

Affect & Emotion

Newsletter of the NCCR Affective Sciences

AFFECTIVE
COMPUTING
&
THE HUMANITIES

PHILOSOPHICAL
ISSUES
ON EMOTION



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EDITORIAL



After eight years of success of the NCCR, towards a permanent Center for the Affective Sciences in Geneva

The publication of this Newsletter marks the end of the first 8 years of existence of the Swiss National Center of Competence in Research in the Affective Sciences – financed by the Swiss National Science Foundation (SNSF) and the University of Geneva. The progress report submitted to the SNSF on the occasion of the site visit in July 2013, apart from documenting last year’s achievements, is a tribute to the overall success of this interdisciplinary NCCR. Not only the impressive list of over 100 articles in major peer-reviewed journals and prestigious books published last year, but also the extraordinary list of interdisciplinary activities in research, education and training, and knowledge transfer to a wide variety of publics, testify to the enormous success of this venture and the lasting impact it is likely to have. The new interdisciplinary research area of the Affective Sciences has been squarely put on the map at the international level, with many newly created centers of similar nature demonstrating the persuasive appeal of the multidisciplinary investigation of emotions. In addition, the continued existence of the Center is now ensured: after the final 4 year period approved by the SNSF, the University of Geneva will continue to finance and maintain the Centre Interfacultaire en Sciences Affectives, having already created a large number of professorships in the Affective Sciences through shared appointments in several faculties.

The end of the first 8 year period of the NCCR coincides also with the end of my directorship of the NCCR in Affective Sciences. The new director from September 2013 is Professor David Sander, who has been closely involved in the management of the Center during these first 8 years and who has co-directed the Center during the last one. In consequence, there will be a smooth transition as well as a sizeable amount of continuity, with the current 15 projects in the program having already functioned during the last two years. It remains for me to express my sincerely felt gratitude to all those who have contributed to make this enterprise a success – colleagues, collaborators, students and, last but not least, the representatives of the SNSF and the University of Geneva as well as the panel of international reviewers and members of our advisory board – and to wish all those concerned continuing success in the pursuit of excellent research and, most importantly, immense enjoyment in the future exploration and discovery of the multifaceted nature of emotion ■

Klaus R. Scherer

RESEARCH FOCUS

Last developments and first results on the Emotional Awareness Tool

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Q & A on the book “The Emotions: A Philosophical Introduction” with psychologist A. Moors and the authors, J. Deonna & F. Teroni

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RESEARCH FOCUS



Affective computing and the humanities

Interview with Professor Mireille Bétrancourt, Professor Thierry Pun and Professor Patrizia Lombardo

One of the most exciting aspects of the NCCR Affective Sciences is the continuous stream of projects through its doors. As one study reaches fruition, another is taking root. This is the case for two projects in which affective computing and social signal processing techniques are used to investigate different but equally fascinating areas of affective research.

For the past two years, Guillaume Chanel, Gaëlle Molinari, Mireille Bétrancourt and Thierry Pun have been exploring the role of emotion awareness in computer-mediated interactions. The study was reported in our newsletter in November 2011 (vol. 2, issue 4) when it was in its preliminary stages, and the project is now publishing and presenting its first results. One of the main aims of the study was to work towards developing an ‘Emotional Awareness Tool’ (EAT) to improve the quality and outcomes of computer-mediated interactions.

The study involved same-gender pairs performing a collaborative 45-minute computer task to devise an anti-bullying slogan for teenagers. Participants were not able to see their partner and together they constructed a joint map, which linked their suggestions and allowed them to express opinions ‘for’ or ‘against’. Whilst performing the task, one group reported their emotions to their partners by choosing from a list of twenty. The other control group had no opportunity to report emotions. After the task both groups completed questionnaires on their experience.

The first results indicate that the use of the Emotional Awareness Tool (EAT) increased the reported time participants were trying to infer or guess their partner’s emotion. Moreover, the female participants reported that the tool helped them to build on each other’s ideas (transactivity). “This is not so surprising,” Professor Bétrancourt comments, “since previous research has shown men are less likely to display emotion in social situations.” However, independent of gender, the tool seemed to enhance the experience of the task, as Professor Bétrancourt explains. “Amongst the pairs using the EAT, those who reported spending more time trying to investigate each other’s emotion also tended to report feeling more intense positive emotions after the collaboration.”

Alongside the self-reports, the study measured physiological indicators of emotional state such as pulse, skin temperature and breathing rate, as well as the direction of gaze. Using signal processing techniques the research investigated the degree to which the partners’ reactions were similar or ‘coupled’ and the possible impact of this. Those pairs who were more ‘physiologically coupled’ tended to share a common understanding of the task (grounding) and those who

looked in the same direction tended to converge on common ideas. “But with breathing it was different,” explains Professor Pun. “The pairs who were less synchronized in breathing showed more grounding. It could be that respiratory processes are involved in speech and turn-taking, so people reported a higher level of grounding when they talked sequentially and breathed at different times.”

The eventual goal is to develop an automatic emotional assessment tool that doesn’t rely on the reports of the individuals but can ‘read’ emotional state from physiological and behavioral responses. “This will also aim to be less disruptive to the task,” suggests Professor Pun.

Professor Pun is also applying his expertise in affective computing and signal processing to a project in its early stages of development. The project is designed in collaboration with Professor Patrizia Lombardo and will investigate the physiological and behavioral reactions of cinema-goers and their link to the emotional effects of the film.

This study will explore whether moments of collective response amongst an audience correspond to scenes that critics agree to be aesthetically successful for various reasons, such as an inventive use of camera or the ability to represent tension among characters. “Sometimes there is no agreement among critics about the successful moments in a film,” comments Professor Lombardo. “And these moments of discrepancy could also be interesting.”

Participants in the study will watch a complete film in a real cinema in Geneva and their physiological and behavioral reactions will be monitored to assess the synchronization across the audience. “We are thinking of using two very different films,” says Professor Lombardo. “One will be an action film and the other will be more reflective. The obvious prediction is that for a film with more action, like a Scorsese movie, the audience will have similar reactions to the same scenes. Whilst in more reflective movies, reactions will be more individual according to the mood and memories that the film triggers.”

In particular the research intends to investigate the importance of watching a film with others and the potential for an emotional impact to be contagious throughout the audience.

The team have conducted data recording for a complete film during one of Professor Lombardo’s cinema classes and already there is evidence of an excellent collaboration. “I think it’s very important to work across disciplines,” comments Professor Pun. “It’s a very rich, state-of-the-art environment and allows you to work in a challenging and fulfilling way.” ■

CONFERENCE

Affective Computing and Intelligent Interaction (ACII) Conference, 2nd to 5th September 2013

This September Geneva will host the ACII biannual conference and the Swiss Center for Affective Sciences (CISA) will be a partner organizer. Professor Thierry Pun is one of three conference chairs and several fellow colleagues at the NCCR Affective Sciences are involved in the organization as well. This year's theme is 'Research at the cross-roads between emotion, technology and the humanities' and will include topics such as affect in arts,

entertainment and multimedia, databases for emotion processing, and affective interfaces in games and learning. Professor Klaus Scherer is one of the keynote speakers and the conference will include presentations of papers, interactive events, and a doctoral workshop for PhD students to present their project proposals. Overall there were close to 300 submissions, which is an indication of the event's growing popularity. ■

INTERVIEW



The Emotions: A Philosophical Introduction.



Q&A with psychologist A. Moors the book's authors, Julien Deonna and Fabrice Teroni.

It was whilst studying guilt and shame within the NCCR in Affective Sciences that J. Deonna and F. Teroni recognized the need for a general philosophical account of affective states. The result is the book 'The Emotions: A Philosophical Introduction' published last year by Routledge. Well-written and accessible, the book covers the central philosophical issues surrounding emotions. Although primarily aimed at philosophers, it is also of interest to psychologists and social scientists. Indeed the book has generated some fascinating theoretical debate as evidenced in this Q&A with psychologist Agnes Moors and the book's authors.

AM: Psychologists tend to use the term 'feelings' or 'experience' to refer to one component in the emotional episode, whereas in philosophy the term 'feeling' is often equated with 'emotion'. Can you explain why?

FT: I think philosophers emphasize the feeling dimension because they want to find a unitary approach to emotions. One typical starting point is to consider emotions as experiences –that is, states that involve feelings– and then try to understand how other aspects of emotions such as appraisal, action tendencies and bodily changes relate to them. Amongst philosophers there is variation in how important they conceive these aspects to be, including the 'feeling' aspect.

AM: I see why emotion theories should explain feelings,

but why do you insist on the strong connection between feelings and the body? Feelings can reflect bodily changes, but they can also reflect appraisal, which is also a good alternative candidate for the central component of emotion.

JD: One of the main proposals in the book is that we should not conceive of appraisal and bodily feelings as two distinct aspects of emotions insofar as we are concerned with them as first-person experiences. In a nutshell, we believe that when we experience an emotion, something has to resonate in our body. And it is by focusing on the nature and role of the relevant bodily feelings that we can understand the sense in which emotions appraise the environment.

FT: This is why we are keen on distinguishing the emotion from the mental states that elicit it. For example, beliefs can but need not feature an appraisal and they can happen without the relevant bodily consequences.

AM: In the book you list a number of emotional terms such as fear, anger, sadness etc. that you believe a theory of emotions should explain. But who decides on which affective phenomena count as emotions and which don't?

JD: Ordinary language plays an important role in the philosophy of emotions. From our point of view it is essential to emphasize the existence of a pre-theoretical and rich understanding of emotions that is (partly) manifested in

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the language of emotions. We believe that we should not defend a theory that is completely divorced from these linguistic practices. So while we agree that the list may not be perfect, staying close to ordinary language constitutes an important constraint in our theorizing about emotions.

AM: In the book you argue that a good theory of emotions should give a satisfactory account of three core features: intentionality, phenomenology and epistemology. Why are these so central?

JD: We have already mentioned the importance of the felt aspect of emotions in the first question (phenomenology). With regard to intentionality, the idea is simply that emotions are directed towards something. Philosophers are traditionally interested in how different mental states, and among them emotions, function as windows onto our environment. The fact that emotions represent something has, in turn, a variety of repercussions on epistemological issues. Emotions themselves are subject to different standards – they can be correct or incorrect, justified or unjustified. Under certain circumstances, emotions can also justify evaluative judgments and this, in turn, offers a connection to morality, which has always interested philosophers.

AM: You used to defend a perceptual theory of the emotions, namely that they are perceptions of evaluative properties, but you have replaced this with an attitudinal theory. Can you explain the difference between the two?

FT: The main difference between the perceptual approach and the theory we propose in the book is that we reject the widely shared claim that emotions have to represent evaluative properties. For example, we claim that danger or offense are not related to fear or anger in the same

way colors or sounds are related to vision or hearing. An immediate benefit is that we do not have to postulate a primitive and suspect perceptual relation to evaluative properties. And our theory is distinctive because we still allow for the existence of a connection between values and emotions; we simply remove it from the representation to relocate it in the subject's attitude, stance or posture towards the representation.

AM: I really think this is the best part of the book. It's very creative and elegant although I still have to work out what it means for psychological theories... Lastly there is a proliferation of emotion theories in both psychology and philosophy, each proposing different criteria by which to judge theoretical value. Do you think there will ever be greater consensus, and is it worth striving for?

JD: I hope that our theory is more inclusive than most, and our emphasis on using many criteria is an indication that we are trying to work towards consensus. We want to respect ordinary language and empirical science while giving the tradition and history of the domain its due weight, particularly with regard to the focus on phenomenology. If you want to dismiss well-established criteria, you have to work for it.

FT: Working with these different criteria in mind is important insofar as we should strive to respect the complex functional or psychological roles that emotions play, for example the connection between emotions and evaluative judgments and the fact that emotions are typically elicited by motivational states. It is of the utmost importance to develop a theory that respects this.

AM: And it makes it attractive to psychologists, which is an asset! ■

NEWS

Academic meetings

Conference on Antirealism in Metaethics: Expressivism, Relativism and Error Theories (December 11, 2012). Four speakers presented their most recent research in metaethics at the University of Geneva. A Workshop on Expressivism (December 12-13, 2012) took place at the University of Fribourg. The same four speakers presented their work on a specific version of antirealism, namely expressivism.

(<http://www.philosophie.ch/events/single.php?action=date&eventid=939&month=12&year=2012>)

Baudelaire: éthique et esthétique (December 14, 2012). Master Colloquium organized in Geneva by Patrizia Lombardo in collaboration with the Groupe d'études du XIXème siècle.

Alpine Brain Imaging Meeting (ABIM) (January 6-10, 2013). International Colloquium organized in Champéry by Patrik Vuilleumier and Sophie Schwartz with world-renowned speakers in affective and brain imaging. <http://labnic.unige.ch/ABIM/>

Workshop 'Tools and Technologies for Emotion Awareness in Computer-Mediated Collaboration' (January 28 – February 1, 2013). Gaëlle Molinari and Guillaume Chanel organized this workshop at the Alpine Rendez-Vous 2013. The aim of the workshop was to build an international community around this topic. (<http://www.affective-sciences.org/EATMI/EmotionAwarenessWorkshop>)

Academic meetings

l'essai en littérature et dans les arts (March 8, 2013). Colloquium organized by Patrizia Lombardo on the nature of the essay, its relationships with the arts, and how it could contribute to film experimentation. <http://www.unige.ch/lettres/framo/Evenements/Lessaienlitteraturetdanslesarts.html>.

Conference 'The Economics of Inequality & Human Development' (March 21, 2013). The Excellence Foundation Zurich funded by Ernst Fehr organized this event featuring Nobel laureate James Heckman on early childhood development and the long-term economic return on investment for interventions in early childhood.

Conference 'The (Honest) Truth about Dishonesty' (April 10, 2013). The Excellence Foundation Zurich funded by Ernst Fehr organized this event with Professor Dan Ariely (Duke University) on the mechanics behind honesty and dishonesty.

International Conference 'The Ontology of Emotion' (April 26-27, 2013). This conference jointly organized by Julien Deonna, Fabrice Teroni and Patrizia Lombardo brought together new and established theorists from both philosophy and psychology to investigate the fundamental nature of emotional episodes (<http://www.unige.ch/lettres/philo/thumos/Thumos/Home.html>)

International symposium 'Understanding Emotions in Affective Disorders' (April 30, 2013). Organized by Klaus Scherer, Guido Bondolfi, and Meinrad Perrez, it brought together psychiatrists (Sartorius, Seifritz), psychologists (Gilbert, Watkins), and sociologists (Horwitz) to discuss the issue of the distinctions between normal and abnormal emotions in relation to the new DSM V.

Emotions in the Classical World: Methods, Approaches, and Directions (May 3-4, 2013). International Colloquium organized by Damien Nelis and Douglas Cairns at the Fondation Hardt, Geneva. <http://www.fondationhardt.ch/en/>

Annual Meeting Swiss Society for Sleep Research, Sleep Medicine and Chronobiology (SSSSC 2013) (May 23-24, 2013). Sophie Schwartz contributed to the organization of this meeting in Aarau supporting the representation of cognitive and affective research in the program.

Changing the Brain, Changing Society: Clinical and Ethical Implications of Neuromodulation Techniques in Neurology and Psychiatry (June 13-14, 2012, Fondation Brocher, Geneva). Workshop organized by David Sander and Patrik Vuilleumier at the International Symposium on Neuroscience and Ethics on ethical challenges raised by new approaches to measure and influence brain functions, including emotions.

Fostering Learning through Emotions, Video-Games and Virtual Reality (June 13-14, 2013). Symposium organized by the Focus group on Emotion, Videogames & Virtual Reality. This symposium gathered researchers from psychology, neuroscience, affective computing, and game design. These researchers are interested in how physiological states and emotional behaviors can be monitored online to inform game/VR engines and how games and VR can be used to train affective competences (<http://www.affective-sciences.org/events/fostering-learning-through-emotions-virtual-reality-and-videogames>).

The 3rd International Conference on Music & Emotion (June 11-15, 2013). Conference organized in Jyväskylä, Finland. The NCCR Affective Sciences was strongly represented (keynote speech by Klaus Scherer and many individual contributions). ■

Grants received and major achievements

Emma Tieffenbach obtained a SNSF Marie Heim-Vögtlin grant to work on understanding economic value.

Ernst Fehr was awarded the Gottlieb Duttweiler Prize in April 2013. The politically independent Gottlieb Duttweiler Prize is awarded for outstanding contributions to

the community. Ernst Fehr was awarded for his pioneering research on the role of fairness in markets, organisations and in individual decisions. ■

Knowledge transfer activities

Every year, Patrik Vuilleumier's project supervises the **Brain Awareness week in Geneva**, which promotes local and international research on affective neuroscience and generally attracts 300-500 persons from the general public every evening for one full week. This year the event was held on March 11-15, 2013.

Parcours sommeil-cerveau. From March to May 2013, Sophie Schwartz co-organized with physicians, school nurses and the sleep lab of the Geneva University Hospital an educational program for adolescents (12-19 years old) about sleep and the cognitive and emotional consequences of sleep deprivation.

Nightlife at the California Academy of Science, San Francisco (May 9, 2013). The NCCR Affective Sciences in collaboration with Swissnex San Francisco presented a special Nightlife event called "Feel the music". The program included demonstrations and talks by several researchers from the NCCR Affective Sciences. (<http://www.calacademy.org/events/nightlife/>)

Interdisciplinary Conference 'Feel the Music: Sound and Emotion', San Francisco (May 16-17, 2013). The focus

of this conference was the power music has to express, communicate and produce emotions (of any type), and its impact in everyday life. The program provided a multidisciplinary perspective on the field. It was organized by the NCCR Affective Sciences and Swissnex San Francisco (<http://swissnexsanfrancisco.org/Ourwork/events/feelthemusic>)

Collaboration with the Transport Publics Genevois (TPG) (2012-2013). The project led by Thierry Pun and HEPIA (Haute École du Paysage, d'Ingénierie et d'Architecture de Genève), has developed a model to give feedback to bus drivers through physiological monitoring and the subsequent analysis of passengers' affective states. The researchers have also evaluated sensor prototypes (dedicated electrodermal activity measurement sensor).

The NCCR Affective Science makes its **research material available** on: <http://www.affective-sciences.org/researchmaterial>. This material is free of charge for use in non-commercial research projects. New material is continually added. ■

Staff changes

Kallia Apazolou (Project Cerebral Bases of Individual Differences in Affect Perception and Regulation) joined Patrik Vuilleumier's laboratory in April 2013. She obtained an AXA postdoc Fellowship.

Christelle Bozelle (Project Affective Computing and Emotion Awareness in Computer-Mediated Interaction) left the project at the end of May 2013. She helped collect and analyze experimental data and co-wrote the ensuing papers.

Donato Cereghetti (Project Affective Computing and Emotion Awareness in Computer-Mediated Interaction) became a research assistant and PhD student for the project in April 2013 (50% funded by Unidistance). **Nadège Foudon** (Project When Social Appraisal Meets Social Referencing. A Developmental Perspective on Interest) joined the project as scientific collaborator in the Eye Tracking Lab in January 2013.

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Konstantina Kalogianni (Project Affective Computing and Emotion Awareness in Computer-Mediated Interaction) left the project on December 2012 after having developed an award-winning emotionally-adaptive game, GameEmo. She is currently a PhD student at Delft University.

Olga Klimecki (Project Cerebral Bases of Individual Differences in Affect Perception and Regulation) joined David Sander and Patrik Vuilleumier's groups in January 2013. She obtained a Bridge Marie Curie Fellowship.

Theodoris Kostoulas (Project Affective Computing and Emotion Awareness in Computer-Mediated Interaction) joined the Interproject "Film, Emotions, and Affective Computing: Movie Highlights' Detection" as a post-doc on March 1st, 2013.

Staff changes

Michele Ombrato (Project Emotion, Feeling and Value) joined Julien Deonna and Fabrice Teroni's project in December 2012 as a PhD student. He works on emotion and attention.

Camille Piguet (Project Cerebral Bases of Individual Differences in Affect Perception and Regulation) is pursuing a postdoc in Patrik Vuilleumier's Laboratory. She is working on the neural substrates of altered thoughts and ruminations in mood disorders.

Aglæ Pizzone (Focus Language and Culture) joined the Center on January 1, 2013 as new coordinator for the research Focus Language and Culture.

Petra Vetter (Project Cerebral Bases of Individual Differences in Affect Perception and Regulation) joined Patrik Vuilleumier's laboratory in March 2013. She obtained a Bridge Marie Curie Fellowship.

PhDs

Leonie Koban successfully defended her PhD thesis on social conflict monitoring on 17 September 2012 under the direction of Patrik Vuilleumier.

Lampros Perogamvros successfully defended his PhD thesis on sleep, dreams, and the dopaminergic reward system on 21 February 2013 under the direction of Sophie Schwartz.

Katja Schlegel successfully defended her PhD thesis on the measurement of emotion recognition ability on 28 May 2013 under the direction of Klaus Scherer and Didier Grandjean. ■

Upcoming events

International Summer School in Affective Sciences (ISSAS 2013) (July 5-13, 2013). The fifth ISSAS will take place at the Château de Bossey, bringing together leading scholars working at the intersection of morality and emotion research (www.affective-sciences.org/issas).

Montreux Jazz Festival (July 9 & 14, 2013). The NCCR Affective Sciences will organize three workshops on Music and Emotion, two of them in collaboration with the Haute Ecole de Musique de Genève (HEM). <http://www.montreuxjazzfestival.com/2013/fr/le-festival/fondation-2>

ISRE 2013 the bi-annual conference of the International Society for Research on Emotion will be held at the University of California, Berkeley from August 3-5, 2013. The NCCR Affective Sciences organizes a Pre-Conference day with two sessions, one on Appraisal and one on Music. More than 20 members of the Center will contribute individual presentations, including a keynote speech by Klaus Scherer and a symposium on the GRID study.

Affective Computing and Intelligent Interaction (ACII) (September 2-5, 2013). The 2013 ACII conference will be held in Geneva. It is the only conference solely devoted to this topic and it is attended by about 200 researchers. Thierry Pun is one of the general chairs. The conference is organized by the Computer Vision and Multimedia Laboratory (CVML) and the Swiss Center for Affective Sciences at the University of Geneva (<http://www.acii2013.org/>).

Contempt (October 18-19, 2013). Conference organized by the three humanities projects of the NCCR Affective Sciences: 'Emotion, Feeling and Value' directed by Julien Deonna and Fabrice Teroni; 'Affective Dynamics and Aesthetic Emotions – Contempt in Literature' directed by Patrizia Lombardo; and 'The Translation of the Emotions: From Greece to Rome' directed by Damien Nelis. ■

New books

The Cambridge Handbook of Human Affective Neuroscience, edited by Jorge Armony (McGill University, Montreal) & Patrik Vuilleumier (University of Geneva). Cambridge University Press (2013) http://www.cambridge.org/ch/knowledge/isbn/item7058264/?site_locale=de_CH

Components of Emotional Meaning A Sourcebook, edited by Johnny Fontaine (Ghent University), Klaus Scherer & Cristina Soriano (University of Geneva). Oxford University Press (2013) <http://ukcatalogue.oup.com/product/9780199592746.do#U7nuNhYV8E>

This book is the result of a 4 year research project conducted by the members of the Research Focus 'Language and Culture'. Research on emotion has grown exponentially in the last few decades and scholars from many disciplines are currently working on different aspects of emotion. Publications in this area are dominated by the use of standard emotion words like anger, sadness, fear, disgust, or joy, and it is simply assumed that both lay people and scholars across different languages and cultures understand what these mean. However, this assumption is far from self-evident, as emotions are complex processes with rich nuances subject to important differences between individuals and groups. The way in which these affective processes are reflected in the common emotion words in natural language is still unexplored, especially as it may depend on sociocultural history and context. There is an ongoing debate on whether emotion words reflect universal psychobiological processes, or culture- and language-specific conceptualizations of emotional experience (or both). Exploring this issue is of major import for emotion research within and across cultures, as well as for many other areas such as political or commercial negotiations, intercultural interactions, and translations of literary works.

This book presents a novel approach to this issue, proposing a multi-theory-based instrument to empirically assess the meaning of emotion words in different languages - the GRID questionnaire. It consists of a grid of 24 emotion words and 142 emotion features representing five major emotion components -- appraisals, bodily reactions, expressions, action tendencies, and feelings. The selection of these features was informed by the major theoretical positions in emotion research. In 45 chapters, the book presents the results from an

extensive cross-cultural and cross-linguistic study with samples from 27 countries representing 24 different languages. Contributions from psychological, cultural-comparative, and linguistic perspectives demonstrate how this new instrument can be used to empirically study a large variety of research questions on the meaning of emotion words. The implications of the results for major theoretical debates on emotion are also discussed, systematically comparing basic emotion, dimensional and componential views.

Because of its multidisciplinary perspectives on meaning, covering much of the relevant literature, and its empirical account of the meaning of emotion words by means of componential feature profiles, *Components of Emotional Meaning* constitutes an important new reference work for researchers in the affective sciences.

The Emotional Power of Music: Multidisciplinary Perspectives on Musical Arousal, Expression, and Social Control, edited by Tom Cochrane (University of Sheffield), Bernardino Fantini, & Klaus R. Scherer (University of Geneva). Oxford University Press (2013) <http://ukcatalogue.oup.com/product/9780199654888.do#U7pCthYV8E>

This book is the result of a conference on The Emotional Power of Music and consequent research activities by members of the Research Focus on 'Aesthetic emotions' and 'Music and Emotion'. It brings together leading scholars from many different disciplines from neuroscience to history that have contributed chapters on three major areas, organized into three sections, each addressing a central issue of the field from a range of different perspectives. The first section of the book addresses the issue of musical expressivity; the means by which listeners are able to recognize music as representing, capturing, or possessing emotional qualities. The second section addresses the elicitation of emotions by music, which is widely regarded as central to the significance and power of music. The authors in this section present a number of views on the mechanisms potentially underlying the process of emotion elicitation or induction, often informed by particular theories of emotion. The third section explores the ways in which the societies of different historical periods have sought to manage or manipulate the powers of music. ■

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