *The Restorative Benefits of Interacting with Nature*

Abstract: For centuries people have had the intuition that interacting with nature is good for us. The question is whether this intuition is true and how or why interacting with nature can be good for us. Attention Restoration Theory (ART) provides a theoretical framework to explain how and why interacting with nature can be beneficial for cognitive functioning. A series of experiments will be presented with results that support ART, namely that interacting with nature can restore the ability to direct-attention. In addition, to ART, other theories will be presented that posit additional reasons why interacting with nature can be beneficial. Lastly, future experimental directions will be presented to understand more fully just how and why interacting with nature can be beneficial psychologically. Results from these experiments provide another reason why the advanced destruction of the natural environment can have not only adverse ecological effects, but psychological effects as well. (148 words)

Lawrence Torcello (Rochester Institute of Technology; lgtghs@rit.edu): *Climate Change, Science Denialism, and Ethics*

Abstract: The heating of the Earth’s atmosphere through human activity raises issues of global justice including animal welfare, economic fairness, the ethical relevance of future generations, and global poverty. Thus the issue of climate change is not just one moral challenge but a complex interweaving of several. I review the most complex issues that arise from climate change. I then argue that the fundamental crisis they share is that of science denialism among those in countries both best equipped to deal with climate change and most responsible for it. As the disturbances caused by climate change increase, so too do effective schemes for propagating denialism. I argue that in the current context, science denialism must be understood and addressed as an ethical problem, and I suggest resources for that approach. (129 words)

Liane Young (Boston College; liane.young@bc.edu): *Moral cognition on high and on the ground*

Abstract: Reasoning about people's mental states (i.e., beliefs, intentions) is crucial for social interaction and moral evaluation, allowing us to distinguish between murder and manslaughter, for example. First, I'll present work on mental state reasoning for moral evaluation – judging agents from a position “on high” as an observer or a judge. We'll look at whether mental state reasoning is required for judging all moral actions, i.e. harm and purity violations. We'll also look at whether mental state reasoning is required for evaluating not just moral actions but also for moral beliefs. Second, I'll turn to moral cognition “on the ground” – mental state reasoning for social interaction. I'll present evidence indicating distinct signatures of mental state reasoning for distinct motivational contexts – for cooperation vs competition, for interacting with ingroups vs outgroups. Do we reason about mental states differently depending on whether we aim to affiliate with our allies versus anticipate enemy attacks? (150 words)

Erin P. Hennes (University of California, Los Angeles; eph231@nyu.edu), John T. Jost (New York University), & Benjamin C. Ruisch (Cornell University): *System Justification Distorts Recall and Evaluation of Information about Climate Change*

Abstract: Unlike many contentious political issues today, much of the disagreement about anthropogenic climate change centers not on how best to take action, but on whether the problem exists at all. Recent findings indicate that individuals may be motivated to deny environmental problems in order to maintain the socioeconomic status quo. In three studies, we find that system justification leads to distorted recall and evaluation of scientific information. Participants were exposed to scientific evidence of climate change and later asked to recall and evaluate what they had learned. Individuals more (vs. less) motivated to justify the economic system misremembered the evidence as less serious and judged it to be weaker. This was true whether system justification was measured (Studies 1-2) or manipulated experimentally (Study 3). These findings suggest that simply providing the public with scientific evidence may be insufficient to inspire action to mitigate the effects of climate change. (148 words)

Teresa Myers (George Mason University; tmyers6@gmu.edu), Ed Maibach (George Mason University), & Anthony Leiserowitz (Yale University): *Personal Experience of Extreme Weather and Belief in Climate Change*

Abstract: Climate change can be seen by the public as a statistical abstraction that is difficult to detect and understand; however, as extreme weather becomes more obtrusive, teachable moments may arise. I will review results from the ongoing American nationally representative survey series, *Climate Change in the American Mind*, that show that a large majority of Americans say they personally experienced an extreme weather event or natural disaster in the past year. Additionally, I will discuss evaluation results – both cross-sectional and experimental – of a weathercaster intervention in which a Columbia, South Carolina weathercaster incorporated informal science education content about climate change into local weather stories as a strategy to enhance public climate change awareness and knowledge; demonstrating that weathercasters can play a key role in helping their audiences understand how to interpret local weather in the context of global climate change. (Word count: 140)

Ezra Markowitz (Columbia University and Princeton University; ezram@Princeton.EDU): *Communicating uncertainty to an uncertain public: Effects on climate change engagement.*

Abstract: Anthropogenic climate change involves multiple sources and types of uncertainty (e.g., scientific ambiguity; disagreement between experts and elites; manufactured controversy). This uncertainty is communicated both directly and indirectly to members of the general public through a wide variety of communications channels, including interpersonal interactions and mass media. Past and ongoing work highlights the wide-ranging and critical influence that uncertainty plays in shaping how non-experts think about and respond to this and other large-scale issues. Drawing from a number of

relevant literatures, I explore some of the effects of communicating uncertainty regarding climate change on individuals' engagement and action on this issue; I also discuss some of the psychological mechanisms by which uncertainty shapes the public's response to climate change. (119 words)

Andrew Shtulman (Occidental College; shtulman@oxy.edu): *Conceptual and epistemic obstacles to achieving scientific literacy.*

Abstract: Three decades of research in cognitive development and science education has revealed that students enter the science classroom with rich, though generally inaccurate, theories of everyday phenomena that often interfere with learning. I will present research suggesting that these “intuitive” theories are never truly replaced by scientific theories but rather coexist with them, shaping the kinds of inferences we make, the kinds of explanations we endorse, and the kinds of information we accept as true. While adults with extensive science education are typically able to discriminate between scientific and non-scientific claims, they are slower to make those discriminations for claims that are inconsistent with their intuitive theories, and they justify the endorsement of scientific claims by appealing to authority rather than evidence. The scientific literacy needed to engage with topics of global importance may thus be constrained by patterns of reasoning that emerge in childhood but persist long thereafter. (149 words)

John Zelenski (Carleton University; john_zelenski@carleton.ca): *Nature as a Path to Sustainability*

Abstract: Drawing on sociobiologist E. O. Wilson's biophilia hypothesis, many scholars have suggested humans' disconnection from nature as a cause of environmentally destructive behavior. I will review a line of research that tests this basic idea with a variety of approaches. For example, in correlational work, we have found that individual differences in people's subjective sense of connection with nature ('nature relatedness') predict sustainable behavior and pro-environmental attitudes. In new experimental work, we have found that exposure to natural (vs. built) environments produces conceptually similar results, e.g., cooperative, sustainable behavior in fishing-themed commons dilemmas, more pro-social resource allocations, and increased self-reported willingness to engage in sustainable behaviors. Although these effects appear to be independent of mood, connecting with nature often makes people happy. Thus, I will conclude by exploring the idea that nature exposure could provide a 'happy path to sustainability' with both psychological and ecological benefits. (146 words)