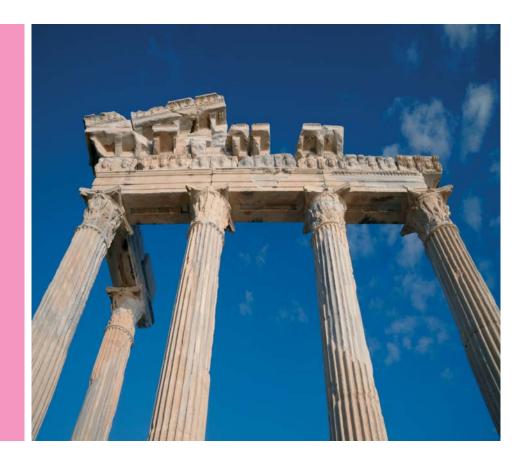
Affect & Emotion

Newsletter of the NCCR Affective Sciences

EMOTIONS IN ANCIENT CIVILISATIONS

EMOTIONAL ARCHITECTURE



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RESEARCH FOCUS

Myths and rituals in the emotions of ancient civilisations



Professor Philippe Borgeaud talks about the aims of this fascinating project in the NCCR Affective Sciences. He reveals some of the findings, and how they help us understand the power and the purpose of myths and rituals.

hether you're a participant or an observer, a believer or a non-believer, religious myths and rituals often evoke an emotional response. However, the relationship between myths, rites and emotional expression is more complex than this statement might suggest. It is infused with subtleties and surprises that can provide illuminating insights into our religious and emotional worlds.

Philippe Borgeaud has been studying ancient religions for 45 years and, for the last six of these, he has been leading a project at the NCCR Affective Sciences on myths and rites and their link to the cultural expression of emotion. "The project's intention is to analyse the expression and the role of emotions in myths and rites," Philippe Borgeaud explains. "Many emotions are expressed in stories and narratives and these reveal something about the values of the community to which they belong. Rituals, on the other hand, tend to play with emotions. At first, this may seem like a contradiction since the final goal of religion is often to endow a sense of calm. However one of the purposes of rituals is to canalize an emotion so that by expressing it you learn to master it."

One of Philippe Borgeaud's favorite examples is the Eleusinian Mysteries, which were Ancient Greek initiation ceremonies for the cult of Demeter and Persephone. Although the content of the ceremonies was kept a secret, it is believed they involved sleep deprivation, fasting and walking for long distances before exposing the initiates to a sudden illumination of various sacred objects. "The comments of Aristoteles on this subject are very interesting," Philippe Borgeaud explains. "He says these rites are not intended to teach something but to put the individual in a state of emotion. This then introduces them to the purpose of the ceremony, which is to reassure people about death. According to Aristoteles, it is purely an emotional preparation."

The project consists of several sub-projects that are studying ancient civilizations in areas such as Greece, Mesopotamia, India, Egypt, China and the Near East. There is a strong focus on the notion of the sacred, which Philippe Borgeaud sees as a vital in the study of myths, rites and the cultural expression of emotion. "The notion of the sacred is rela-

tive," he explains. "Some things are sacred to some people but not to others. However it is also a very basic notion: if you touch something that is sacred you evoke or provoke an emotion, which is often very strong and often fearful. This makes it a very useful concept to study."

Language and vocabulary are also an essential part of the research with strong links to the work done within the NCCR Affective Sciences on language and culture. A subproject that is nearly complete has been researching the emotions connected to sounds in Akkadian literature with a focus on the use of vocabulary. "It's an extremely original piece of research," says Philippe Borgeaud. "And I think it will be a landmark in the study of ancient emotions. Dr. Anne-Caroline Rendu-Loisel, the researcher, is working on the relationship of emotion to the phonosphere (the layer of sound that surrounds us) and, to do this, she has recreated the Akkadian phonosphere with sounds like roaring lions and the bashing of drums. It's very impressive and, when you read her thesis, it's almost as if you're taken back in time."

The project has involved several workshops from which two collective volumes of work have been published: one on Death and Emotion in myths and rites and the other on Violence and Emotion. There has also been a conference on Gods and Emotions, discussing whether Gods are represented as emotional in ancient myths and rituals. A volume on this subject will be published and another conference is planned in March 2012. Philippe Borgeaud is also involved in some interesting applications of the project such as an educational program for secondary school on myths and sacred texts.

Indeed one of the outstanding qualities of the project is its scope. Not only does it incorporate different cultures and historical eras, but also different disciplines. This has been one of the aspects Philippe Borgeaud has enjoyed the most about his work at the NCCR Affective Sciences. "For me it is a huge experience because until this time I was tied to my area of expertise," he says. "But this brought the possibility of talking to psychologists, philosophers, jurists and neuroscientists and to read books I would never have read. And for me this was fantastic. It made me very happy."

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INTERVIEW

Getting to the heart of emotional architecture



At the end of January the first Emotion and Architecture conference was held at the Fondation Louis-Jeantet in Geneva. Professor David Sander and Dr. Sophie Schwartz were on the scientific committee for this innovative event.



ust one look at the number of laws that seek to constrain architecture suggests that it is an emotional subject. However there is little scientific research into the affective processes elicited and harnessed by the work of this important profession. A recent conference in Geneva has revived the concept of "Emotional Architecture" that was first devised in the 1950s and, by doing so, has laid the foundations for future research in this area. Unsurprisingly, the NCCR Affective Sciences made a natural partner in this exciting multi-disciplinary event.

"For us there were two major reasons to be involved," says David Sander. "Firstly, we have a research focus on aesthetic emotions, which studies the emotions elicited when we encounter creative art such as paintings, sculpture, literary fiction, film and music. Therefore, it makes sense to potentially consider architecture as part of this. Secondly, the conference was clearly important as an exercise in knowledge transfer by communicating the application of our research in an area of popular interest." The conference took place over two and half days and consisted of talks, roundtables and some evening activities. It was inaugurated by Klaus Scherer, director of the NCCR, and followed by a definitional session on the topics "What is emotion?", "What is architecture?" and "What is emotional architecture?", the first one presented by David Sander. Sophie Schwartz chaired a session entitled "Architectural Language" that looked at a range of subjects around the theme of perception. "We had several fascinating contributions," says Sophie Schwartz. "For example there was a neuroscientist talking about her work on the development of space perception in children, and an architect who was interested in designing buildings around more invisible qualities, such as temperature. There was also a talk on how to improve architecture for those who are blind or visually impaired." The Center was also represented by Patrizia Lombrado, who chaired a session entitled "L'esthétique et les sens :dimension intentionnelle de l'architecture", as well as the cinema forum « Vertige de l'espace au cinéma»

Together with the scope of the conference, its popularity suggests that there is great potential for research in this area. There were about 60 to 80 attendees each day and the conference was mentioned in several publications such as Le Temps and L'Hebdo, as well as being a topic of discussion on a program on Radio Suisse Romande Espace

The enthusiastic response from all those involved indicates that work in this area could be fruitful and, although in its early days, there are some emerging ideas for research avenues. "For me the possible link to my research would involve looking at the two facets of architecture," says Sander. "That is, an architectural object is both an expression of emotion and something that elicits emotion. So firstly we can compare architecture to other objects that elicit emotion and study whether the emotional response is more functional or aesthetic, especially since architecture is comprised of both practical and artistic components. We can also study what emotion the architect might be trying to express in his or her creation, as we do with music and artwork. Of course there are more practical constraints involved in architecture, but this could also make an interesting topic of research."

One of Sophie Schwartz's areas of research is the recognition of 3-D objects from different viewpoints and she is interested in the possible role of architecture and the recognition of buildings in her study. Another of her research interests is the impact of light on mood and how this can be measured. Potentially, this could be very influential in architectural design.

From the sessions and the discussion generated amongst delegates it is clear that the topic of emotion and architecture is one that is highly applicable to modern life, especially with the growing number of people living in cities. "We live in buildings and we are surrounded by buildings," says Sophie Schwartz. "So I think it is important for architecture to generate positive emotions so we can have a good quality of life. The goal of the conference was to increase awareness about this subject and open up dialogue between relevant people, and this definitely seems to have happened."

The conference plans to publish its proceedings in a book that will feature scientific articles alongside illustrative examples of emotional architecture. Discussions are already underway to have a second conference, although it is not clear when and where. What is certain is that it will involve a wide range of fascinating topics





Academic meetings

Workshop "Brain activity and prediction of human emotion" (September, 2010). A workshop on brain and emotion was taught by Didier Grandjean in the framework of his collaboration with the Advanced Medical and Dental Institute of the University Sains, Kepada Batas, Pulau Pinang, Malaysia.

Annual Research Forum (ARF) (February 14-15, 2011). The ARF is an annual occasion for all NCCR members to exchange research experiences and results. This year it also provided an opportunity for the new research projects and foci to present and discuss their work plan with the members of the International Scientific Council and the NCCR members attending the forum.

Colloquium "Perceptions of the Gods, Emotions, Ritual Control"

(March, 24-26, 2011). Philippe Borgeaud directed the International Colloquium Perceptions of the Gods, Emotions, Ritual Control: Human Bodies, Divine Bodies at UNIGE in collaboration with the European research program FIGVRA. Several members of the Myths and Rites as Cultural Expression of Emotion project involved in the organization as well.

Workshop « Affect bursts in music: Theoretical and practical foundations » (April 4-5, 2011). A workshop on the ability of music to express affect bursts was organized by Klaus Scherer and Bernardino Fantini in collaboration with the Grand Théâtre de Genève, with the participation of the members of the "Punch & Judy" opera cast and David Beard (Cardiff University), Christina Shewell (Voice teacher/therapist) and Klaus Scherer and Bernardino Fantini themselves

Knowledge transfer activities

Conference Lake Geneva Innovation Society (LGIS) (October 10, 2010). The NCCR Affective Sciences organized in collaboration with LGIS an event which brought together top researchers of the NCCR Affective Sciences and industry and non-government sector leaders. The aim was to foster new partnerships. At this occasion, Frans de Waal, Director of Living Links Center (Emory University, USA), gave a keynote lecture on « Why compassion pays: lessons from empathy in primates».

Colloquium « Build on your emotion » (January 20-22, 2011). The NCCR Affective Sciences participated in the organization of a colloquium on architecture and emotion, where researchers in the affective sciences discussed with architects on the notion of urban space. For more information: http://archiemo.worpress.com/

Continuing education (February, 4, 2011). Didier Grandjean and Patrik Vuilleumier participated in a workshop on « Imagerie cérébrale : faut-il repenser l'humain émotionnel » for secondary school teachers in Geneva.

Continuing education (February 11, 2011) Didier Grandjean organized a workshop entitled « Un cerveau en formation » for people following the Swiss Federal Certificate for trainers in adult education.

Forum Entreprises UniNE (March 8, 2011). The workshop « Les stéréotypes sur les femmes dans le leadership » was offered by Marianne Schmid Mast as part of the « Forum des entreprises » organized by the University of Neuchâtel .

Artist in residence. Jeremy Gindre has joined the Swiss Center for Affective Sciences (CISA) and the Geneva Neuroscience Center (CIN) as artist in residence from March to November 2011, in the framework of the Artists in Labs program of the University of Applied Sciences and Arts in Zürich and the Swiss Federal Office of Culture. His work aims to translate the questions and findings of the labs into a piece of narrative fiction. The results of his work will be presented in November 2011 in the context of a colloquium in Geneva organized by the Swiss Center of Affective Sciences and the Geneva Neuroscience Center. For more information: http://www.jeremiegindre.ch/

Staff changes

Susanne Leiberg started as postdoc on the Empathy and Fairness focus, in Zurich, in September 2010.

loana Latu joined the Gender focus as a post-doc, under the direction of Marianne Schmid Mast, in November 2010.

Doralice Fabiano joined the Myths and Rites project with a post-doc project on Nympholepsy in Ancient Greece.

Todd Hare was appointed assistant professor of neuroeconomics at the University of Zürich in December 2010.

Gábor Stefanics joined the Laboratory for Social and Neural Systems Research as head of the EEG group in January 2011. Marius Moisa joined Ernst Fehr's team in April 2011 as a TMS

technician in the framework of the Methods focus.

Laurenz Meier left on March 27, 2011 on account of an SNF

grant to conduct research at the University of South Florida.

Janna Hastings joined the Ontology of Emotions project, un-

der the supervision of Kevin Mulligan, in January 2011.

Ben Meuleman started his PhD on computational modeling in February 2011 under the direction of Klaus Scherer.

Naëm Baron started working as a virtual reality engineer at the BBL of the University of Geneva in May 2011.

PhDs

Anne-Caroline Rendu Loisel successfully defended her PhD thesis Hearing and Emotion(s) in Akkadian Literature on March 12, 2011 at UNIGE, under the direction of Philippe Borgeaud. Nele Dael successfully defended her PhD thesis Expression and perception of emotion from body movement: Categorical and dynamic correlates of emotion on May 3, 2011 at UNIGE, under the direction of Klaus Scherer and Susanne Kaiser

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Major achievements

Ernst Fehr was awarded with the Austrian Cross of Honor for Science and Art (I. Class) and the Deutsche Fairness-Preis (German Fairness Prize) in October 2010. He was also awarded the Vorarlberger Wissenschaftspreis (Science Prize of the Province of Vorarlberg, Austria) in April 2011.

Ernst Fehr was invited to present at the Lindahl Lectures at Uppsala University (Uppsala, Sweden) in November 2010 and at the Coase Lecture of the London School of Economics in February 2011

In May 2011, the journal "Hebdo" nominated Klaus Scherer as one of the 100 personalities of the year in the French speaking part of Switzerland. ■

Upcoming events

The Philosophy group of the NCCR (Thumos) is hosting two important international workshops this spring in Geneva:

The first, organized by the Affective Dynamics project of the NCCR, is entitled "Emotion, Self and Time", and will take place on May 20-21. Speakers include Nancy Sherman, Simon Blackburn, Peter Goldie and Gianfranco Soldati.

The second, co-organized with the Eidos group, is entitled "Organic Unities – Parts, Wholes and Values" and will take place on May 26-27, 2011. Speakers include Kathrin Koslicki, Noah Lemos, and Wlodek Rabinowicz

Festival Herisson, June 18, 2011. The NCCR Affective Sciences will participate in the next « Festival Hérisson » for families and children, which will take place in Charrat (Valais). An ex-

hibition stand and workshops are planned for the occasion. For further information: http://www.herisson-sous-gazon.ch/

Site visit, June 28-29, 2011. The NCCR Site Visit will take place this year on June 28-29 at CISA and Uni Mail. All members of the NCCR are cordially invited to attend. More details on the structure of the event will be announced shortly.

Montreux Jazz Festival, July 8, 2011. Didier Grandjean and Patrizia Lombardo will organize two workshops on music and emotion on the occasion fo the Montreux Jazz Festival. For further information: http://www.montreuxjazz.com ■

International Summer School in Affective Sciences (ISSAS 2011)

On 22-31 August 2011 the Center will celebrate its third International Summer School in Affective Sciences (ISSAS 2011), to be held at the Château de Bossey, in Céligny (Switzerland). This year the topic of the summer school is "Emotion expression and communication". The emphasis will be placed on verbal and non-verbal approaches from an interdisciplinary perspective.

The expression of emotions through face, voice, and body is a central component of the emotion process: together with the perception of social signals and the resulting inferences (impression), expression forms the basis of emotional communication in both animal and human interactions. This summer school proposes a comprehensive survey of fundamental theories of expression and impression – both verbal and nonverbal -, major research paradigms and results, and cutting-edge methodologies from the vantage point of different disciplines, including psychology,

neuroscience, ethology, philosophy, musicology, literature, rhetoric and the arts. In addition to covering general theoretical tools, hands-on workshops in small groups will be conducted on research methodologies, multimodal emotion communication, computational modeling of emotional expression, and the expressive resources of music, language (rhetoric, literature) and the arts.

In addition to members of the NCCR, a number of internationally renowned scholars have confirmed their participation in ISSAS. Our keynote speakers include James Russell, Robert Levenson, Lisa Parr, Philippe Schyns, Reginald Adams, Pascal Belin, Giovanna Colombetti, Johnny Fontaine, Asif Ghazanfar, Peter Robinson, Ian Cross and Kendall Walton. For more information about the summer school and how to apply, please visit our website at http://www.affective-sciences.org/issas



Publications

Aue, T., Cuny, C., Sander, D., & Grandjean, D. (2011). Peripheral responses to attended and unattended angry prosody: A dichotic listening paradigm. *Psychophysiology, 48*(3), 385-392.

Berset, M., Semmer, N. K., Elfering, A., Jacobshagen, N., & Meier, L. L. (2011). Does stress at work make you gain weight? A two-year longitudinal study. Scandinavian Journal of Work, Environment and Health, 37, 45-53.

Billieux, J., Chanal, J., Khazaal, Y., Rochat, L., Gay, P., Zullino, D., & Van der Linden, M. (2011). Psychological predictors of problematic involvement in Massively Multiplayer Online Role-Playing Games (MMOR-PGs): Illustration in a sample of male cybercafés players. *Psychopathology*, 44, 165-171.

Billieux, J., Gay, P., Rochat, L., Khazaal, Y., Zullino, D., & Van der Linden, M. (2010). Lack of inhibitory control predicts cigarette smoking dependence: Evidence from a non-deprived sample of light to moderate smokers. *Drug and Alcohol Dependence*, 112, 164-167.

Billieux, J., Gay, P., Rochat, L., & Van der Linden, M. (2010). The role of urgency and its underlying psychological mechanisms in problematic behaviours. *Behaviour Research and Therapy*, 48, 1085-1096.

Brosch, T., Coppin, G., Scherer, K. R., Schwartz, S., & Sander, D. (2011). Generating value(s): Psychological value hierarchies reflect context dependent sensitivity of the reward system. *Social Neuroscience*, *6*, 198-208.

Bruun, O., & Teroni, F. (2011). Shame, guilt and morality. *Journal of Moral Philosophy*, 8(2), 223-245.

Conty, L., Grèzes, J., & Sander, D. (2010). How does perceiving eye direction modulate emotion recognition? *Behav-*

ioral and Brain Sciences, 33, 443-444

Elfering, A., & Grebner, S. (2011). On intra- and interindividual differences in the meaning of smileys: Does this face show job satisfaction? *Swiss Journal of Psychology*, 70, 13-23.

Eryilmaz, H., Van De Ville, D., Schwartz, S., & Vuilleumier, P. (2011). Impact of transient emotions on functional connectivity during subsequent resting state: A wavelet correlation approach. *Neuroimage*, 54(3), 2481-2491.

Ethofer, T., Gschwind, M., & Vuilleumier, P. (2011). Processing social aspects of human gaze: A combined fMRI-DTI study. *Neuroimage*, 55(1), 411-419.

Goudbeek, M., & Scherer, K. R. (2010). Beyond arousal: Valence and potency/control in the vocal expression of emotion. *Journal of the Acoustical Society of America*, 128(3), 1322-1336.

Jacobshagen, N., & Kunz, A. (Eds.). (2011). *I-HedRep. Das Inventar zum Hedonistischen Repertoire* [The Inventory of the Hedonistic Repertoire]. Bern: Hans Huber.

Jarlier, S., Grandjean, D., Delplanque, S., N'Diaye, K., Cayeux, I., Velazco, M.-I., Sander, D., Vuilleumier, P., & Scherer, K. R. (2011). Automatic thermal analysis of facial expressions. IEEE Transactions on Affective Computing, 2(1), 1-8.

Khazaal,Y.,Billieux,J.,Fresard,E., Huguelet, P., Van der Linden, M., & Zullino, D. (2010). A measure of dysfunctional eating-related cognitions in people with psychotic disorders. *Psychiatric Quarterly*, 81, 49-56.

Konzelmann-Ziv, A., (2011). Collective epistemic agency: Virtue and the spice of vice. In H. B. Schmid, D. Sirtes & M. Weber (Eds.), *Collective Epistemology* (pp. 45-72). Frankfurt-

Heusenstamm: Ontos.

Mortillaro, M., Mehu, M., & Scherer, K. R. (2011). Subtly different positive emotions can be distinguished by their facial expressions. *Social Psychological and Personality Science*, 2(3), 262-271.

Peelen, M. V., Atkinson, A. P., & Vuilleumier, P. (2010). Supramodal representations of perceived emotions in the human brain. *Journal of Neuroscience*, 30(30),10127-10134.

Righart, R., Burra, N., & Vuilleumier, P. (2011). Face perception in the mind's eye. *Brain Topography*, 24(1), 9-18.

Rochat, L., Beni, C., Billieux, J., Azouvi, P., Annoni, J.-M., & Van der Linden, M. (2010). Assessing impulsivity changes after moderate to severe traumatic brain injury. *Neuropsychological Rehabilitation*, 20, 778-797.

Rochat, L., Beni, C., Billieux, J., Annoni, J.-M., & Van der Linden, M. (2011). How impulsivity relates to compulsive buying and the burden perceived by caregivers after moderate-to-severe traumatic brain injury. *Psychopathology, 44*, 158-164.

Roesch, E. B, Tamarit, L., Reveret, L., Grandjean, D., Sander, D., & Scherer, K. R. (2011). FAC-SGen: A tool to synthesize realistic, static and dynamic emotional facial expressions based on facial action units. *Journal of Nonverbal Behavior*, 35(1), 1-16.

Sagaspe, P., Schwartz, S., & Vuilleumier, P. (2011). Fear and stop: A role for the amygdala in motor inhibition by emotional signals. *Neuroimage*, 55(4), 1825-1835.

Semmer, N. K. (2011). Job stress interventions and organization of work. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (2nd ed., pp. 299-318). Washington, DC: American Psychological Association.

Semmer, N. K., Tschan, F., Hunziker, S., & Marsch, S. (2011). Leadership and minimally invasive training enhance performance in medical emergency driven teams: Simulator studies. In V. G. Durry (Ed.), *Advances in human factors and ergonomics* (pp. 180-190). Boca Raton, FL: Taylor & Francis.

Tschan, F., Semmer, N. K., Hunziker, S., & Marsch, S. (2011). Decisive action vs. joint deliberation: Different medical tasks imply different coordination requirements. In V. G. Durry (Ed.), Advances in human factors and ergonomics (pp. 191-200). Boca Raton, FL: Taylor & Francis.

Tschan, F., Semmer, N. K., Vetterli, M., Gurtner, A., Hunziker, S. & Marsch, S. U. (2011). Developing observational categories for group process research based on task and coordination requirement analysis: Examples from research on medical emergency-driven teams. In M. Boos, M. Kolbe, P. Kappeler & T. Ellwart (Eds.), Coordination in human and primate groups (pp. 93-115). Berlin: Springer.

Vandewalle, G., Schwartz, S., Grandjean, D., Wuillaume, C., Balteau, E., Linkowski, P., Degueldre, C., Schabus, M., Phillips, C., Luxen, A., Dijk, D. J., & Maquet, P. (2010). The spectral quality of light modulates emotional brain responses in humans. Proceedings of the National Academy of Sciences of the United State of America, 107(45), 19549-19554.

Volokhine, Y. (2010). Panique en Égypte. *Asdiwal*, *5*, 139-149.

Vrtika, P., Sander, D., & Vuilleumier, P. (2011). Effects of emotion regulation strategy on brain responses to the valence and social content of visual scenes. *Neuropsychologia*, 49(5), 1067-1082.

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