INTERNATIONAL ASSOCIATION FOR THE COGNITIVE SCIENCE OF RELIGION (IACSR)

IACSR 2013 Berlin Conference on Social Cognition and Religion

*Held in conjunction with CogSci 2013*

Organizers: Joseph Bulbulia and Armin W. Geertz
Notes for Presenters and Session Chairs

1. The conference room will be equipped with a data-projector.
2. If you intend to project your talk (advisable) please bring your own computer.
3. As a backup, please bring a flash drive with your presentation on it.
4. Talks should not exceed 20 minutes. Each talk will be followed by a maximum of 10 minutes for discussion.
5. The Keynote should not exceed 40 minutes.
6. Session chairs are asked to ensure that sessions begin promptly and that presenters do not run over their allotted time.
7. If you are presenting a poster, please bring fasteners, in addition to the poster.

Date and Time
31 July, 2013, from: 8:30am to 6:30pm.

Meeting Rooms
Humbolt University, Faculty of Law, room number: E42.

Refreshments and Meals
There will be coffee in the morning, lunch on your own.

Reception
Near the conference room at around 6:30pm.

Map
Location of the 2013 IACSR workshop
Programme and Abstracts

Opening
8:30am–9:00am
Armin W. Geertz and Joseph Bulbulia
Opening Address: Rethinking the History of the Social Cognitive Science of Religion

Keynote
Session 1. 9:00am–10:00am
Jeffrey Schloss et al.
Religious Worship, Charismatic Experience, and Oxytocin-Mediated Signals of Commitment

Break
10:00am–10:30am

Implicit Social Cognition and Religion
Session 2. 10:30am–12:00pm
Hein van Schie et al.
Religious Priming Biases Agency Attribution to Natural Phenomena and Humans
Jonathan Jong
Jan Kratky and John J. McGraw
Anthropomorphic Representations: Investigating Proximate Mechanisms of Setting on Cooperative Behaviour

Lunch (on your own)
12:00pm–12:45pm

Student Award
Session 3. 12:45pm–1:30pm
Radek Kundt
Excitation Transfer and Religious Rituals: The Effects of Arousal on Social Behaviour

The Big Picture
Session 4. 1:30pm–3:30pm
Luther H. Martin and Donald Wiebe
Pro- and Assortative-Sociality in the Formation and Maintenance of Religious Groups
Andreas Nordin
Altruism, Mutualism and Honour 12

Michiel van Elk
Does a Hyperactive Agency Detection Device Underlie Our Belief in Supernatural Agents? 13

Nielbo et al.
Mysticism, Magic, and Miracles: An Integrative Framework for Religious Fringe Phenomena 13

Break
3:30pm–3:45pm

Affective Social Cognition and Religion
Session 5. 3:45pm–5:15pm

Travis Chilcott
The Transformation of Social Cognition as Analogue 15

Danijela Jerotijevic
The Role of the Emotions in Magical Beliefs and Practices 15

Ronald Fischer et al.
The (Fire) Walkers High: Affective States during Collective Extreme Rituals 16

Posters
5:15pm–6:15pm

Kristian M. Abell et al.
Causal Uncertainty in Ritualized Behavior: Evidence of a Positive Event Segmentation Pattern 17

Anna-Konstanze Schröder
Theorizing the Interaction between the Psychological and the Sociological Perspective from a Cognitive Approach. The Case of Conversion Experiences 17

Cecilie Cedergren et al.
Effort Justification and Religious Attribution in Two Samples of Pilgrims 18

Uffe Schjoedt et al.
Prayer and Empathy: Poor Empathizers Increase Empathy Scores with Prayer 19

Marc Andersen et al.
The God Helmet Reloaded: The Power of Social Influence in the Elicitation of Mystical Experiences 19

Silvie Kortherova et al.
Out of My Body? Does Meditation Practice Cause Losing of the Body Sense? 20

Uffe Schjoedt et al.
Praying to God Makes People More Sympathetic toward Christianity 20

Jakub Cigan
“I Am a Convert” Means “I Am Trustworthy.” Conversion as a Group Practice and (Pre-) Commitment Signal 21

Eva Kundtová Klocová
Feeling the Kneeling: The Power of Body 21

Paul Reddish et al.
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Belief and Behaviour in Individuals with Autism Spectrum Disorder</td>
<td>22</td>
</tr>
<tr>
<td>Tony Pacyna</td>
<td></td>
</tr>
<tr>
<td>Religion as a Fundamental Epistemological Reference System in Social Cognition</td>
<td>22</td>
</tr>
<tr>
<td>Yuval Laor</td>
<td></td>
</tr>
</tbody>
</table>

**Closing Remarks**

6:15pm–6:30pm

Robert N. McCauley

A Closing Address

24

**Acknowledgements**

25
Schedule at a glance

Wednesday, 31 July, 2013

8:30am-9:00am  Opening Address
9:00am-10:00am Session 1: Keynote
10:00am-10:30 Break
10:30am-12pm Session 2: Implicit Soc. Cognition and Religion
12:00pm-12:45pm Lunch (BYO)
12.45pm-1:30pm Session 3: Student Award
1:30pm-3:30pm Session 4: The Big Picture
3:30pm-3:45pm Break
3:45pm-5:15pm Session 5: Affective Social Cognition and Religion
5:15pm-6:15pm Posters
6:15pm-6:30pm Closing Address
Opening Address

Armin W. Geertz, President of IACSR, Director of Religion Cognition and Culture Research Unit (RCC), Aarhus University

Joseph Bulbulia, President Elect of IACSR, Victoria University, New Zealand

Religion and Social Cognition are increasingly prominent themes in the Cognitive Science of Religion. However they’ve been around since the beginning. We offer a brief historical overview and look to the near horizons of research.
Religious Worship, Charismatic Experience, and Oxytocin-Mediated Signals of Commitment

Jeffrey Schloss, Department of Biology, Westmont College
Paul Zak, Center for Neuroeconomic Studies, Claremont Graduate University
Elizabeth Terris, Center for Neuroeconomic Studies, Claremont Graduate University
Hillary Lenfesty, Department of Biology, Westmont College

Religious experience, including the felt presence of and intimacy with God or other supernatural beings, has received less attention by the evolutionary-cognitive sciences than either the disposition to believe in such beings or the behaviors that attend these beliefs. Notwithstanding, three general classes of hypotheses commend themselves: (a) such experiences are non- or maladaptive byproducts of interaction between mechanisms for agency detection and dispositions toward social attachment, (b) they have direct adaptive benefit as means for resolving cognitive dissonance and/or overcoming commitment barriers to social cooperation, and (c) they have indirect adaptive benefit by generating autonomic, hard-to-fake signals of empathic commitment. These hypotheses are not mutually exclusive and could represent sequential selection. We performed a series of experiments to determine (a) whether oxytocin (OT) increases in response to participation in various forms of religious worship and whether it correlates with self-reported experience of divine intimacy, and (b) the relationship that worship (and group controls), experiences of divine intimacy, and OT levels exhibits to measures of trust, generosity, and in-group/out-group discrimination in economic transfer experiments. We found: 1. (a) charismatic/Pentecostal worship was associated with significantly higher self-reports of divine intimacy and also higher measures of trust and generosity in economic games, (b) this was not associated with a more significant in/out-group differential when interacting with members of their own or other group. 2. Non-denominational Christian worship did not increase measures of trust or generosity over controls (group games or non-religious singing). 3. Worship was associated with a lowering of cortisol relative to controls; oxytocin results will be reported. These findings are consistent with more intensively experiential modes of religious worship serving to overcome commitment barriers to cooperation but not, contrary to our own hypothesis, as a hard-to-fake signal of in-group commitment.
Implicit Social Cognition and Religion

Religious Priming Biases Agency Attribution to Natural Phenomena and Humans

Hein van Schie, Radboud University Nijmegen Behavioural Science Institute, The Netherlands
Wieteke Nieuwboer, Radboud University Nijmegen Behavioural Science Institute, The Netherlands
Danil Wigboldus, Radboud University Nijmegen Behavioural Science Institute, The Netherlands

Cognitive theories of religion have proposed that religion, and the belief in supernatural agents originates from the human tendency to over-detect agency in natural events. However, little or no empirical evidence has been reported for the presumed relationship between religion and agency. In three experiments, we investigated whether activation of religious concepts would bias the detection of agency in images of natural phenomena and humans. Study 1 investigated whether activation of religious concepts could bias the detection of agency in natural phenomena. In the agency detection task, participants rated images of threatening and non-threatening natural phenomena (hurricane; sunset) on intentionality and free will. Participants whose religious concepts had been primed in advance of the agency detection task ascribed more agency to natural phenomena than participants who had not been primed with religion. Agency scores were moderated by the amount of control that participants experienced over the individual natural phenomena. In a second study, similar effects were found when images were preceded by the subliminal word “God”, but not when preceded by a letter-string “Xxx”. A third study investigated effects of religious priming on the perception of agency in humans. In accordance with the view that a powerful all-knowing God may decrease perceptions of free will in humans, it was hypothesized that religious priming would lower the perception of agency in humans. In accordance with this prediction, religious priming reduced agency ascribed to images of humans whereas it increased agency ascribed to natural phenomena. Again the strength of the effect was moderated by the amount of control participants experienced over the respective images. These findings support the theoretical view that religion and agency are closely associated phenomena. Furthermore they provide a new and interesting view on the potential biases in agency that may accompany the presumption of supernatural agency.


Jonathan Jong, Oxford University, Centre for Anthropology and Mind

Ever since its inception, the cognitive science of religion has distinguished or attempted to distinguish between (at least) two different levels of religious cognition, drawing primarily from the literature on tacit assumptions in domain-specific intuitive ontologies (cf. Hirschfield & Gelman, 1994). From this work, partly via Sperbers (1997) distinction between intuitive and reflective beliefs, have come such notions as Boyer’s
tragedy of the theologian and Barrett’s (1998; Barrett & Keil, 1996) theological (in)correctness, as well as claims about the maturational naturalness of religious belief (e.g. Bering, 2010; McCauley, 2012). More recently, cognitive scientists of religion (e.g. Jong, Halberstadt, & Bluemke, 2012; Pyysiäinen, 2004; Tremlin, 2004; Uhlmann, Poehlman, & Bargh, 2008) have attempted to integrate this tradition of dual-process theorizing with the burgeoning research programme on implicit social cognition that itself emerged out of cognitive research on memory and selective attention (Gawronski & Payne, 2010). However, these early forays into bridging the theoretical gap between CSR and social cognitive psychology have not paused to pay sufficient attention to conceptual issues endemic to dual-process theorizing and the use (and interpretation) of implicit measures. Thus, CSR theorists have largely glossed over the diversity of dual-process models in social cognition that variously distinguish between the implicit and explicit, unconscious and conscious, automatic and controlled, heuristic and systematic, etc. The extent to which these are theoretically and empirically distinct dichotomies may well have theoretical and methodological implications for CSR; these implications are yet unexplored. The aim of this paper is therefore to take a step back from the recent enthusiasm for dual-process models in cognitive science of religion, and to make salient both potential benefits and pitfalls of an implicit social cognitive science of religion.

**Anthropomorphic Representations: Investigating Proximate Mechanisms of Setting on Cooperative Behaviour**

Jan Kratky, Department for the Study of Religions, Masaryk University
John J. McGraw, TESIS Network, Interacting Minds Centre, Aarhus University

Religious settings are rife with signs and symbols which act to establish powerful, pervasive, and long-lasting moods and motivations, to adapt Geertz’s well-known formulation. Recent experimental work has helped to confirm the effects of religious settings on cooperative, prosocial behaviour. But what is it, in particular, about religious settings that induce such effects? We hypothesize that the anthropomorphic statues, icons, and images that commonly adorn sacred spaces serve as proximate mechanisms for establishing the cooperative moods and motivations emphasized in so many religious philosophies. We designed and implemented a two-site investigation (in the Czech Republic and Denmark) of the role of gaze, as manifested by two-dimensional anthropomorphic images and three-dimensional anthropomorphic objects, on people’s monetary contributions for a canned beverage in a naturalistic setting. Deriving from mechanisms akin to Barrett’s Hypersensitive Agency Detection Device and Baron-Cohen’s Eye Direction Detector, we argue that anthropomorphic representations stimulate pathways and promote behaviour more typically linked to social interactions and group dynamics. This work relates to a general discussion about the role of priming in behavioural studies while addressing specific questions about the materiality of religious settings.
Excitation Transfer and Religious Rituals: The Effects of Arousal on Social Behaviour

Radek Kundt, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

Religious rituals have been theorized to help produce social solidarity amongst group members, as well as hostility towards out-groups. Recent empirical research has started to examine specific aspects of collective rituals (e.g. synchronous movement) that might be important in modulating attitudes and behaviour towards the in-groups and the out-groups. Many religious rituals involve highly arousing stimuli, and the literature suggests that arousal can alter (mainly amplify) various emotions. For example, it has been shown in laboratory settings that at the individual level, arousal can produce residual excitement that serves to intensify later emotional states like aggression, sexual attraction or humour appreciation. Recent field studies, concentrating with greater ecological validity on the collective dimension of arousal, show that participants as well as spectators of religious rituals can share arousal to a great extent, and that highly arousing rituals can promote pro-social behaviour. However, it is yet to be established how arousal may influence prosociality and under what conditions arousal may produce pro-social effects. My talk discusses results of the recent study I conducted in controlled laboratory conditions in Brno, Czech Republic. The key research question addressed was whether (given the right prime) physiological arousal can influence social behaviour. More specifically, whether physiological arousal (given the right conditions for excitation transfer to occur) can result in increased pro-social or anti-social behaviour (given the right prime) My rationale is based on the Excitation transfer theory from previous psychological research which claims that, if certain conditions are met, arousal elicited by one stimulus can be mistakenly attributed to another. Using video games as stimulus, I experimentally tested whether autonomic arousal can alter (amplify) even more complex states, be they pro-social or anti-social.
The Big Picture

Pro- and Assortative-Sociality in the Formation and Maintenance of Religious Groups

Luther H. Martin, University of Vermont
Donald Wiebe, Trinity College, University of Toronto

A great deal of attention and research has been and currently is being devoted to the evolved and cognitive mechanisms and strategies supporting prosocial behavior. This prosocial behavior, a Durkheimian characteristic of small, in-group formation and maintenance, has, however, been extended by some as an explanation for the attainment of large-scale societies as well. This prosocial behavior is largely associated with religious behavior and, thus, with an argument for the advantages afforded by religion for the realization of large-scale societies. While current research on prosociality identifies those mechanisms and strategies whereby small groups cooperate and cohere, the suggestion that prosociality provides a basis for large-group cooperation does not account for the diversity, heterogeneity, and xenophobia of human groups, especially religious groups, documented in numerous ethnographies of, and throughout the history of, Homo sapiens. In contrast to prosociality, this paper will explore an assortative sociality, whereby religious groups prioritize their differences from others, an evolutionary and cognitive proclivity that better models the ethnographic and historical data. Rather than the cooperative advantages conferred by prosocial behaviors for small-groups, the realization of large-scale societies are, in face of assortative pressures, better accounted for by historical developments. Why then the current preoccupation with research on the cooperative behaviors of prosociality that neglects the fractious dynamics of assortative sociality? It would seem that the association of prosocial behaviors, especially, with religious groups, sustains a Western cultural bias that religion is always good, i.e., a constructive cognitive predisposition, even when religious behaviors often support quite opposite outcomes.

Altruism, Mutualism and Honour

Andreas Nordin, School of Global Studies, University of Gothenburg, Sweden

Honour concepts are common in human societies, and they presuppose notions of sacred value and refer to cognitive systems and institutional scaffolding that support the cultural transmission of honour representations. Honour concepts are abundant in the history of human warfare, duels and honour killing. Honour is constituted by the notion of a right to be treated with respect and of having a certain worth. Honour is tied to institutionalized codes in a group and a strong concern for social reputation. Sacred values such as honour reject or trump trade-offs with other values such as economic gain. How do honour concepts match with the presupposition that evolutionary selection has equipped humans with moral dispositions? This presentation analyzes how honour concepts are used and deployed in human affairs from the perspective of two evolutionary theories of moral disposition. Such evolutionary moral theories can be
classified as altruist or mutualist. In the altruist model, an individual’s behavior is moral when her interests are sacrificed for the benefit of others’ interests. The other model holds that moral behavior seems only to be altruistic and that individuals aim at mutually beneficial relations and cooperation with others. In altruist group selection approaches, moral dispositions and punishment related to honour concepts suggest greater reproductive success of altruists in a group. This condition can lead to advantages for groups with more altruists in group competition, and this will propagate and spread altruistic behavior. Mutualist models, on the other hand, hold that it is mutually advantageous to cooperate. There is a selection pressure in favor of moral dispositions such as justice that derives from the risks inherent in social interaction and coordination. Mutualist models suggest that it is the reputation as a reliable social exchange partner that is at stake in the concern for honour.

**Does a Hyperactive Agency Detection Device Underlie Our Belief in Supernatural Agents?**

Michiel van Elk, Department of Social Psychology, University of Amsterdam

In the field of the cognitive science of religion, it has been hypothesized that belief in supernatural agents (e.g. God, Shiva, demons etc.) originates from an overactive agency detection mechanism, because from an evolutionary perspective over-attributing agency is less costly than failing to detect the presence of another agent. Based on the principle that it is better to be safe than sorry, our perceptual systems are biased towards detecting the presence of other agents in the environment. However, empirical evidence for the relation between agency detection mechanisms and supernatural beliefs is scarce. In the present study, it was investigated whether processing concepts about religious compared to non-religious agents facilitates or impairs the detection of biological motion. Participants were presented with point-light stimuli representing unscrambled or scrambled biological motion embedded in a noise mask, and participants decided whether the stimulus represented a human agent or not. Each trial was preceded by a religious prime referring to a religious agent (e.g. angel or spirit) or a non-religious prime (e.g. cat, horse). It was found that religious compared to non-religious primes resulted in a reduced perceptual sensitivity and a stronger bias towards no responses. This finding is in contrast to what would be expected according to the notion of the HADD, suggesting that different mechanisms may underlie our belief in supernatural agents. Ongoing follow-up studies will be presented to disentangle the processes involved in agency detection and supernatural beliefs.

**Mysticism, Magic, and Miracles: An Integrative Framework for Religious Fringe Phenomena**

Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University

Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University
All over the world, humans engage in practices aimed at producing special experiences relating to the supernatural. People perform ritual activities believed to manipulate basic aspects of the world, and believers explain personal events as a result of the intervention of superhuman agents. These and similar phenomena are traditionally studied under the concepts of Mysticism, Magic and Miracles (M3). In recent years, the scientific study of religion has relegated mysticism, magic and miracles to the fringes of the study of religions and cultures. Recent developments in neighboring disciplines, however, show the need to revisit the role of experience in a broader understanding of religious dynamics. Religions influence and are influenced by people’s experience of the world. Believers claim to manipulate the world through particular techniques and explain rare events in terms of the interventions of superhuman agents. Understanding these phenomena as modes of experience, manipulation, and explanation allows us to empirically address hitherto separate phenomena within one framework using a novel theoretical model that builds on recent neurobiological findings on perception and cognition. We argue at a fundamental level that a common core of neurocognitive processes underlies M3. This core consists of expectation-formation, predictive coding, and error-monitoring. In our model, experience, manipulation and explanations generally relate to systems involved in event-and-action-processing which can be understood in terms of a neurocognitive cluster consisting of prediction systems, event-perception, expectation-formation, and the evocation of cultural models. Thus human action-and-event-processing is based on and constrained by the interaction of predictive and perceptual systems. Socially transmitted and evoked models induce expectations that in turn influence experience and post hoc classifications of events. And manipulations of bodies, e.g. in sensory deprivation, excitement and exhaustion have a significant influence of human experience.
Affective Social Cognition and Religion

The Transformation of Social Cognition as Analogue
Travis Chilcott, Iowa State University

Schema Therapy, a form of cognitive behavior therapy, focuses on helping a client become aware of and change his or her “maladaptive schemas,” which are theorized to develop as a result of early social relationships. These schemas play a fundamental role in organizing a person’s cognition of particular kinds of social situations that lead to perceiving, interpreting and responding to these in emotionally unhealthy and behaviorally dysfunctional ways. The means Schema Therapy employs for transforming these schemas include a range of cognitive and behavioral practices, the effectiveness of which is supported with empirical data. These practices and the purpose for which they are employed are similar in key ways to those of some religious traditions. These similarities, differences notwithstanding, suggest that schema therapy can serve as a useful analogue for theoretically exploring the relationship between certain kinds of religious practices, cognitive processes, and religious cognitive and behavioral goals. In this paper, I use the therapeutic path of schema therapy as a comparative analogue to a Hindu tradition’s soteriological path of bhakti, “devotion,” for theorizing about this relationship and the significance of the tradition’s central practices.

The Role of the Emotions in Magical Beliefs and Practices
Danijela Jerotijevic, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

My paper is related to magical activities as ritual actions that are used to influence/harm someone. The basic question is how emotions influence processing of these ideas and behavior based on them. According to psychologists, magical beliefs probably survive because the human mind produces them intuitively, and naturally, they are based on the idea of contagion/contamination. Essentialist thinking plays an important role in these representations as well (through magical practice, essences of the one who harms is supposed to reach the victim and to cause him/her some real problem). However, despite the fact that magical activity is a symbolic ritualized activity, from the narratives that I collected during field research in Serbia, one thing seems to appear. Although people use cultural schema when they talk about magical influence (e.g. they describe rituals that are frequent in the narratives about magic), the substance that is usually treated as “a vehicle” of essence is an organic substance that might be dangerous not only in magical contexts but also any other context, such as blood, saliva, sperm, menstruation blood, hair and sweat. We can find very similar stories in different cultures, and I argue that this fact should be explained from the cognitive and evolutionary point of view. The notion of organic substances that might in any real situation trigger an emotion of disgust (as mentioned substances do) and then fear from potential contamination (eventually death) provide a cognitively optimal framework for the transmission of magical beliefs and their persistence. I will present the results of my research during which I tested an hypothesis based on these assumptions.
The (Fire) Walkers High: Affective States during Collective Extreme Rituals

Ronald Fischer, Victoria University, New Zealand, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Dimitris Xygalatas, Department of Culture and Society, Aarhus University, Denmark, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Panagiotis Mitkidis, Department of Culture and Society, Aarhus University, Denmark
Paul Reddish, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Penny Tok, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Ivana Konvalinka, Section for Cognitive Systems, DTU Informatics, Technical University of Denmark
Joseph Bulbulia, Victoria University Wellington, New Zealand, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

A central question across the social sciences is how collective rituals affect humans. Despite longstanding speculation, few studies have attempted to quantify responses from ritual participants. We investigated physiological arousal and self-reported affective states during an extreme fire-walking ritual among a Hindu community in Mauritius. Using a quasi-experimental pre-post design, we compared self-reported levels of contentment and fatigue among firewalkers and spectators who varied in degrees of relatedness. We also measured heart rates as indicator of physiological arousal during the ritual. We found that fire-walkers were more physiologically aroused and reported greater happiness post-ritual compared to spectators. Related spectators showed an increase in fatigue after arousal, suggesting empathic responses among relatives of fire-walkers. Few gender effects were found, suggesting that emotional reactions to collective rituals in traditional societies are shaped by the roles and relationships of individuals engaged in the ritual. Overall, these patterns suggest two main conclusions: a) extreme rituals performed by collectives of individuals increase positive affect, despite the apparent pain suffered by active participants and b) emphatic responses by bystanders that are emotionally connected to performers may dampen affective responses post-ritual.
Causal Uncertainty in Ritualized Behavior: Evidence of a Positive Event Segmentation Pattern

Kristian M. Abell, RCC, Department of Culture and Society, Aarhus University
Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University
Marc N. Andersen, RCC, Department of Culture and Society, Aarhus University
Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University

Causal uncertainty, which is typically measured by the Causal Uncertainty Scale (CUS), is the sense that we fail to adequately model the causal structure of our social world. Several studies have indicated that primed and chronic differences in causal uncertainty negatively predicts participants’ segmentation rate of instrumental behavior. These studies used the event segmentation task in which participants segment video-recorded action sequences, typically object manipulation, into units by pressing a response button whenever they find it natural and meaningful. Participants that score high on CUS tend to process behavioral information in terms of abstract features (i.e., abstract construal of behavior) and therefore segment behavior in broad units, while participants that score low on CUS construe behavior in terms of concrete features and use fine behavioral units. In our study, we wanted to investigate the relationship between causal uncertainty and segmentation of ritualized behavior.

Ritualized behavior is segmented into finer behavioral units and is more resource demanding than instrumental behavior, because it is causally under-determined and delays means-end analysis. Using the event segmentation paradigm, we found that CUS-scores positively predicted segmentation rate in the ritualized condition. It therefore seems that ritualized behavior is more resource-demanding for participants that are naturally prone to abstract construal, while participants that construe behavior concretely find ritualized behavior less demanding. Due to a recent computational model of cultural modulation of event segmentation patterns, we propose a new experiment that investigates whether socially distributed symbolic information can reverse the relationship between causal uncertainty and segmentation rate in ritualized behavior.

Theorizing the Interaction between the Psychological and the Sociological Perspective from a Cognitive Approach. The Case of Conversion Experiences

Anna-Konstanze Schröder, Institute for the Study of Religion, Leipzig University/Theological Faculty, University of Greifswald

There is an interaction between data relating to individual features and data operationalizing social matters of fact. My research on conversion shows an interplay between the intensity of the individually experienced change and
the self-categorization to a socially describable conversion type of sudden, gradual or unconscious change. There are different interaction patterns depending on different outcome variables. These facts are explained by a conversion theory which is based on the cognitive paradigm of hierarchically organized personal constructs by George Kelly and its application to religion by Stefan Huber. I assert a variability of cognitive processes of change within this system of personal constructs: There are interacting loops between bottom-up (gradual) and top-down (sudden) processes during the centralization of personal religion, i.e. conversion. This allows different social interpretations for emphasizing one or the other process in the convert’s introspection. It is discussed how the functioning of psychological self-constructs might reflect biological mechanisms of the mind/brain.

**Effort Justification and Religious Attribution in Two Samples of Pilgrims**

Cecilie Cedergren, RCC, Department of Culture and Society, Aarhus University  
Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University  
Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University  
Jesper Oestergaard, RCC, Department of Culture and Society, Aarhus University  
Jesper Soerensen, RCC, Department of Culture and Society, Aarhus University

We explore the psychological effects of invested effort in two different samples of pilgrims in Varanasi and in Jerusalem. We test the hypothesis that pilgrims who perceive their pilgrimage to have been more difficult than expected, attribute more importance to the pilgrimage and their religion compared to those who perceive less difficulty than expected. This hypothesis is derived from a general theory of loss aversion and effort justification. Religious practices like pilgrimage, we argue, may be particularly vulnerable to effects of loss aversion and effort justification because they are causally disconnected from perceptible rewards. People who invest in such practices may be more attracted to attributions and narratives that explain why their efforts are justified and how they are compensated. We asked pilgrims at the pilgrimage site to complete a short questionnaire. Most items used a visual analogue scale (VAS) to measure religious attribution and perceived efforts in relation to the pilgrimage. For a measure of perceived effort, we subtracted the VAS score of perceived difficulty with the VAS score on expected difficulty. We found the same effects in both samples and on all items of religious attribution. Pilgrims, who judge their pilgrimage to be more difficult than expected, generally attribute more importance to the pilgrimage and to their religion compared to those who perceived less difficulty than expected. Our findings demonstrate that religious beliefs, like other attitudes, are affected by effort justification.
Prayer and Empathy: Poor Empathizers Increase Empathy Scores with Prayer

Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University
Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University
Marc N. Andersen, RCC, Department of Culture and Society, Aarhus University
Jesper Soerensen, RCC, Department of Culture and Society, Aarhus University

We investigate the relation between praying and social cognitive ability. As a social cognitive task, praying to God may represent a significant challenge because the performer has no external cues for cognitive support. Evidence from social cognitive neuroscience suggests that praying to a personal god activates networks associated with social cognitive processing (Schjoedt et al., 2009), and studies have shown that the belief in a personal god correlates negatively with the ability to empathize as indicated by the Empathy Quotient (EQ) (Norenzayan et al., 2012). Based on these findings, we hypothesize that those within a normal population who score relatively high on the EQ, may find it easier praying to a personal god compared to poor empathizers. We also hypothesize that praying may increase participants’ EQ score because it hyper-activates the social cognitive system. If this is the case, the effect may be restricted to poor empathizers. We instructed forty-eight young Danish participants to pray to the Christian God in a prayer room. At least three weeks before the prayer session they were asked to complete questionnaires and scales including the EQ. They completed the same questionnaires and scales immediately after praying. We only found weak trends toward a positive correlation between participants’ empathy scores and their ability to pray to a personal god. We did find that praying makes participants score significantly higher on the Empathy Quotient (t1-t2). Further analyses revealed that this effect was caused by poor empathizers (lowest half on EQ by median) while good empathizers were not affected by the task. Poor empathizers also perceived praying to be significantly more difficult. This, however, did not predict individual shifts on the EQ. Together our findings support the hypothesis that praying is a demanding social cognitive task and that praying activates practitioners’ social cognitive processing.

The God Helmet Reloaded: The Power of Social Influence in the Elicitation of Mystical Experiences

Marc Andersen, RCC, Department of Culture and Society, Aarhus University
Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University
Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University
Jesper Soerensen, RCC, Department of Culture and Society, Aarhus University

In this poster, we want to present experimental data on how social suggestions can influence the elicitation of mystical experiences. The experiment was conducted in collaboration with a team of researchers from the Religion, Cognition and Culture research unit and Aarhus University Hospital. In the experiment, we attempted to elicit mystical experiences in volunteer subject by manipulating with certain cognitive
factors. In our study, we used social suggestions, a fake TMS helmet and a deprivation chamber to manipulate factors such as participant expectancy and access to sensory information to increase the probability of participants reporting mystical, spiritual and/or unusual experiences. Overall, the experiment was successful given that almost 50% of our participants reported a mystical experience of a sentient being. However, further research and optimization of the experimental paradigm is needed to confirm our preliminary results.

Out of My Body? Does Meditation Practice Cause Losing of the Body Sense?

Silvie Kortherova, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Jakub Cign, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Paul Reddish, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

The most discussed theme of Buddhism is experience, especially the experience of altered states of consciousness. In the Buddhist literature and among Buddhists, we can find many self-reports about missing legs, losing hands, the disappearing of other body parts, out of body experiences, or near-death experiences during meditation. From the Buddhist point of view, these special states are solely the results of mental cultivation by meditation techniques. But we can find these experiences also in our everyday life in biologically predisposed individuals. But we have to also include the influence of Buddhist indoctrination and socialization. Are these special states the results of mental techniques or are they more connected to Buddhist indoctrination and the group? The poster presents results of an experiment based on research of the body schema distortion during Buddhist meditation, where individual biological predispositions and cultural influence are taken into consideration. Standardized methods of behavioral body schema perception measure and questionnaires are used to shed the light on this issue.

Praying to God Makes People More Sympathetic toward Christianity

Uffe Schjoedt, RCC, Department of Culture and Society, Aarhus University
Kristoffer L. Nielbo, RCC, Department of Culture and Society, Aarhus University
Marc N. Andersen, RCC, Department of Culture and Society, Aarhus University, Denmark
Jesper Soerensen, RCC, Department of Culture and Society, Aarhus University

We investigate how praying to God affects attitudes toward Christianity in members of the Danish Lutheran Church. Social functional theories claim that religious practices act as costly signals to promote social commitment among practitioners. Praying, however, is often private and therefore has little value as a signal. For the same reason, private prayers have received little attention in this line of research. We argue, however, that prayer may be central for maintaining individual commitment to the institution between collective practices as long as it activates emotional states that correspond with those suggested by the institution. We therefore
hypothesize that members of the Danish national church become more sympathetic to Christianity when they pray, especially, if they report an authentic religious experience. We instructed our participants to pray in a prayer room and subsequently describe their experience. Three weeks before the prayer session, participants completed a set of questionnaires and scales including the Christianity Rejection Scale. They completed the same questionnaires and scales immediately after praying to capture attitude changes that may have resulted from the prayer task. We find that praying to God generally makes participants score significantly lower on the Rejection of Christianity scale. Individual religiosity and experience with prayer did not explain this effect. Those who reported to have strongly felt God's presence during prayer, however, changed their attitude toward Christianity significantly more compared to those who did not. Together, these findings indicate that praying can increase people's sympathy towards Christianity, especially, in those who report authentic religious experiences during prayer. This observation supports the hypothesis that private prayers function as important tools for religious institutions to maintain individual commitment in times between collective practices.

“I Am a Convert” Means “I Am Trustworthy.” Conversion as a Group Practice and (Pre-)Commitment Signal

Jakub Cigan, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

Religious conversion is often taken to be a solely personal and idiosyncratic experience of the deep and once for all past change for individual purposes. In many groups we can find various different stories about how one came to some belief or became a member of a religious group to make sense of one’s life and experience. But in some groups, the conversion story is highly standardized and follows precise rules of authenticity. Newcomers learn how to approach his or her life in new terms of the group, which ways are more appropriate and how to perform conversion in front of others. In the group, conversion is much more than informing others about a past process. It is a public practice with particular aims of presenting oneself as a reliable partner and full-blown member of the group. The poster is based on ethnographic research and the author approaches conversion as a public practice connected to individual and collective aims. From the point of view of the convert, there is self-enhancement in a conversion story that presents one’s better self. On the collective level, one displays his or her willingness to cooperate and participate by sharing sensitive personal information and adopting collective models and schemas.

Feeling the Kneeling: The Power of Body

Eva Kundtová Klocová, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

Body posture and its changes in particular influence subjective experiences of emotion. Individuals induced to assume postures characteristic to certain emotions reported feelings that correspond to those postures; those who slumped tended to feel sad, and those who sat more forward with clenched fists tended to feel anger. Clues about the relation between body position and emotions can also be observed in metaphorical language describing emotional states, e.g. feeling down or
feeling great. My experimental research is based on those notions and the usage of certain specific postures during religious rituals, in the case of my experimental design, kneeling. This usage, known in different religious contexts, may imply specific functions of such postures in ritual behavior and perception of ritual, possibly connected to inducement of specific feelings or emotional states. On a symbolic (and usually also doctrinal) level, the kneeling position is often linked with subordination, humility and submission. Considering these assumptions, my hypothesis asserts that the kneeling position induces higher feelings of subordination.

**Religious Belief and Behaviour in Individuals with Autism Spectrum Disorder**

Paul Reddish, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Penny Tok, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University
Radek Kundt, LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University

Theory of mind or mentalising has been argued by scholars in the cognitive science of religion to be critical for supporting religious practices involving supernatural agents. As individuals with Autism Spectrum Disorder (ASD) have deficits in mentalising, this raises the question as to how individuals with ASD may interact, perceive and behave in relation to supernatural agents. Here we discuss results from a recent study we conducted examining religious belief and behaviour in ASD from a sample from Singapore. We compared individuals with ASD to typically developing individuals across three key religious dimensions: (1) prayer habits; (2) anthropomorphism of supernatural agents; and (3) relationship with supernatural agents. ASD and typically developing were matched along a number of dimensions including IQ and religious affiliation. A battery of mentalising tasks was administered to measure theory of mind, along with the autism spectrum quotient. Prayer was of particular interest because it can be both scripted and unscripted. Due to deficits in mentalising, we predicted that individuals with ASD would be less likely to perform unscripted prayers that they say in their own words than their typically developing counterparts. We also hypothesised that ASDs would be less likely to feel the presence of a religious entity or feel they are being listened to by a religious entity during prayer. However, we predicted that ASDs would be more likely to perform scripted prayers due to their desire for rigidity, repetition, and predictability. We also predicted that mentalising deficits would lead individuals with ASD to be less likely to endorse anthropomorphic concepts of the entity they worshipped and feel less emotionally close to that entity.

**Religion as a Fundamental Epistemological Reference System in Social Cognition**

Tony Pacyna, Department of Philosophy, University of Zurich

It is well known that chimps and humans share about 94% of the genetic code. In spite of this, everyone would agree that something specifically human exists. My idea is that the most significant development differentiating humans is in the cognitive functions of the human brain. In
response to the New Atheist’s claim that religion is an evolutionary by-product of natural selection and hence dangerous and irrational, I claim that religion is constitutive for human cognition. Religion emerged by sexual selection as an advantage to survive. Because of the flexible morphology of the brain, early humans already had the capability to find problem-centered solutions that saved them from extinction. In the course of time, language and writing were developed and life became more sophisticated. Cultural phenomena like religion developed within groups of distinct individuals as an adaptation of species-specific social cognition. This kind of cognition allows humans to know other individuals as intentional actors. Linguistic symbols evolved in order to draw attention to certain kinds of experience. Other individuals within the group had to interpret this experience or adopt a critical attitude. Religion is a cultural system and social institution that consists of the interrelation of ideas and actions of various beings developed within groups into an epistemological reference system. Religion is one – and in my point of view the most important – cultural phenomenon that allows the acculturation into a specifically human group within groups. Religion understood in this way is a reference system that makes it possible to decide between true and false. Consequently, religion as a reference system is one phenomenon among early human beings that is fundamental for (the development of?) moral judgments and is thus fundamentally epistemological.


Yuval Laor, Culture Studies Department, University of Tel Aviv

Any evolutionary analysis should be aware of extreme versions of the subject being analyzed. The evolution of language, for example, has been greatly advanced by studies of language acquisition in apes, regardless of the fact that such cases are rare. The evolutionary study of religion has traditionally focused on the psychology of mainstream religious practitioners without paying much attention to closed high-fervor cults. Cults however are exactly where extreme examples of religious behavior can be examined—an examination which can shed light on various aspects of both extreme and everyday religiosity. Fervor is constituted by specific positive feedbacks between sets of ideas, behavior, and experiences. I show how the fervor feedback operates in cults inciting high degrees of fervor in their adherents. This has the effect of increasing the motivation and commitment in group members, enhancing the level of uniformity in aspects of culture within the group, reducing the likelihood of defection, lowering monitoring costs, and increasing the level of obedience to group leadership and/or doctrine. While cults are relatively rare, I argue that an examination of such high-fervor groups is invaluable for understanding the phenomenon of fervor in general while at the same time illuminating central aspects of religion. Specifically, these are the aspects of religiosity that cause and increase the level of fervor. Examples can be seen in the efficient ways that cults can induce a religious conversion, in eliciting behaviors that are likely to bring about religious experiences, as well as in sets of ideas that include traumas, paradoxes, miracles, and expectations that influence how religious experiences come about, and the way they are interpreted.
Closing Remarks

Closing Address
Robert N. McCauley, Past President of IACSR, Director, Center for Mind, Brain, and Culture, Emory University
Acknowledgements

Our most deep felt thanks to:

The Cognitive Science Society for Sponsoring the Cognitive Science Society Student Award
Past President Robert N. McCauley for sage advice/guidance
Petra Schubert, Stabsstelle Presse- und Öffentlichkeitsarbeit, Humboldt-Universität zu Berlin
Steffen Hofmann, Events Support and Consultancy, Humboldt-Universität zu Berlin
Dagmar Oehler, Events and Exhibitions Support and Consultancy, Humboldt-Universität zu Berlin
Michael Seadle, Dean of Library and Information Science, and Peggy Bessler, Humboldt-Universität zu Berlin
William Bechtel, Department of Philosophy, University of California San Diego
Kathrin Trauer, Humboldt Graduate school, Humboldt-Universität zu Berlin
Andrew Stull, Michael Pauen, Natalie Sebanz, Markus Knauff, Ipke Wachsmuth, organizers of CogSci 2013
The IACSR executive committee for refereeing anonymous submissions
Will Sweetman, University of Otago, for providing a LATEXtemplate