AFFECT FORMATIONS IN CONCERT
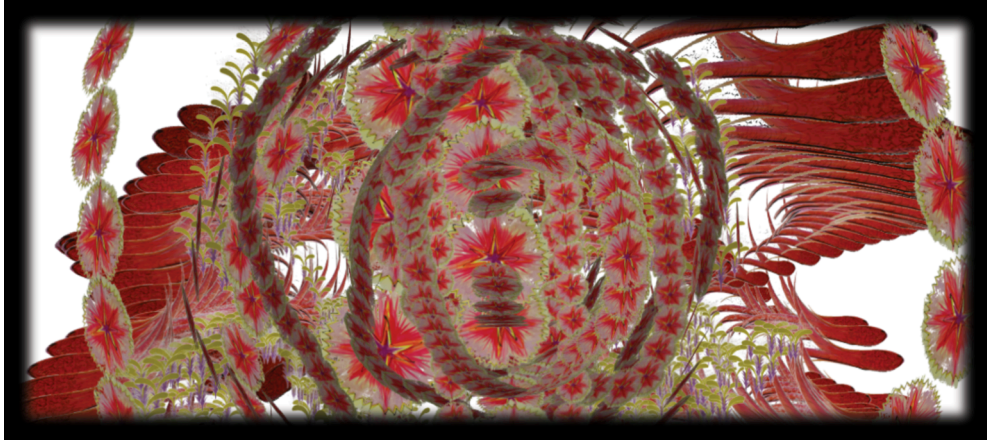
Video still of ***In a State*,** © Adinda van 't Klooster, 2014

https://www.affectformations.net

Affect Formations concert programme

19th of March, 2015, the Sage Gateshead

Live generated animations, acoustic piano improvisation, biofeedback and electroacoustic performance are combined in this innovative concert that explores the overlaps between music, emotion and art and marks the end of half year residency by artist Adinda van 't Klooster at the Durham University Music Department. Virtuoso pianists Nick Collins and John Snijders interpret some of the artist's graphical scores created during the residency, and two new audiovisual interfaces are launched: one that detects emotion in musicians and one that detects emotion in live piano music. The development of these interfaces has been heavily influenced by research in music and emotion previously undertaken by Professor Tuomas Eerola who has advised on the project at regular intervals.

A postgraduate student's contribution consists of Matthew Warren's composition 'Three Expressions' that was composed exploring the theme of emotions and won the Affect Formations student competition.

*1) **In a State** – 10 minutes*

Pianist – Nick Collins

In A State is an audiovisual performance that plays with models of emotion: the discrete model (angry, annoyed, happy, sad, tender, sleepy, calm, bored and excited in this case) and the continuous model by Russell based on a two-dimensional arousal-valence plane. A pianist improvises, and the emotion perceived in the music by the computer is visualised in an abstract way using animated drawings and Processing code. The computer's analysis of emotions also informs electroacoustic responses. Detected emotional state of both the pianist and the electroacoustic agent are projected and in turn inspire the pianist's decisions. Mediation by computer models of emotion forms an ironic core within this performance: flaws in the emotional detection system bring emotion models to the forefront of audience involvement with the work. The piece is performed twice by two different performers to show how the software responds differently each time, due to the generative nature of the work. The second performance will be at the end of the concert.

Programming and audio agent by Nick Collins
Animation and graphics by Adinda van 't Klooster

2) *Graphical Score 1* - 6 minutes

Pianist – John Snijders

Graphical Score 1 © Adinda van 't Klooster, 2014

The instructions given with this score were as follows: One can read the score from the left to the right or jump from graphical element to graphical element in an order of your choice. (For example from blue lines to thin black lines to increasingly thicker black lines with yellow occasionally in between, etc.) The musician's intuition is an important element in determining the order and choice of instruments/sounds.

3) *Graphical Score 2* - 5 minutes
Pianist – Nick Collins

Graphical score 2 © Adinda van 't Klooster, 2014

The instructions handed out with this score were identical to the previous score. Feedback was given on earlier interpretations of the score leading to this final interpretation.

4) *Graphical Score 3* – 5 minutes
Pianist: John Snijders

This third score was chosen by John Snijders from a selection of drawings by the artist. The simplicity of the drawing inspired his interpretation.

Graphical score 3 © Adinda van 't Klooster, 2014

5) *Three Expressions* – 8 minutes
   Composer: Matthew Warren
   Pianists: Nick Collins followed by John Snijders

Three expressions was submitted by Matthew Warren in response to a call for compositions for piano on the theme of emotion, put out by the artist as part of her residency. The piece delves into three short explorations of contrasting expressions of emotion. To further this exploration of contrast, the piece will be played twice to show different interpretations that can be created from a 'fixed' score. Matthew's work won the composition competition associated with this project.

6) *Biocombat* – 10 minutes

Biocombat is an audiovisual performance for two performers, in this case Nick and Adinda. The performers are wired up with EEG, GSR and heart rate sensors and there are two projections. The first projection shows what the demanded target emotion is that both performers have to feel and the output of a classifier that decides who is best at feeling the target emotion on demand. The eight emotions are happy, sad, angry, tender, calm, excited, annoyed and afraid. Both performers have created sounds to match the eight emotions. These two soundscapes are overlapped, but the person who is best at feeling the target emotion has their music play louder. The right projection shows animated graphics to visualize the target emotion.

Programming by Nick Collins
Animation and graphics by Adinda van 't Klooster
Sound design by Nick Collins and Adinda van 't Klooster

7) *In a State* – 10 minutes
Pianist – John Snijders

Programming and audio agent by Nick Collins
Animation and graphics by Adinda van 't Klooster

SHORT BIOGRAPHIES

Dr. Nick Collins is Reader in Composition at Durham University. His research interests include live computer music, musical artificial intelligence, and computational musicology, and he has performed internationally as composer- programmer-pianist and codiscian, from algoraves to electronic chamber music. As a composer, he investigates new possibilities in autonomous interactive music systems based on advanced artificial intelligence and machine listening. His music is sometimes pure computer music, and sometimes combines the traditions of acoustic composition with live electronic treatments. Previous works range from improvised pieces for pianist and computer agent, through works for other acoustic instruments with computer, to pure instrumental works such as his eight piano sonatas.

Tuomas Eerola is a **Professor** of Music Cognition at the Durham University, UK. His research interest lies in the field of music cognition and music psychology, currently in perception and induction of emotions in music. He approaches these topics by combining computational modelling with empirical experimentation. He is the first author of a widely used computational toolbox for music analysis (MIDI Toolbox, 2004), has pioneered the study of acoustic and musical correlates of emotions from audio, and has published more than 80 papers and book chapters on topics including musical similarity, melodic expectations, perception of rhythm and timbre, induction and perception of emotions. He is also on the editorial board of Psychology of Music, and Frontiers in Digital Humanities and is consulting editor for Musicae Scientiae.

Dr. Adinda van 't Klooster is an artist who works with drawing, sound, light, animation, sculpture and interactive technology. She studied Sculpture at the Glasgow School of Art and completed an MSc in Electronic Imaging at the University of Dundee. During her PhD at Sunderland University she explored the aesthetic experience in reactive and interactive artworks and how different mapping strategies can be devised when physiological data is used as input. She collaborated on various interdisciplinary projects, which can be viewed on her website www.adindavantklooster.com. Ongoing interests in her work are the relationship between the body and technology, the combination of image and sound and the links between music/sound, art and emotion. Her work has been exhibited, performed and screened worldwide and commissioned throughout the UK.

John Snijders is a reader in performance at the Durham University music department. He studied at the Royal Conservatory The Hague with Geoffrey Madge (piano), Stanley Hoogland (fortepiano) and Louis Andriessen (composition). In 1985 he won first prize at the Berlage Competition for Dutch chamber music. He performed as soloist with amongst others the Dutch Ballet Orchestra, The Brussels Philharmonic, The Hague Philharmonic, Dutch Radio Philharmonic Orchestra, Radio Chamber Orchestra and Dutch Radio Symphony Orchestra. Since 1988 he is a member of the Nieuw Ensemble and he is also the founder, pianist and artistic director of the Ives Ensemble and has performed extensively at most major music festivals in Europe. Snijders is especially interested in establishing connections between contemporary music and contemporary visual arts.

Janet Stewart is Professor in Visual Culture and German at Durham and Director of the Centre for Visual Arts and Culture. She was appointed to her current post in January 2014. Before that she was Senior Lecturer in German and Film & Visual Culture at the University of Aberdeen, where she founded a Masters programme in Visual Culture. She is the author of two monographs, Fashioning Vienna: Adolf Loos's Cultural Criticism (2000) and Public Speaking in the City (2009) and has published widely on Austrian and German literature and visual culture, cultural sociology and urban history. Her current research project develops her interests in modernity and visual culture in a new context, connecting them to the study of energy and, more specifically, 'petroculture'.

Matthew Warren is a composer, conductor and MA composition student at Durham University studying under Richard Rijnvos. As both an acoustic and electro-acoustic composer, his work focuses on musical semiotics, his interest in which stems from his studies in Ethnomusicology and the role that considering music's function in society can have in informing composition. Matthew has also created an installation piece, called *Gethsemane to Golgotha,* which was staged in St Oswald's Church in 2014. He recently won the Durham University Orchestral Society's composition competition and has also composed for University's New Art Music Ensemble, the Klang music festival and various choirs. He is currently composing a piece for the Leeds Leider Festival and a computer game called *Chapters of Hue*.

Please note: If you haven't yet completed the graphical survey that allows you to rate 32 drawings by Adinda van 't Klooster for their emotional expression, please do so online at:
https://www.affectformations.net/research/visualaffects
You can also sign up for the Affect Formations mailing list at https://www.affectformations.net/mailing-list to be kept informed of further findings and events.

The Leverhulme Trust

Durham University

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