

AAM&FMA

**Fifth Conference on
Analytical Approaches to
World Music**

**Eighth Folk Music Analysis
International Workshop**

JOINT MEETING

**CONFERENCE PROGRAMME
& Book of Abstracts**

Hosted by the
School of Music Studies
Aristotle University of Thessaloniki

26-29 June 2018
Piraeus Bank Conference Center, Katouni 12-14, Thessaloniki

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Analytical Approaches to World Music**

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In association with the:
Aristotle University of Thessaloniki
University of British Columbia
New York University
Society for Music Analysis
British Forum for Ethnomusicology

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CONTENTS

	Page
Welcome note	3
Useful Information	4
Committees - Acknowledgements	6
Conference Timetable	8
Abstracts	15
Concerts Programme	60
About the Performers	61
Directory of Authors	65

WELCOME TO THE AAWM-FMA 2018 JOINT CONFERENCE

Dear delegates,

We would like to welcome you all in Thessaloniki for the joint meeting of the *5th Conference on Analytical Approaches to World Music* (AAWM) and the *8th International Workshop on Folk Music Analysis* (FMA). This is the first joint meeting of the AAWM and FMA societies. The conference, hosted by the School of Music Studies of the Aristotle University of Thessaloniki, and organized in association with the University of British Columbia, the University of New York, the Society for Music Analysis (SMA) and the British Forum for Ethnomusicology (BFE), will take place at the Piraeus Bank Conference Center, in Thessaloniki's historical commercial center.

The *5th Conference on Analytical Approaches to World Music* belongs to a series of conferences that bring together scholars to explore the panoply of global musical traditions, both past and present, that lie outside the purview of Western Art Music, from the broadest possible array of theoretical, cultural, historical and analytical perspectives, in order to foster interdisciplinary and cross-cultural dialogue and promote new approaches and methods. The *8th International Workshop on Folk Music Analysis* summons researchers from the fields of ethnomusicology, musicology, computer science and music information retrieval (MIR) and provides a forum that encourages sharing of ideas, needs, research methods and discoveries. Its aim is to support cross-disciplinary collaborative networks and the development of new interdisciplinary tools that promote an enriched understanding of traditional musics.

Thessaloniki, functioning for centuries as a multi-cultural crossroad between the East and the West, is perhaps an ideal meeting place for scientists and artists aiming at promoting the study, preservation and dissemination of the musical cultural heritage of the world. The rich program of the joint AAWM/FMA 2018 conference comprises presentations that examine world musical traditions from any analytical and theoretical viewpoint, including ethnographic, historical, formal, computational, and cognitive perspectives. The schedule includes 84 paper presentations, 3 keynote addresses by distinguished international scholars—two proposed by AAWM and one by FMA—, 1 plenary session on musical transcription and 1 workshop on European folk dances. The scientific program is complemented by three fascinating evening concerts featuring a diverse collection of traditional or experimental Mediterranean musical genres.

We hope that the richness of research topics, the quality of papers, the lively and friendly environment of Thessaloniki and the musical concerts, will make this conference a most rewarding experience. We hope that everyone will leave with fresh ideas and motivation for future research, and create new collaborations that will give rise to inspiring novel concepts and lasting friendships.

We would like to thank all our co-organizers, our colleagues in the School of Music Studies of the Aristotle University and our collaborators at SYMVOLI for their support. Special credit deserves to go to the members of the Program Committees of AAWM and FMA—Michael Tenzer, John Roeder, Aggelos Pikrakis and Andre Holzapfel—who accomplished the demanding tasks of collecting the paper submissions, conducting the reviewing process and arranging the presentations in the schedule.

Costas Tsougras, Emilios Cambouropoulos
Co-Chairs, Local Arrangements Committee
on behalf of the Organizing Committees of AAWM and FMA

USEFUL INFORMATION

About the Conference

This is a joint conference, so all registered or invited participants have access to all the paper sessions, plenary sessions, workshops, keynote lectures and concerts of the four-day event, regardless of the Society in which they are members or their registration (AAWM or FMA).

All paper presentations, except for the 3 keynote lectures and the plenary session, will run in three parallel tracks, as outlined in the timetable. However, there is an important difference between AAWM and FMA paper presentations: the AAWM presentations last 45 minutes (30' talk & 15' discussion), whereas FMA presentations 30 minutes (20' talk & 10' discussion). So, you will notice that the parallel tracks containing FMA sessions are not entirely in sync with AAWM sessions.

Conference Venue

The Piraeus Bank Conference Center is housed in a three-story renovated historic building in *Ladadika* (Katouni 12-14 str.), a neighborhood near the Port, in the historic commercial center of Thessaloniki.

The conference will take place at the 2nd and 3rd floors of the building. The 3rd floor includes the **Auditorium**, where the keynote lectures, the plenary sessions and the concerts, as well as the 1st parallel sessions of each track will commence, **Hall 1**, which will host the 2nd parallel track, and the *Cafeteria/Roof Garden*. On the 2nd floor you will find **Hall 2**, where the 3rd parallel track will take place. The 3rd floor also includes a round-table room for small-group meetings, which will be available to the delegates at their request.

At the foyer of the 3rd floor you will also find the *Registration/Information and Technical Desk*, which will be at your service throughout the conference.

The venue's cafeteria will offer free coffee/tea, refreshments and cookies to the delegates not only at the scheduled Coffee Breaks, but throughout each day of the conference.

The venue provides free WiFi access to the internet (the login password will be available at the Registration Desk). Please, avoid using it heavily during the conference sessions, because some of the presenters will need the bandwidth for live video or for skype communication.

Presentation Guidelines

AAWM spoken papers are allotted 30 minutes plus 13 minutes for discussion, while FMA spoken papers are allotted 20 minutes plus 8 minutes for discussion. In both cases a 2-minutes break is provided for changing equipment or rooms. The timetable must be strictly adhered to so that people can easily change rooms and plan meetings during breaks. All papers are presented in English.

Each of the three presentation halls has a laptop computer, a projector, a projection screen and a set of loudspeakers installed. The projectors have standard VGA cables and the loudspeakers standard stereo 3.5 mm mini jack cables.

The computers in the presentation halls are laptops with Microsoft Windows or Apple MacOS. Presentations should be prepared in MS Office Powerpoint or in Acrobat pdf formats. The powerpoint presentations should be pptx files (not ppt)—so that all audio/video content is included in the same file—and named after the presenter's surname. Please have your files in standard USB

flashdisks (not in CD/DVD disks). If you prefer or if it is necessary (e.g. if you want to use other presentation software), bring your own laptop and check in advance that your and our equipment work together in harmony. If you use Apple Macintosh laptops, you should provide any necessary adaptors for video (VGA) output to the projector.

Meet your chair and technical assistant 15-20 minutes before the start of your session. If you have a handout, give it to an assistant along with any instructions on what to do.

If something goes wrong with the equipment during your talk, ask the technician to fix it. Meanwhile, please continue your talk, even if you have to improvise without slides. It is important that the 45-minute (AAWM) or 30-minute (FMA) period must not be extended on account of a technical problem.

AAWM Rob Schulz Award

Graduate students and scholars within five years of receiving the PhD will be considered for the Rob Schultz Junior Scholar Award, established in 2016 to honor the memory of the co-founder of the *Analytical Approaches to World Music* journal and conference series. The best paper presented by a junior scholar will be published in the journal, and the author will also receive a modest cash award.

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Local Organizing Team

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Programme & Abstracts Book editing and DTP

Costas Tsougras

Conference Bureau, Registrations Management: SYMVOLI (www.symvoli.gr)

Vicky Papadimitriou, Helena Pistolaki

Participating Societies and Institutions

Analytical Approaches to World Music (www.aawmconference.com, www.aawmjournal.com)
Folk Music Analysis International Workshop (www.folkmusicanalysis.org)

School of Music Studies, Aristotle University of Thessaloniki (www.mus.auth.gr)
University of British Columbia (www.ubc.ca)
New York University (www.nyu.edu)
Society for Music Analysis (www.sma.ac.uk)
British Forum for Ethnomusicology (bfe.org.uk)

Sponsor

Research Committee of the Aristotle University of Thessaloniki (www.rc.auth.gr)

CONFERENCE TIMETABLE

Day 1: Tuesday 26 June

8:00-17:00: Registration (Foyer of the third floor)

8:30 - 9:00	Welcome (Auditorium)		
Parallel Sessions A: 9:00-12:00			
	A1: Auditorium	A2: Hall 1	A3: Hall 2
9:00	AAWM Session A1: Non-isochrony Chair: Lawrence Shuster <i>Nasim Ahmadian</i> The Elasticity of Meter and Temporality in Performing Iranian Classical Music	AAWM Session A2: Mediterranean Chair: Deirdre Morgan <i>Andre Holzapfel</i> A Case Study of Ethnography and Computational Analysis as Complementary Tools for Analyzing Dance Tunes	AAWM Session A3: Indigenous Theory and Practice Chair: Costas Tsougras <i>Ferhat Çaylı and Cenk Güray</i> A Brief History of Ottoman/Turkish Music Theory via Its Music-Theoretical Instruments
9:45	<i>Michail Cholevas and Juliano Abramovay</i> Makampedia: Unveiling the Locally Rhythmical and Metric character of Free Rhythm Taksim Improvisations with the Use of Musical Analysis	<i>Spiros Kalozakis and Anastasia Georgaki</i> Acoustical Characteristics and Vocal Timbre Nuances of the Cretan Rizitika Singing Idiom	<i>Polina Dessiatnitchenko</i> "Improvisation is Not the Right Word!": Native Terminology and Performance Techniques of Azerbaijani Mugham Creativity
10:30	<i>Eshantha Peiris</i> Theory and Performance Practice in South Asia: Have Changing Ideas about Meter Influenced How Rhythms are Played?	<i>Haris Sarris and Marianthi Koilia</i> Music and Music Networks in the Aegean: The Example of Naxos Island	<i>Eleni Kallimopoulou and Petros Vouvaris</i> Arion: Harmonizing Theory and Ideology in Practice
11:15	<i>Rainer Polak</i> Empirical Evidence for the Theory of Swing-Based Meter in Malian Dance-Drumming	—	<i>Nikos Ordoulidis</i> Deconstructing Dipoles: The Term 'Minor' in Smyrna
12:00 - 13:30	Lunch Break		

Parallel Sessions B: 13:30-16:30			
	B1: Auditorium	B2: Hall 1	B3: Hall 2
	Session B1: Drumming Sensibilities and Form Chair: Michael Tenzer	Session B2: Music and Mass Media Chair: Nancy Murphy	Session B3: Melody and Scales Chair: Martin Clayton
13:30	<i>Adam King</i> Balinese Solo Drumming and the Western Drumset	<i>Anjni Amin and Richard Ashley</i> The Influence of Timbre on Emotion Perception	<i>Mohammad R. Azadehfar</i> A New Approach to the Analysis of Melodic Movements in Collective Pieces: Melodic Contours of Gūsheh-ha in Iranian Dastgāhi Music
14:15	<i>Andy McGraw</i> Cello-Drumming in Indonesian Keroncong	<i>Dimitris Tasoudis and Petros Vouvaris</i> Building Bridges: Two Case Studies of Music in Film	<i>Stefan Pohlit</i> Maqām and Beyond: A Unified Theory in Julien Jalāl Ed-Dine Weiss's Last Composition
15:00	<i>Carlos Guedes, Konstantinos Trochidis and Akshay Anantapadmanabhan</i> Challenges in Computational Modelling and Generation of Carnatic Percussion Music	<i>Kostas Chardas</i> "Greece Goes Modern" or Searching for the Roots? On the Use of Greek Folksong by the Greek Pop/Rock Scene	<i>Athena Katsanevaki</i> Exploring a Three-Level Composition in the Musical System of an Oral Tradition
15:45	<i>Nathan Hesselink</i> Cross-Cultural Resonance in the Cadential Hemiola	<i>Patrick Savage, Charles Cronin, Daniel Müllensiefen and Quentin Atkinson</i> Quantitative Evaluation of Music Copyright Infringement	<i>Somangshu Mukherji</i> Bhatkhande, Schenker, Humboldt: An Eternal Ragamala
16:30 - 17:00	Coffee Break		
17:00 - 18:00	AAWM Keynote Address 1 (Auditorium) <i>Martin Stokes</i> (King's College, London) Translating Modes		
18:00 - 20:00	Break		
20:00 - 21:00	Concert 1 (Auditorium) <i>Nikos Diminakis</i> : Beatbox & Winds <i>Modal4</i> : Music from the ensemble's recent CD		
21:00 - 22:30	Welcome Reception - cheese and wine		

Day 2: Wednesday 27 June

Parallel Sessions C: 9:00-12:00			
	C1: Auditorium	C2: Hall 1	C3: Hall 2
9:00	<p>AAWM Session C1: Regions of Europe Chair: Martin Stokes</p> <p><i>Itziar Navarro</i> Transformations in Bertsolaris Singing Style in Oiartzun throughout the 20th Century</p>	<p>AAWM Session C2: British Forum for Ethnomusicology: Papers on Aesthetics, Timbre, and Transcription Chair: Leslie Tilley</p> <p><i>Chloë Alaghband-Zadeh</i> The Social Aesthetic in North Indian Classical Music</p>	<p>FMA Session C3: Rhythm and Timbre Chair: Aggelos Pikrakis</p> <p>9:00-9:30 <i>Pierre Beauguitte, Bryan Duggan and John D. Kelleher</i> Rhythm inference from audio recordings of Irish traditional music</p>
9:45	<p><i>Argibel Euba Ugarte</i> Basque Txalaparta: Meter, Rhythm and Performance</p>	<p><i>Ruard Absaroka</i> Timbral Consonance and Musical "Flavor": Spectral Density, Timbre Spaces, and the Cultivation of Listeners in the World of <i>Jiangnan Sizhu</i></p>	<p>9:30-10:00 <i>Luis Jure and Martín Rocamora</i> Subiendo la llamada: Negotiating tempo and dynamics in Uruguayan Candombe drumming</p>
10:30	<p><i>Deirdre Morgan</i> Archaic Fusion: An Analysis of Norwegian Munnharpe Style and Repertoire</p>	<p><i>Morgan Davies</i> "Easy" Automatic Melody Line Transcriptions: A Comparison of Two Open-Source Software Programs</p>	<p>10:00-10:30 <i>Olof Misgeld and Andre Holzapfel</i> Towards the study of embodied meter in Swedish folk dance</p> <p>10:30-11:00: BREAK</p>
11:15	<p><i>Yannick Wey</i> Transformation of Tone Systems of Yodeling in the Muotatal Valley, Central Switzerland: A Multi-generational Longitudinal Study</p>	<p><i>Andrew Killick</i> Cross-Cultural Analysis Through Cross-Cultural Notation: The Laban Solution Revisited</p>	<p>11:00-11:30 <i>Marcelo Queiroz, Katerina Peninta, Roberto Bodo, Maximos Kaliakatsos-Papakostas and Emilios Cambouropoulos</i> Perception of asymmetric rhythms in traditional Greek music</p> <p>11:30-12:00 <i>Asterios Zacharakis and Konstantinos Pasiadis</i> Tension perception in Greek traditional folk music: Examining the role of timbral semantics</p>
12:00 - 13:30	Lunch Break		

Parallel Sessions D: 13:30-16:30			
	D1: Auditorium	D2: Hall 1	D3: Hall 2
	AAWM Session D1: World Music in New Art Music Chair: Juan Diego Diaz	AAWM Session D2: Physicalities Chair: Panayotis Mavromatis	FMA Session D3: Transcription and Recognition Chair: Andre Holzapfel
13:30	<i>Costas Tsougras</i> Analyzing the Epirotic Vocal and Instrumental Mirologi (Lament) and its Reflection in Theodore Antoniou's Laments for Solo Instruments	<i>Rosa Abrahams</i> But We're Not in Zombie Mode: Meter and Selected Attention in Greek Orthodox Movement and Music	13:30-14:00 <i>Sven Ahlbäck</i> The Hidden Modes: A computer-assisted approach to tonality analysis of Swedish Folk Music
14:15	<i>Nikolaos Diminakis</i> African and European Influences in Christian Lauba's Saxophone Compositions ("Nine Etudes for Saxophones" – 1st Book)	<i>Francesca Lawson and Joshua Sims</i> Participation and Presentation in Chinese Cross Talk: Using ELAN for Studying Responses to Music and Speech	14:00-14:30 <i>Geert Maessen and Darrell Conklin</i> Two methods to compute melodies for the lost chant of the Mozarabic rite
15:00	<i>Kristi Hardman</i> Moving Beyond Cultural Appropriation: Reconciliation in the Finale of Christos Hatzis' Going Home Star (2014)	<i>Laura Leante</i> Imagery, Movement and Meaning in North Indian Monsoon Rags	14:30-15:00 <i>Islah Ali-Maclachlan, Carl Southall, Maciej Tomczak and Jason Hockman</i> Player recognition for traditional Irish flute recordings
15:45	<i>Gloria Wong</i> Musical Synthesis and Collaborations in Canadian Compositions using Chinese and Western Instruments	<i>Toru Momii</i> Parsimonious Te-utsuri: Modeling Instrumental Space in Shō Performance	15:00-15:30: BREAK 15:30-16:00 <i>Emir Demirel, Barış Bozkurt and Xavier Serra</i> Automatic makam recognition using chroma features
16:30 - 17:00	Coffee Break		
17:00 - 18:00	FMA Keynote address (Auditorium) <i>Emmanouil Benetos</i> (Queen Mary University of London) Automatic transcription of world music collections		
18:00 - 20:00	Break		
20:00 - 21:00	Concert 2 (Auditorium) <i>Choral Workshop of the Aristotle University of Thessaloniki:</i> Yannis Constantinidis's "8 Asia Minor songs" <i>Byzantine Choir of the State Conservatory of Thessaloniki:</i> Selection of Byzantine hymns <i>STRINGLESS female a capella vocal group:</i> Selection of traditional Balkan songs		

Day 3: Thursday 28 June

Parallel Sessions E: 9:00-12:00			
	E1: Auditorium	E2: Hall 1	E3: Hall 2
9:00	AAWM Session E1: Africa and Empiricism Chair: Sylvie Le Bomin <i>Colter Harper</i> Performing Wisdom: Generative Processes in the Seperewa Music of Osei Korankye	AAWM Session E2: Marking and Perceiving Segmentation in East and South Asian Music (Society for Music Analysis) Chair: Laura Leante <i>Simon Mills</i> An Analytical Study of Musical Segmentation in South Korean Shaman Ritual Music	FMA Session 3: Culture, Analogy, Embodiment, Creativity Chair: Matija Marolt 9:00-9:30: — 9:30-10:00 <i>Stella Paschalidou, Martin Clayton and Tuomas Eerola</i> Effort-voice relationships in interactions with imaginary objects in Hindustani vocal music
9:45	<i>David Locke</i> How to Listen to the Response Drum Part in Agbadza (Ewe, Ghana/Togo): Form, Accentuation, and Reciprocity	<i>Lara Pearson</i> Gesture, Segmentation, and Meaning in South Indian Raga Performance	10:00-10:30 <i>Costas Tsougras, Maximos Kaliakatsos-Papakostas and Emilios Cambouropoulos</i> Creative harmonisation of folk melodies
10:30	<i>Juan Diego Diaz</i> Measuring Rhythmic Complexity in the West African Standard Pattern: An Empirical Approach	<i>Richard Widdess, Tudor Popescu and Martin Rohrmeier</i> Analysis in Real Time? An Indian Music Segmentation Study	10:30-11:00: BREAK 11:00-11:30 <i>George Athanasopoulos</i> Imitations-transformations: Birds of paradise in performance from the central provinces of Papua New Guinea
11:15	<i>Maisie Sum</i> Getting the Groove: Variation, Expectation and Affective Responses Across Cultures	<i>Rainer Polak</i> Discussant	11:30-12:00 <i>Christian Benvenuti</i> An information ethics-centred approach to music as intangible heritage
12:00 - 13:30	Lunch Break		

Parallel Sessions F: 13:30-16:30			
	F1: Auditorium	F2: Hall 1	F3: Hall 2
13:30	AAWM Session F1: Cross-Cultural Theories Chair: Richard Widdess <i>Martin Clayton</i> Interpersonal Entrainment in Music Ensembles: Cross-Cultural Perspectives	AAWM Session F2: Oceania and Southeast Asia Chair: Andy McGraw <i>Tat Amaro</i> Analysis in Context: Contemporary Lanna Repertory in the Piphat Ensembles of Modern Society in Phayao, Thailand	FMA Session F3: Similarity, Repetition and Segmentation Chair: Maximos Kaliakatsos-Papakostas 13:30-14:00 <i>Matevž Pesek, Manca Žerovnik, Aleš Leonardis and Matija Marolt</i> Modeling song similarity with unsupervised learning 14:00-14:30 <i>Geert Maessen and Peter Van Kranenburg</i> A non-melodic characteristic to compare the music of medieval chant traditions 14:30-15:00 <i>Chris Walshaw</i> Visualising melodic similarities in folk music
14:15	<i>Leslie Tilley</i> The Art of Putting Creativity in Boxes, or Can We Analyze Improvisation Cross-Culturally?	<i>Geoffroy Colson</i> Chanting Rhythms: Exploring the Tahitian Pehe	15:00-15:30: BREAK 15:30-16:00 <i>Iris Yuping Ren, Hendrik Vincent Koops, Dimitrios Bountouridis, Anja Volk, Wouter Swierstra and Remco Veltkamp</i> Feature analysis of repeated patterns in Dutch folk songs using Principal Component Analysis
15:00	<i>Cecilia Quaintrell</i> Testing Boundaries: Empirical and Hermeneutic Symbiosis in the Cross-Cultural Study of Musical Endings	<i>Lorenzo Chiarofonte</i> Do Ko Gyi Kyaw: Music Structures, Interaction Processes, and Performance Context of a Burmese nat-chin	16:00-16:30 <i>Matija Marolt</i> Going deep with segmentation of field recordings
15:45	<i>Lawrence Zbikowski</i> Theories of World Music	<i>Jay Rahn</i> Cyclical Structures in Central Javanese Skeletal Melodies	
16:30 - 17:00	Coffee Break		
17:00 - 18:00	AAWM Keynote Address 2 (Auditorium) <i>John Roeder</i> (University of British Columbia) Timely Negotiations: Formative Interactions in Cyclic Duets		
18:00 - 20:00	Break		
20:00 - 21:00	Concert 3 (Auditorium) <i>Athena Katsanevaki</i> : Moiroloi Trilogy by Dimitris Bakas <i>BAHARİ/Flamenco Arabe</i> : Flamenco music with kanun, flute, guitar and vocals		

Day 4: Friday 29 June

Plenary Session (G): 9:00-12:00 (Auditorium)			
9:00 - 12:00	<p>Plenary Session: Transcription and Recent Theories of Music Structure Chair: Michael Tenzer (University of British Columbia)</p> <p>Emmanouil Benetos (Queen Mary University of London) Barış Bozkurt (Universitat Pompeu Fabra, Barcelona) Panayotis Mavromatis (New York University) Tara Browner (University of California, Los Angeles) Kalin Kirilov (Towson University) Sylvie Le Bomin (Muséum national d'Histoire naturelle)</p>		
12:00 - 13:30	Lunch Break		
Parallel Sessions H, I: 13:30-16:30			
	H1, I1: Auditorium	H2, I2: Hall 1	H3: Hall 2
13:30	<p>AAWM Session H1: Historically Informed Approaches to Mediterranean Music Chair: Nathan Hesselink</p> <p><i>Maria Alexandru</i> Analytical Methods and Approaches to Byzantine Music: Retrospectives and Perspectives</p>	<p>AAWM Session H2: Dance Music Chair: Áine Heneghan</p> <p><i>Jane Piper Clendinning</i> What's in a Tune? Construction of Cape Breton Fiddle Tunes</p>	<p>AAWM Session H3: Rhythmic Strategies Chair: Chloë Alaghband-Zadeh</p> <p><i>Iljung Kim</i> Understanding Temporal Structure of Gagok Performance: A Study of Periodicity in Ujo Chosudaeyeop</p>
14:15	<p><i>Sokratis Sinopoulos</i> The Big Bang Theory of Music: A Tool Towards the Understanding of Modality in Eastern Mediterranean Music Cultures</p>	<p><i>Judith E. Olson</i> Interdependent Roles of Dancers and Musicians in Structuring Transylvanian Village Music</p>	<p><i>Saeid Kordmafi</i> Īqā': a Canon to Respect or Break? The Dichotomy between Rhythm Making Strategies in Composition and Improvisation in Classical Music of the Arab Mashriq</p>
15:00	<p>AAWM Session I1: Workshop (15:00-16:30)</p> <p><i>Daniel Goldberg</i> An Introduction to the Metric Adaptability of Southeast European Folk Dances</p>	<p>AAWM Session I2: American Folk and Blues Chair: Maisie Sum</p> <p><i>Nancy Murphy</i> "Old, Weird America": Metric Flexibility in Harry Smith's Anthology of American Folk Music</p>	<p><i>Luis Jure</i> Improvisation Techniques of the Repique Drum in Uruguayan Candombe Drumming</p>
15:45		<p><i>Grant Sawatzky</i> Dynamic Grouping Complexes in John Lee Hooker's Blues: A Case Study in Metric Particularity</p>	<p><i>Tiffany Nicely</i> Specifically Generic Accompaniments: Clump Vectors in Guinean Malinke Dance Drumming</p>

ABSTRACTS

Tuesday, June 26, 9:00–12:00, Parallel Sessions A

AAWM Session A1: Non-isochrony (Tuesday, 9:00-12:00, Auditorium)

Chair: Lawrence Shuster (SUNY Purchase)

The Elasticity of Meter and Temporality in Performing Iranian Classical Music

Nasim Ahmadian (University of Alberta)

This paper studies the elasticity of meter and temporality as a prominent aspect of Iranian traditional music. Often referred to as “non-metronomic” by local musicians, rhythmic-metric instability and shifting temporal frames exist not only in the *radīf* repertoire of Iranian classical music, but also in the everyday practice of various *gūsheh-ha*—short pieces of *radīf*—with “free” and “stretchable” metric structure. While sounding ‘unmeasurable’ to some non-native listeners, this feature is expected as a regular element of variety in aesthetics of Iranian music performance. By analyzing the rhythmic structure of *radīf* as a source of musical creation and local aspects of performative interpretation of musical time, I suggest the correlation of three factors which define the elasticity of time in Iranian music performance: 1) lingual characteristics and the integration of classical music with Persian poetry and its ‘quantitative’ structure; 2) ‘fixed’, ‘free’, and ‘stretchable’ characteristics of the diverse metric frames of *gūsheh-ha* and their enactment as structural elements of composition and improvisation; and 3) characteristics of the performer’s interpretation of emotion through time and rhythmic fluidity. This study explores the theory and human practice of rhythmic-metric frameworks within a local musical context.

Makampedia: Unveiling the Locally Rhythmical and Metric character of Free Rhythm Taksim Improvisations with the Use of Musical Analysis

Michail Cholevas and Juliano Abramovay (Codarts, University for the Arts, Rotterdam)

This study examines the rhythmic and metric aspects of phrase organization in the classical form of Ottoman *taksim* performances. *Taksim*, in the context of Ottoman music, is mainly used either as a prologue, an epilogue of a composed piece or as a bridge between two compositions which are composed on the same or on different *makams* (modes). Currently, *taksim* phenomenon is taught, discussed and analyzed by musicians with a focus on concepts of melodic development and melodic gravity. Terms such as melodic attraction, direction and hierarchy are used to characterize melodic development and realize it in traditional and academic educational environments. This form of performance takes place without the existence or suggestion of any underlying pulse from another instrument and is considered and treated, even today, as time-less or rhythm-less (lacking pulse) and meter-less or free-metered (lacking metric organization). Thus, it is a common practice to transcribe and notate *taksim* performances without note value, and the presence of rhythm in *taksim* performances has been seldom discussed.

Recent computational musical analysis investigates the relevance of rhythmical presence in *taksim*. Our research contributes to this line of inquiry by utilizing manual transcription and analysis of performances from masters of the genre. It reveals clear rhythmic patterns and

metric organization. We decoded these structures and modeled them so that they can be taught as improvisational strategies in introductory and advanced courses of taksim training. All the analyzed material is cataloged and is accessible through the Makampedia database, which includes recorded performances as well as lessons and interviews. This study increases understanding of musical phrasing and melodic flow, bridges the gap between non-rhythmic and metric improvisational strategies and provides tools for taksim music education and performance.

Theory and Performance Practice in South Asia: Have Changing Ideas about Meter Influenced How Rhythms are Played?

Eshantha Peiris (University of British Columbia)

At various moments in the twentieth century, musicologists around the world have theorized traditional rhythmic frameworks in terms of latent isochronous pulses. These theories have subsequently influenced the ways in which musicians have conceptualized rhythms - particularly rhythms that were previously understood through more flexible frameworks. But have these changes in conceptualization effected changes in the way rhythms are performed? Using percussion music in South Asia as a case study, I analyze historical recordings from India and Sri Lanka in order to elucidate how changing ideas about meter have been reflected in certain changing performance practices. I also analyze newer rhythmic techniques that have been enabled by a conceptual shift towards metrical counting. Further, I address the fact that some rhythmic performance styles have changed while others have not, and I discuss some of the ideological factors that have influenced these phenomena. Having drawn attention to the complex ways in which the act of theorizing music can interact with traditions of performance practice, I conclude by calling for an increased critical awareness regarding the objectives and implications of our analytic methods.

Empirical Evidence for the Theory of Swing-Based Meter in Malian Dance-Drumming

Rainer Polak (Max Planck Institute for Empirical Aesthetics)

The talk opens with a timing analysis of a drum trio recording from Bamako, showing that despite considerable rhythmic complexities, all ensemble parts exhibit an amazing degree of fidelity to a basic ostinato whose two durations per beat relate by approximately 57:43 ($\approx 4:3$). The talk then surveys a series of recent audio corpus studies and perceptual experiments which examine the performance and perception of uneven, “swung” beat subdivisions in drum ensemble music from Mali. Established theories assume metric pulse to rest on the human tendency to recognize and anticipate iso-periodicities in rhythmic patterns. This would suggest that uneven beat subdivisions represent expressive performance timing deviations from some underlying isochronous reference framework. By contrast, the empirical research I will review is in support of the ethnography-based alternative hypothesis that certain mathematically complex “swing timing ratios” constitute metric reference structures in Malian performance practices and listenings, but not so in other music-cultural contexts. Claims on cultural diversity in ethnomusicology typically concern styles and meanings of performance practices; in this talk, I will claim that basic structures of perception can vary across cultural groups, too.

AAWM Session A2: Mediterranean (Tuesday, 9:00-12:00, Hall 1)

Chair: Deirdre Morgan (Simon Fraser University)

A Case Study of Ethnography and Computational Analysis as Complementary Tools for Analyzing Dance Tunes

Andre Holzapfel (KTH Royal Institute of Technology and Center for Advanced Studies in Music, Istanbul Technical University)

Conducting engineering research with the goal to identify similarities between dance tunes in the traditional repertoire of Crete, my experiments presented me with a larger set of analytic results that were hard for me to interpret. Among these, a combination of pitch analysis and pattern matching methods enabled me to compute frequent melodic patterns from music recordings. Applied to apparently similar dance tunes, the emerging patterns, however, revealed striking differences between two styles. A few years later, a larger series of interviews with musicians and dancers, as well as field work in concert events and music seminars, have revealed emic interpretations of the initially observed differences between the patterns. The specific repertoire of the Cretan Pidichtos dance can be seen as a reflection of the formation of contrasts between eastern and western Crete, and between old and new style. These contrasts are assigned to the ethos of the Cretans in the specific areas and periods, and Cretans see their music as immediately related to these contrasts. By relating results of ethnography and computational analysis, I intend to give an example of how the concepts of local ethos and style are illustrated by specific patterns on the surface of the musical structure.

Acoustical Characteristics and Vocal Timbre Nuances of the Cretan Rizitika Singing Idiom

Spiros Kalozakis and Anastasia Georgaki (University of Athens)

Rizitiko singing is a living culture that is spread all over the island of Crete, mainly in the regions of Hania, Rethymnon and Heraklion. There is a noticeable and a strong differentiation between singers from these regions due to the pronunciation of idiomatic diphones (consonant with a following vowel) such as ki, ke, ro, ra, gi which indicate the origin of a singer, changing dramatically the acoustical parameters of a song during the act of singing. In this presentation, we first explore the general characteristics of the Cretan Rizitiko singing style sung by men (vocal range, formant tuning, vibrato rate and vibrato extent). Then we examine the differences, among various singers, of vibrato rate and extent and how the syllables fall. To study the impact that the origin of the singer can give to the act of Cretan singing, we make a quantitative comparison of recorded voices with Nikos Xylouris.

Music and Music Networks in the Aegean: The Example of Naxos Island

Haris Sarris (University of Athens) and Marianthi Koilia (Technological Educational Institute of Epirus)

In our paper, we will propose an analytical framework for the musicological analysis of the music traditions of the Aegean. On the one hand, following the concept of music networks, we will outline the music elements used in technical and analytical terms. On the other hand, using the diffusion of innovation theory alongside the networks, we will outline the role played by musical

instruments on the history and the repertoire of the Aegean. Considering music elements and musical instruments as branches of the same network, we will investigate their particular technical and aesthetic characteristics, in close connection with their historical and social context. The node of a network is of great analytical importance since it is a point where branches meet and interconnect both locally and supra-locally. Defining a node is, in our view, equivalent to the formulation of a research question. Hence, a specific research question about the music of Naxos can be considered as a node in a network of branches such as the abovementioned. In our paper, we will not be concerned with a mapping of Naxos' music, but rather with the understanding of the logic and the mechanisms through which music is created each time.

AAWM Session A3: Indigenous Theory and Practice (Tuesday, 9:00-12:00, Hall 2)

Chair: Costas Tsougras (Aristotle University of Thessaloniki)

A Brief History of Ottoman/Turkish Music Theory via Its Music-Theoretical Instruments Ferhat Çaylı and Cenk Güray (Hacettepe University)

This study addresses the significance of music-theoretical instruments and their use in theorizing and representing functions in the history of Ottoman/Turkish music theory. It scrutinizes the written sources of Ottoman/Turkish music theory from the 9th to 20th centuries in order to draw parallels between the evolution of music theory and different preferences for “music-theoretical instruments” over the centuries. In the early music theory manuscripts, the interval ratios, pitches and scales were described with the help of several instruments such as the imaginary monochord, Ud (a type of lute), Çeng (a type of harp), Tanbur (a type of lute with a very long neck), and Ney (a type of end-blown flute). In different centuries, different instruments were chosen as a primary music-theoretical instrument. The shifting of these preferences depends on changes of music theory and practice over time. In addition, the socio-cultural changes have a significant impact on the choice of music-theoretical instrument. This study presents a new perspective on the history of Ottoman/Turkish music theory and sheds new light on the issue of its music-theoretical instruments.

“Improvisation is Not the Right Word!”: Native Terminology and Performance Techniques of Azerbaijani Mugham Creativity Polina Dessiatnitchenko (University of Toronto)

Azerbaijani mugham is a musical tradition that demands heightened creativity in the moment of performance. Findings from three years of fieldwork – comprised of learning how to perform mugham on the tar and undertaking a thorough musical analysis of existing recordings – reveal that mugham creativity can be classified into particular and distinct categories: variation, idiosyncratic style, creation of entirely new musical phrases, and modulation. I will play excerpts from collected recordings of mugham segah to demonstrate how the different types of creativity are actualized in performance. In addition, I discuss how these categories are identified with a sophisticated and rich native vocabulary. Through this analysis of musical structures and associated terminology, I suggest how ethnomusicologists can approach musical creativity, avoiding the biased legacy of “improvisation” studies in Western music scholarship. The indigenous Azerbaijani terminology for mugham creativity and musical examples show obvious

incongruities between mugham creativity and “improvisation”, as it has been defined by music researchers in the West and by scholars from Russia who have been researching mugham. Spontaneous creativity is so intrinsic to mugham that it is not taught, nor is it defined as a separate phenomenon; mugham as experience and as process is creativity. A singular term such as “improvisation” is not relevant in mugham because there are different ways of structuring music and naming them accordingly.

Arion: Harmonizing Theory and Ideology in Practice

Eleni Kallimopoulou and Petros Vouvaris (University of Macedonia, Thessaloniki)

Arion: The Music of Hellenes as Preserved from Antiquity to the Present is a 1917 collection of harmonized Greek music of the monophonic tradition. Its repertoire ranges from ancient Greek music to Byzantine melos and Greek folk music. The collection is prefaced by an extended introduction, in which the authors, A. Remandas and P. D. Zacharias, present the theoretical framework of their harmonizing practice and implicitly the ideological backdrop of their endeavor. In so doing, they place their work within an ecology of contemporaneous research from different fields, such as folklore studies, musicology, and musical composition. A common thread running through this research is a concern with substantiating the value of Greek folk music as a source of artistic inspiration or, in this case, as evidence of cultural continuity. The proposed presentation aims at interrogating Arion’s theoretical framework in connection with the ways it is implemented in the actual harmonizations. The ultimate goal is to facilitate the understanding of this work as ideology in practice, illuminating, at the same time, the points of convergence and divergence from the work of the authors’ contemporaries.

Deconstructing Dipoles: The Term ‘Minor’ in Smyrna

Nikos Ordoulidis (Technological Educational Institute of Epirus)

The term ‘minor’ appears in Smyranean discography circa 1910. It was used to describe a manes (a popular Ottoman form) performed by Giorgos Tsanakas with the Smyranean *estudiantina*. Since then, the very same musical matrix has been recorded at least another 20 times, in Smyrna, in Constantinople, in Athens and in New York. From historical sources it is understood that the term ‘minor’ is not only active in the Greek-speaking glossary of Smyrna, but utilized more as an entity, rather than a musical theory reference.

The paper is structured on two central axes. On the one hand, all socio-historical components shall be examined, in order to map the network from which the term stems and the context in which it functions. On the other hand, transcriptions of certain recordings shall be cited. The comparative and analytical methodology used aims to determine the mode detected in the musical matrix in question. The method is extended to popular musical idioms in general, mainly those that thrived in historically influential cosmopolitan centres. These centres are characterized by a dialogical reciprocity among the ethno-cultural groups of which they are composed, with Greek-speaking musicians playing a determining role in this ecumene.

Tuesday, June 26, 13:30–16:30, Parallel Sessions B

AAWM Session B1: Drumming Sensibilities and Form (Tuesday, 13:30-16:30, Auditorium)

Chair: Michael Tenzer (University of British Columbia)

Balinese Solo Drumming and the Western Drumset

Adam King (University of Sydney)

Kendang bebarongan is a form of improvised Balinese solo drumming which has recently experienced a surge in popularity due to the emergence of festival style competitions. This has resulted in the development of the drumming to new levels of complexity and virtuosity. As a long-standing student and performer of the Balinese kendang and the Western drumset, I draw on practitioner knowledge from two contrasting musical traditions as a way of identifying organizational principles within kendang bebarongan drumming and how these principles may be applied to the drumset to create an alternative rhythmic vocabulary. The first half of the presentation will feature an analysis of selected kendang bebarongan rhythms. This analysis employs a geometric approach, through the use of polygon notation systems. Additionally, the concept of rhythm/sticking cells has been incorporated as a process to understanding the relationship between hand patterning and resultant rhythms. The second half will offer a demonstration of the ways in which kendang bebarongan rhythms have been adapted to the drumset. The presentation aims to offer an analytical method for categorizing kendang bebarongan rhythms and a model for the application of these materials to the drumset for the development of an alternative rhythmic vocabulary through direct engagement with a world music tradition.

Cello-Drumming in Indonesian Keroncong

Andy McGraw (University of Richmond)

Keroncong, the string-band music of Indonesia, evolved from the introduction of Western string instruments to the archipelago beginning in the early sixteenth century. Although Yampolsky has provided analyses of the harmonic structures of the *asli*, *stambul*, and *keroncong langgam* subgenres, detailed analyses of the intricate *langgam Jawa* style are rare. This paper redresses the lacunae. Langgam Jawa is deeply inspired by Central Javanese gamelan. It is performed in two modes, also called *slendro* and *pelog*, and incorporates the tempo (*irama*) shifts characteristic of Javanese gamelan. The high ukulele (*cak*) is often associated with the gamelan's *siter*, the mid ukulele (*cuk*) with the colotomic instruments, and the cello (*selo*) is analogous to the *kendang* drum. In the hands of an experienced performer of langgam Jawa, the selo can sound almost indistinguishable from a kendang. Despite this similarity, I never encountered a selo player who could actually play kendang. The principal question I explore in this paper is: How is it selo players have absorbed the sophisticated feel and timbres of kendang performance practice without direct experience? I present the first detailed transcriptions and analyses of selo performances and compare them with common kendang playing techniques and patterns. Kendang and selo performance practice converge in ways that appear difficult to account for by casual osmosis, as if the complex patterns were simply "in the air," as one selo player proposed. Whereas particular macro-

rhythmic patterns are sometimes shared between selo and kendang, it is more often the highly subtle forms of micro-rhythm at particular structural points that link the two practices, suggesting a uniquely Central Javanese time-feel: a deep Javanese “groove” transcending style and instrument. A challenge of this paper is to account for this congruence without falling into essentialist notions of Javanese musicality.

Challenges in Computational Modelling and Generation of Carnatic Percussion Music Carlos Guedes (New York University), Konstantinos Trochidis (New York University) and Akshay Anantapadmanabhan (independent musician, India)

In this work, we present a data-driven approach for automatically generating South Indian rhythmic patterns. The method uses a dataset of Carnatic percussion compositions performed in *aditala*. To model the rhythmic structure and the generation of the *talas*, we use a set of rules which are based on different partitions. Each partition consists of combinations of stroke sequences that form the duration of the *talas*. This modeling strategy has been validated in terms of the grammar of this music idiom by direct discussion with Carnatic music experts. Two approaches for grouping adjacent strokes into rhythmic patterns were used. The first is based on the segmentation of strokes taking into consideration the distance between each stroke and its adjacent strokes. The second one is based on a well-formed grouping dictionary of pre-recorded phrase variations. The grouped sequences of strokes from both approaches are analyzed and clustered by similarity. The results from these analyses are discussed and used to develop an application (CAMEL) that can emulate Carnatic-style percussive sequences by creating rhythmic grooves. The creation of these tools can be used in music education as a means of actively enculturating laypeople into this musical style.

Cross-Cultural Resonance in the Cadential Hemiola Nathan Hesselink (University of British Columbia)

When perusing the world of music from a global perspective, it is not difficult to find cross-cultural similarities in what in the West we might define as scale, mode, harmony, or meter. While recognition and identification of such affinities on the level of what John Blacking would have referred to as the “surface structure” is important in its own right, in this paper I explore the possibility of a deeper, cultural-performative resonance between two very different cultures in the process known in the West as the cadential hemiola (here understood as alternating groupings of twos and threes occurring at formal, cadential junctures realized in Western bars of 12/8 and 6/4). What is significant is that two contrasting genres and traditions — Anglo-American indie/alternative rock and South Korean folk drumming — both choose such a process at section and piece endings, drawing the listener’s attention to such formal markers through the temporary displacement of where the beat is or might be felt. I will suggest that such rhythmic-formal play that toys with listener expectation set up by entrainment and beat grouping suggests a cognitive base to such cross-cultural resonance in musical composition and performance practice.

AAWM Session B2: Music and Mass Media (Tuesday, 13:30-16:30, Hall 1)

Chair: Nancy Murphy (University of Houston)

The Influence of Timbre on Emotion Perception

Anjni Amin and Richard Ashley (Northwestern University)

The perception of emotion in music depends on various factors including but not limited to tempo, mode, and timbre. This study aims to establish if Western listeners recognize emotion conveyed in Indian melodies utilizing Indian timbres through reliance on familiar psychophysical cues. This phenomenon was investigated both independent of and in interaction with other musical parameters, namely melody, tempo and mode. Participants provided ratings for two tasks using a 9-point Likert scale: in the first task, two Bollywood melodies exhibiting contrasting intended affect were utilized. Each was presented in two contrasting timbres (sarod and bansuri), tempos (MM = 96 and 132), and modes (major and minor). The second task utilized six samples identical in pitch and duration, and participants rated the individually presented sounds using the same scale as the previous task. For the first task, an ANOVA yielded significant differences ($p < .05$) in timbre, tempo, and mode. For the second task, an ANOVA again yielded significant differences ($p < .05$) between timbres. This study demonstrates the musical features appearing to carry emotional weight as timbre, tempo, and mode. This investigation provides an initial framework for the relationship between psychophysical features and emotion in music, integrating cross-cultural considerations.

Building Bridges: Two Case Studies of Music in Film

Dimitris Tasoudis and Petros Vouvaris (University of Macedonia, Thessaloniki)

The unfolding of a story in films depends mostly on what the eyes see and not what the ears hear (Boltz, 2004: 1194). The meaning, however, can be shaped, altered, even planned in advance through music. The paper will address the function of music in two sequences of the following films: 'Leaps and Bounds' (Dir. Petter Næss, 2007) and 'Crossing the Bridge: The Sound of Istanbul' (Dir. Fatih Akin, 2005). In the case of the former, the opening titles are scored with a vocal, modal introduction by Nizamettin Ariç, a contemporary Kurdish singer. Then, the ECM artist Petter Nils Molvaer takes over, with a blend of his idiomatic Scandinavian ambience and strings with percussion. In the case of 'Crossing the Bridge: The Sound of Istanbul', which is a music documentary about rock and hip-hop music in Istanbul, Sezen Aksu (a Turkish pop singer) performs with Alexander Hacke's guitar and a Fender Rhodes as accompaniment. Later on, musicians perform on a boat crossing the Bosphorus; the delayed electric saz' maqam meets Hacke's shoegazing bass. Conceptual Metaphor Theory (Crossing The Bridge metaphor) and Conceptual Blending Theory from the domain of cognitive linguistics are often applied to music (Antovic, 2011) and particularly film music (Vouvaris & Tasoudis, 2018). In both films, different musical idioms co-exist and blend with each other, producing a fused one; this creative dialogue between music and narrative can promote meaning construction. As the focus of this paper, meaning construction is seen through the lens of the aforementioned theories.

"Greece Goes Modern" or Searching for the Roots? On the Use of Greek Folksong by the Greek Pop/Rock Scene

Kostas Chardas (Aristotle University of Thessaloniki)

The way in which Greek folksong entered Greek art music has been variously studied. This is not the case, however, with Greek pop/rock music. The present paper offers an analytical/critical approach to how Greek folksong interacted with pop/rock mannerisms in two albums of different epochs, which both have folksong as their core source of inspiration: 'Greece Goes Modern', by Mimis Plessas and the Orbiters of 1967, and 'Riza' [root], by the Villagers of Ioannina City of 2014. With reference to formal structure (of specific pieces and of each album as a whole), pitch and rhythmic features, texture and instrumentation, analysis reveals two approaches to the traditional material, both imaginative and creative, but essentially different in their aesthetic and cultural means, goals and contexts. The first album aestheticizes folksong by asserting a place for Greek melodies (perceived only through their dance element, since there is no singing) within the western flourishing, at that period, cosmopolitan rock culture. The second album essentially offers an experiential amalgamation of traditional and rock elements and an artistic proposal for a modern life based on traditional values. Both approaches are also discussed in terms of the changes, in time, of perceptions of folksong by Greek culture.

Quantitative Evaluation of Music Copyright Infringement

Patrick Savage (Keio University), Charles Cronin (University of Southern California), Daniel Müllensiefen (Goldsmiths, University of London) and Quentin Atkinson (University of Auckland)

Unfounded music copyright lawsuits inhibit musical creativity and waste millions of taxpayer dollars every year. One reason is that evaluating musical similarity requires specialized expert testimony by musicologists, who tend to use subjective, idiosyncratic, and time-consuming methods. Our aim was to develop and test objective methods in order to supplement subjective musicological analyses. We adapted automatic sequence alignment algorithms from molecular genetics to develop a "percent melodic identity" (PMI) method that was initially developed to measure the cultural evolution of folk music from different cultures. This method automatically quantifies the percentage of identical pitch classes shared between two melodic sequences. We applied the PMI method to a corpus of 20 pairs of melodies that had been the subject of legal decisions and that had previously been analyzed using automatic methods. We found that PMIs below 50% usually result in decisions of no infringement (11/13 cases), while PMIs above 50% usually result in decisions of infringement (5/7 cases). Importantly, each of the four outlying cases could be explained by contextual factors not related to melodic similarity (e.g., lyrics, access). Our results provide promise for improving music copyright evaluation by combining both objective and subjective components.

AAWM Session B3: Melody and Scales (Tuesday, 13:30-16:30, Hall 2)

Chair: Panayotis Mavromatis (New York University)

A New Approach to the Analysis of Melodic Movements in Collective Pieces: Melodic Contours of Gūsheh-ha in Iranian Dastgāhi Music

Mohammad R. Azadehfar (University of Arts, Tehran)

Typically studies of Iranian music, particularly of issues related to its melodic aspects, are very much occupied by the discussion of modal systems of dastgāh-ha and the arrangements and functions of notes and their alteration within tetrachords and pentachords. The acculturated listener of Iranian music, however, pays little or no attention to microtones and their complicated arrangements. The approach developed in this project helps to examine the qualitative phenomenon of melodic movement. There are three main factors in studying the melodic shape of gūsheh-ha, namely direction, interval and duration. In this method, various melodic movements and contours of pieces are codified for the purpose of comparative analysis. All the possible movements of melodies are categorized in 10 possible shapes. Using this method, I studied all main gūsheh-ha of seven dastgāh-ha and five āvāz-ha from the radīf including 106 pieces, and I categorized the melodic shape of each in one of the 10 types. For each gūsheh two types of melodic movements were recognized, structural and momentary. Studying melodic structure of gūsheh-ha in this project revealed the nature of melodic formation in Iranian classical music.

Maqām and Beyond: A Unified Theory in Julien Jalāl Ed-Dine Weiss's Last Composition

Stefan Pohlit (Istanbul Technical University)

My presentation explores the last, most ambitious composition of the Swiss-Alsatian qānūn virtuoso Julien Jalāl Ed-Dine Weiss (1953-2015). "Spiritual Journey" is a suite of roughly twenty minutes and has so far been performed at three international festivals, each time by the famous Al-Kindi ensemble which Weiss once founded in Aleppo. The final score was completed with my assistance. During the 1980's, having studied in Turkey and various Arab countries, Weiss brought the local tradition of Aleppo to the world stage. As an outspoken critic of contemporary performance practice, he would later devise a novel tuning system in just intonation with which he constructed several qānūn prototypes with extended pitch supply. His aim was to correctly represent and preserve the characteristics of various regional traditions in the context of maqām music. In view of this tuning system, I ask how the score's scale content, an amalgamation of different tuning customs, is integrated into a homogeneous form concept. Following my analysis of foreground/middle-ground relationships, I show that the deep structure of Weiss's experiment exhibits his empirical, transnational approach, by focusing on universal form principles, such as symmetry, tone ratios, and large rhythmic cycles. I conclude that his approach is sustained by the permutation of small periodic cells with which he reinvents the Ottoman concept of seyir [melodic outline] by means of a general theory of arithmetic proportions.

Exploring a Three-Level Composition in the Musical System of an Oral Tradition Athena Katsanevaki (Aristotle University of Thessaloniki)

The mountains of Pindus occupy the central part of continental Greece. The musical system found there plays a fundamental role in the development of the musical dialects that prevail on the two slopes. Fieldwork in the area combined with the reflexive engagement of the researcher with musical practice, reveals that this system is based on pentatonic scales of different types (anhemitonic or hemitonic or mixed) in terms of melody and it is organized in melodic formulas that musically describe the word-accent. Nonetheless below these formulas there are hidden meters that, instead of being accentual or rhythmic, bear strong similarities to “additive” rhythms (Hood 1982). Though these two composition levels are the most important, the question is how they coincide in the course of the musical composition.

Bhatkhande, Schenker, Humboldt: An Eternal Ragamala Somangshu Mukherji (University of Michigan)

A “rāgamālā” is literally a “garland” or “braid” of rāgas. But it is also a metaphor for the deeper, metaphysical connections between rāga music, creativity, and the arts in India. In this sense, any theory of musicality in India is essentially a rāgamālā theory –but none is perhaps as important as that proposed by Vishnu Narayan Bhatkhande, with whose ideas this paper will present a closer engagement. I will argue, however, that Bhatkhande’s contribution to Indian music theory lies especially in the broader statement he makes about cognition and creativity in Indian music, which also connects his work to the Western music and linguistic theories of his contemporaries Heinrich Schenker and Wilhelm von Humboldt respectively –an intellectual ‘golden braid’ of sorts. In particular, I will contend that Bhatkhande, Schenker, and Humboldt were interested primarily in explaining the internal, psychological aspects of the musical or linguistic experience, but only in terms of their generative grammatical structure. So, this paper’s title is intentional – just as Douglas Hofstadter did in his famous text–, this paper proposes a novel paradigm for studying human cognition as well, by connecting the ideas of three unique thinkers, but in a way that relates specifically to human musicality.

Tuesday, June 26, 17:00–18:00, AAWM Keynote address 1 (Auditorium)

Translating Modes

Martin Stokes (King's College, London)

The literature on the *maqam* tradition has tended to deal with modal practices and meanings within cultural contexts or within specific written transmission systems. Powers, writing on 'international Segah' some time ago, initiated an inquiry into broader regional patterns of distribution and transmission. But the question of how *maqam*-s travel, and why, or what it might mean to describe a *maqam* formation moving from one context to another, and ask what kinds of process of translation or relocation are involved, has not been much discussed. The case of *nihavent/nahawand* is rich, and complex, and laden from an early point with properties of translation and hybridity. This talk will look at a space framed by modal practices in Istanbul, at one end, and Cairo at the other, over the last three centuries. The broader aim is to develop a conception of *maqam* open to different kinds of inquiries about meaning and affect. I join others in asking what might it mean to listen through tears, melancholy, intense affect, or with regard to weeping, or affectively engaged listeners and performers (for a recent study relating to *maqam*, see Gill 2017). What might this mean for music analysis, though?

Wednesday, June 27, 9:00–12:00, Parallel Sessions C

AAWM Session C1: Regions of Europe (Wednesday, 9:00-12:00, Auditorium)

Chair: Martin Stokes (King's College, London)

Transformations in Bertsolaris Singing Style in Oiartzun throughout the 20th Century

Itziar Navarro (Georg August University, Göttingen)

Bertsolaritza is the art of singing improvised verses in Basque. Singing style (*kantaera*) is vital to this musical practice. The way a *bertsolari* (improviser) sings a *bertso*, that is, how the *bertsolari* approaches the melody in improvisation and how this connects to words, determines its communicative success. However, academic literature has not yet addressed transformations in *kantaera* in relation to social and historical changes, such as secularisation, industrialisation, formalisation and institutionalisation of the *bertso*, the use of microphones in venues, the presence of *bertsolaritza* in the media, and the growing importance of national *bertso* singing championships. In this paper, I ask how these changes have affected *bertsolaris'* aesthetics and musical practice.

To explore this question, I will define *kantaera*, outlining the parameters that form it, namely intonation, accentuation, articulation, ornamentation, tempo, rhythm, dynamics and timbre. I will analyse sound recordings of six *bertsolaris*, from the same village but belonging to different generations, attending to the outlined parameters. Lastly, I will outline the relationship between musical practice, and social and historical aspects to understand transformations in *Bertsolaris'* singing style.

Basque Txalaparta: Meter, Rhythm and Performance

Argibel Euba Ugarte (University of the Basque Country)

This paper outlines an analytical approach to *txalaparta*, a struck idiophone from the Basque Country consisting of several wooden planks which are performed collectively (usually by two people) following interlocking patterns. Originally a rhythmic practice linked to rural tasks and celebrations, *txalaparta* was re-invented and adopted by a new generation of Basque cultural activists in the 1960s, becoming an idiosyncratic musical instrument and a powerful cultural symbol. Despite undergoing a clear process of Westernization in the last decades (use of tuned planks, fixed pulse, clear subdivision, rhythmic regularization), improvised *txalaparta* performance obstinately resists rigid categorization, remaining a liminal phenomenon, both in cultural and formal terms. Drawing on several research techniques (performance, ethnographic fieldwork, phonographic study, notation and graphic representation of rhythm), I analyze some of the most salient formal and performative features of *txalaparta*, such as the different interacting logics between performers, metric malleability and ambiguity, strategies for rhythmic construction, and the importance of bodily movement as a metric reference in itself. This analysis provides tools for a better understanding of *txalaparta*, identifying potentially beneficial performative skills for musicianship.

Archaic Fusion: An Analysis of Norwegian Munnharpe Style and Repertoire

Deirdre Morgan (Simon Fraser University)

Fiddles dominate the world of Norwegian folk music, but the munnharpe (jew's harp) belongs to a group of instruments that are prized as being uniquely Norwegian. The eldre folkemusikkinstrumente (older folk music instruments) are grounded in the harmonic series and the just scale, and their inability to modulate either excludes them from playing the repertoire of the more popular fiddles and accordions, or requires significant modifications to the tunes. The munnharpe is further marginalized by its biphonic drone and melody texture, and as a result, its players have developed an idiomatic playing technique and repertoire that capitalizes on its idiosyncrasies. In this paper, I show how the munnharpe's hallmark sound is a trifecta combining the glottal closing technique related to the seljefløyte, the melodic accents and ornamentation patterns related to the hardingfele (Hardanger fiddle), and the foot stomping rhythms related to folk dance choreography (Setesdal gangar). Drawing on ethnographic fieldwork, I demonstrate how munnharpe players display their mastery of the tradition by incorporating all three of these elements in performance.

Transformation of Tone Systems of Yodeling in the Muotatal Valley, Central Switzerland: A Multi-generational Longitudinal Study

Yannick Wey (Lucerne University of Applied Sciences and Arts)

This study examines the transformation of tonal systems of yodelling in the Central Switzerland village of Muotathal, which has drawn the attention of ethnomusicologists for harboring and conserving a unique style of yodel called Jüüzli. The longitudinal study compares three samples of field recordings, collected by Sichardt (sample 1, 1936), Zemp (sample 2, 1977/78) and during this current research (sample 3, 2016/17). Pitch data is retrieved for the three samples, each of which consisting of 8–10 yodeling pieces totaling >600 single intervals per sample. Consequently, the distribution of pitch is analyzed both in terms of neighboring intervals (modality) and in relation to a tonic (tonality) to induce a tone system. The three samples are compared in order to explicate transformations the tone systems underwent over roughly 40 years. The key findings demonstrate that the organization of the tonal system is modal (horizontal) rather than tonal (vertical). While characteristic neutral intervals (seconds, thirds, sixths, sevenths) prevail in sample 1, they are replaced by 'natural' and equal-tempered intervals in samples 2 and 3. The findings support the hypothesis that institutionalization of music pedagogy and four-part choir singing triggered the demise of traditional tonal aesthetics in alpine valleys.

**AAWM Session C2: Current Research by Members of the British Forum for Ethnomusicology: Papers on Aesthetics, Timbre, and Transcription
(Wednesday, 9:00-12:00, Hall 1)**

Chair: Leslie Tilley (Massachusetts Institute of Technology)

The Social Aesthetic in North Indian Classical Music

Chloë Alaghband-Zadeh (Loughborough University)

In 2015, Christiana Olcese and Mike Savage identified an “emerging ‘aesthetic turn’” in sociology, describing a current interdisciplinary move to develop what has been called “social aesthetics” (e.g. Born, Lewis and Straw 2017). In contrast with traditional aesthetics, where the aesthetic domain is construed as removed from everyday socialities, work in this new area has drawn attention to the interpenetration of social and aesthetic registers. For scholars of music, this research issues a powerful call to consider the sociality of the seemingly abstract aesthetic principles that shape performances; however, this work has yet to explore the utility of musical analysis as a way of examining these principles. In this paper, I use North Indian classical music as a case study to consider what music analysis can reveal about social aesthetics. To show how sociality and aesthetics are intertwined, I put analysis into dialogue with ethnography: specifically, I analyse this music in light of a series of interviews and listening sessions I held with expert listeners in India. Based on this, I demonstrate the social grounding of key principles of improvisation in this tradition. Moreover, I argue that listeners’ aesthetic experience mediates between small-scale details of musical sound and large-scale social processes, including the reproduction of gender and class in contemporary India. In doing so, I locate music analysis as central to the sociological toolkit for understanding music.

Timbral Consonance and Musical "Flavor": Spectral Density, Timbre Spaces, and the Cultivation of Listeners in the World of *Jiangnan Sizhu*

Ruard Absaroka (SOAS University of London)

A subtle ‘timbre deafness’ remains in the pitch-centric bias of much music analysis. This disregard is all the more unfortunate because timbre, although a ‘slippery concept and a slippery percept’ (Fales 2002), is a dimension of musical experience that can be very revealing of the interplay of acoustic signal and perceived musical reality, acoustic world and perceived world. In the Chinese genre of jiangnan sizhu timbre has an aesthetic primacy that militates against the ‘timbral amnesia’ present in some other musical contexts. Imprecise execution of expected timbral effect seriously impairs the ‘flavour’ of the music and a collective variant of Ted Levin’s ‘timbral listening’ is a skill that is fundamental to belonging to the genre’s ‘epistemic community’ (Harrison 2012). Timbre, operating at the level of pre-attentive perception, is sometimes credited with much of the affective power of music. In a scene that explicitly values timbral subtlety, consonance, and density, how does a focus on timbre induce change in modes of perception and of listening, even disruption of perceptual equilibrium? What techniques of timbre manipulation are responsible? The harmonious textural blending of the aesthetically ideal performance points to a collusion between audience, performers and instruments. It affords voluntarily susceptible listeners an experience of more holistic ‘environmental’ listening, a thrilling suspension of source-orientation. Such considerations find some articulation in the operative models (Baily 1988) of ‘folk’ music analysis of practitioners themselves: a complex

self-styled analytic armoury or 'metapragmatic repertoire' (Stokes 2003). The paper aims to contribute to general analytical conceptions of timbre and also addresses possibilities for timbral notation.

"Easy" Automatic Melody Line Transcriptions: A Comparison of Two Open-Source Software Programs

Morgan Davies (SOAS University of London)

Music researchers have been using line transcriptions as a means of analysing the nuances of melodic performance since the late 1920s. Recent developments in software technology have allowed for increasingly detailed and accurate automatic representations of melody line transcriptions on pitch/time graphs. However, the processes involved can be both complex and time-intensive. This paper looks at alternative ways of generating "easy" automatic melody line transcriptions by comparing the functionality of two open-source software applications that have recently been developed by a team of programmers based at Queen Mary University in London. The comparison draws upon analysis of recordings taken from recent fieldwork conducted in two separate sites within South Asia. In addition to providing a practical overview of the software in question, this paper also reflects more broadly upon some of the ways in which these melody line transcriptions can be used both to augment and to enrich our ethnographic understanding of the musical traditions in question, with the goal of producing more holistic forms of analysis. Whilst the examples discussed present their own unique issues for this kind of representation, nonetheless it is hoped that the resultant insights will also have relevance for the analysis of other musical forms.

Cross-Cultural Analysis Through Cross-Cultural Notation: The Laban Solution Revisited

Andrew Killick (University of Sheffield)

The current resurgence of interest in cross-cultural and comparative music analysis does not yet appear to have produced a fundamental rethinking of what Mantle Hood, writing as early as 1971, called "the chronic problem, transcription of non-Western music, and the chronic solution, 'doctored' Western notation." Yet when applied to much non-Western music, as is well known, Western notation not only fails to represent what is present in the music (such as microtonal pitch-bending); it forces the transcriber to represent things that are *not* in the music (such as proportional rhythmic values and pitch intervals based on twelve equal divisions of the octave). Hood's proposed "Laban Solution," the pursuit of a new symbolic notation designed from the beginning to represent any kind of musical sound, remains largely unexplored. This paper argues for the benefits of such a system in the formulation and communication of cross-cultural music analyses, and offers some practical suggestions for the design of a notation that would represent (only) those features which are present in the music and relevant to the analysis. To that end, it unveils a new resource for developing such a notation, an online "manual" to which users are invited to contribute suggestions and applications.

FMA Session C3: Rhythm and Timbre (Wednesday, 9:00-12:00, Hall 2)

Chair: Aggelos Pikrakis (University of Piraeus)

Rhythm inference from audio recordings of Irish traditional music

Pierre Beauguitte, Bryan Duggan and John D. Kelleher (Dublin Institute of Technology)

A new method is proposed to infer rhythmic information from audio recordings of Irish traditional tunes. The method relies on the repetitive nature of this musical genre. Low-level spectral features and autocorrelation are used to obtain a low-dimensional representation, on which logistic regression models are trained. Two experiments are conducted to predict rhythmic information at different levels of precision. The method is tested on a collection of *session* recordings, and high accuracy scores are reported.

Subiendo la llamada: Negotiating tempo and dynamics in Uruguayan Candombe drumming

Luis Jure and Martín Rocamora (Universidad de la República)

The leader–follower relationship among performers is an important aspect in the studies of interpersonal entrainment in the context of musical performance, specially when analysing the role of leadership in instances of changing tempo and/or dynamics. This research focuses on Uruguayan Candombe, a rich drumming tradition deeply rooted in the Afro–Atlantic culture. The purpose of this paper is to analyse the mechanisms by which Candombe drummers may coordinate and synchronize changes in tempo and dynamics during the performance, specifically at the process called “*subir la llamada*”. Of special interest is the analysis of the cues given by the drummer that leads the rest of the group in the process. Taking one particular recording by three expert Candombe drummers as case study, several computational tools were applied to extract features relevant to the analysis from the audio and video signals.

Towards the study of embodied meter in Swedish folk dance

Olof Misgeld and Andre Holzapfel (KTH Royal Institute of Technology)

The interrelation of playing and dancing is central for understanding performance practice in Swedish folk music, as it plays an important role for the metric and rhythmic qualities of *spelmansmusik*, and playing for dancing is considered a key competence for musicians in this tradition. As part of a research project into performance practice, sound, video and motion capture (MoCap) data were recorded from live performances of three musicians and two dancers in different combinations. In addition, dancing to two recordings by an influential musician and to live and pre-recorded beat clapping was recorded.

This paper incorporates measurements and visualizations of performance data in combination with performer participation and interviews. As a starting point for our project, we focus on metric qualities in a historical recording, and on the dance movement patterns to a Swedish polska style with asymmetrical beat patterns. For this paper - as a preliminary investigation into the material - the recordings of one dancer dancing to an isochronous clapped beat, and to a recording by an influential player have been used for comparison of a central movement pattern in dancing. The findings show that asymmetric beat patterns contained in the recording cause wider variation among the movement patterns when compared to the patterns observed to

isochronous clapping. Considering the performers reactions towards using MoCap as a tool for viewing and discussing their performances, we propose further investigations by combining scientific, ethnomusicological and artistic research methods into the research of performance practice in folk music.

Perception of asymmetric rhythms in traditional Greek music

Marcelo Queiroz, Katerina Peninta, Roberto Bodo, Maximos Kaliakatsos-Papakostas and Emilios Cambouropoulos (University of São Paulo and Aristotle University of Thessaloniki)

This paper explores aspects of rhythmic perception within the context of traditional Greek music, more specifically Demotika songs, which display a rich variety of asymmetric rhythmic patterns, i.e. patterns comprising beats of different durations. A listening experiment with volunteer university music students was conducted, in order to investigate basic questions regarding timing accuracy and meter structure as perceived by subjects. This study suggests that identifying accurately rhythmic meter patterns in traditional Greek music is not an easy task, even among Greek music students, although statistically significant differences may be observed depending on cultural background. Statistical analysis also reveals correlations between elements associated with the difficulty of the task, such as the degree of agreement between participants, the response times and the number of times each excerpt was heard, and musical aspects such as tempo, meter structures and symmetry/asymmetry of rhythms.

Tension perception in Greek traditional folk music: Examining the role of timbral semantics

Asterios Zacharakis, Konstantinos Pasiadis and Athena Katsanevaki (Aristotle University of Thessaloniki)

This paper presents an empirical experiment aiming to investigate the potential influence of timbral semantics on tension induction in Greek traditional folk music. To this end, a group of seventeen listeners rated the evolution of auditory *luminance*, *texture* and *mass* together with the felt *tension* over sixteen musical excerpts in real-time. Correlation and regression analyses between these four quality profiles for each particular stimulus showed that all three examined timbral qualities had instances of very strong association with tension. Although auditory mass featured the greatest number of such instances, no safe conclusion can be reached based on current findings regarding the most influential timbral semantic dimension for tension induction. Instead, it seems that a combination of conditions (i.e., musical parameters) can either maximise or minimise the influence of each timbral dimension.

Wednesday, June 27, 13:30–16:30, Parallel Sessions D

AAWM Session D1: World Music in New Art Music (Wednesday, 13:30-16:30, Auditorium)

Chair: Juan Diego Diaz (University of California Davis)

Analyzing the Epirotic Vocal and Instrumental Moirologi (Lament) and its Reflection in Theodore Antoniou's Laments for Solo Instruments

Costas Tsougras (Aristotle University of Thessaloniki)

The Greek Moirologi, the song for the dead, has an impressively long tradition, going back to ancient Greece. Poetically and musically it relies to a great extent on improvisation on common patterns, while it can also take the form of an instrumental virtuosic improvisation. As a profound element in the fabric of neohellenic life and ethos, it is frequently an inspirational source for contemporary composers of the art-music genre. Theodore Antoniou (b. 1935) has composed a series of solo pieces entitled "Lament for...", dedicated to the memory of close friends or colleagues who had unexpectedly or tragically passed away, all of them based on a phrase from a moirologi from Epirus. The present paper attempts a presentation of the key musical features of the epirotic moirologi through the transcription and analysis of selected excerpts, and the analyses of three of Antoniou's solo pieces, the Laments for Michelle (1988, flute), for Manos (1995, clarinet) and for John (2003, horn). The analyses focus on how the modal pitch structure stemming from the moirologi provides the pitch material of the pieces through transformation, transposition, fragmentation and liquidation, as well as on the creation of musical form through the flow of musical gestures, climaxes and dramatic closures.

African and European Influences in Christian Lauba's Saxophone Compositions ("Nine Etudes for Saxophones" – 1st Book)

Nikolaos Diminakis (Aristotle University of Thessaloniki)

Christian Lauba is an eclectic French composer and pianist born in Sfax (Tunisia) in 1952. The 1st Book of his "Nine Etudes for Saxophones" encompasses four compositions (Balafon, Savane, Sanza and Jungle), which will serve here as analytical case studies. All four pieces exhibit a number of general attributes that are generally considered African (e.g., instrumental timbres, melodic structures, rhythmic patterns, polyphonic textures, mechanical repetition, use of noise, improvisational properties, etc.). As well, their original titles clearly designate the relation with Africa by naming archetypical African instruments (balafon and sanza) and ecosystems/soundscapes (savanna and jungle). These African qualities, though, are filtered through the composer's European musical sensibilities (such as concepts of French saxophone sound and avant-garde compositional and sound-production techniques). This constant synergy of diverse musical features is presented through the concert-etude genre, thus combining the soloistic (concert) and pedagogic (study) approaches. This paper aims to demonstrate how African and European influences mix together in Lauba's compositional style through analysis of macro- and microstructural levels of each composition.

Moving Beyond Cultural Appropriation: Reconciliation in the Finale of Christos Hatzis' *Going Home Star* (2014)

Kristi Hardman (City University of New York)

Reconciliation with Indigenous peoples has recently become a priority for the Canadian government and many Canadian citizens. In 2013, The Royal Winnipeg Ballet commissioned Greek-Canadian composer Christos Hatzis, who worked in collaboration with Canadian Indigenous musicians Tanya Tagaq, Steve Wood, and the Northern Cree Singers, to compose a ballet that tells the story of residential schools in Canada, the survivors of the violence perpetrated there, and the path toward reconciliation between Indigenous and non-Indigenous Canadians. This paper presents an analytic narrative of how reconciliation is expressed in the finale of *Going Home Star* and explores where it sits on the spectrum of cultural appropriation. What is hoped for in the process of reconciliation is not a return to past friendly relations (since they never truly existed), but a move toward a new relationship that is based on mutual respect and understanding. The finale of *Going Home Star* embodies this definition of reconciliation in two ways: 1) through incorporation of Indigenous music, not as a form of exoticism, but as a fully equal partner to the Western art music composed by Hatzis; and 2) through the use of musical palindromes, which simultaneously evoke a sense of return and of journey to a new place.

Musical Synthesis and Collaborations in Canadian Compositions using Chinese and Western Instruments

Gloria Wong (Vancouver Symphony Orchestra School of Music)

The realm of intercultural contemporary composition presents many challenges to the academic. Both the ethnographic study of the milieu within which this music is created, performed and received, and the study of the works themselves and their cultural significance reveal a high degree of individualism. This diversity often offers a challenge in making comparisons and generalizations that contribute meaningfully to the description of social and creative processes at work. This paper focuses on a very specific body of Canadian intercultural compositions using Chinese and Western instruments. Guided by consultation with composers and performers, I analyze a number of works using varied analytical approaches. The purpose is to examine how specific culturally bounded ideas coming from Chinese, Western or other cultural influences affect the generative process of composition and the nature of composer-performer collaborations in the process of performance preparation. My research illuminates a diversity of approaches to intercultural composition and musical synthesis of materials from varied origins. Yet within this diversity, there are common compositional considerations evident within the works examined. The long-term collaboration between a close-knit community of musicians establishes a community cohesiveness to the production and reception of these works that continue to garner public interest and support.

AAWM Session D2: Physicalities (Wednesday, 13:30-16:30, Hall 1)

Chair: Martin Clayton (Durham University)

But We're Not in Zombie Mode: Meter and Selected Attention in Greek Orthodox Movement and Music

Rosa Abrahams (Ursinus College)

"I don't place myself in zombie mode," said Greek Orthodox priest Father "Theodoros" in discussing how he simultaneously pays attention and does not pay attention to the music around him when conducting a service. In this paper, I explore ways in which clergy understand and perform the chanted liturgies of the Greek Orthodox church and resultant instances of physical/sonic selective attention. Greek Orthodox chant may be understood as semi-metered (music allowing for varying levels of entrainment to meter on the part of the listener and/or performer). When considered alongside the ritual movements of the priest and concurrent sonic ritual events, an asynchronous relationship is unveiled. Through interviews and service observations of Greek Orthodox priests practicing in the Chicago area, I explore complex metrical moments occurring between worshipping bodies and the sonic environment, as well as between distinct metrical streams occurring solely within the sonic environment. I examine three of these moments, employing the concepts of procedural memory and selective attention, both of which were also referenced in my clergy interviews. All three analyses are informed by ethnography and embodied analysis, and aim to contribute to understandings of meter in embodied worship and Greek Orthodox chant.

Participation and Presentation in Chinese Cross Talk: Using ELAN for Studying Responses to Music and Speech

Francesca Lawson and Joshua Sims (Brigham Young University)

Using ELAN, a video programming software, Ian Cross has conducted experiments that demonstrate how speech can actually become musical in conversations between same-sex friends at the Centre for Music and Science at the University of Cambridge (2016), suggesting that speech and music are two biologically related parts of the same communicative toolkit. Cross believes that researchers should focus on participatory music making, rather than presentational performances, when trying to argue for the biological utility of music. While Cross's emphasis on the participatory makes sense in the context of conversational dialogue-cum-music, we suggest that the differences between participatory and presentational musical performances are not so easily drawn. We argue that presentational performances may be highly participatory, and participatory features of performance may also be showcased as presentations to audiences. Using the same ELAN software, we highlight the symbiotic relationship between language and music and between presentational and participatory aspects of performance in a northern Chinese genre known as xiangsheng, a comic dialogue that is part of the "speaking-singing" or shuochang tradition in north China, whose very name confirms the kind of interactivity between speech and music that Cross et al. discuss in their research.

Imagery, Movement and Meaning in North Indian Monsoon Rags

Laura Leante (Durham University)

In this paper I discuss imagery and feelings associated by contemporary Hindustani musicians with rags performed in the Monsoon, and how the analysis of the verbal articulation of the experience of these repertoires can provide insights into musical embodiment. Monsoon rags are associated with a specific season (with strong emotional and figurative connotations) and present the musicologist with a much more fixed stock of shared imagery than others: the challenge is to understand how such prescribed images and emotions are articulated in relation to specific musical features, and how their analysis can contribute to a better understanding of processes of signification in Hindustani music. My approach draws on ethnographic enquiries carried out among North Indian classical music performers and connoisseurs, which are analysed within their wider cultural context and through musicological and semiological analysis: in particular, here, I offer a first, original reflection on how musical elements featuring in Monsoon rags can be understood as sonic and/or kinetic anaphores. This study complements and advances extant research into gesture and meaning in Indian music performance, by presenting new analysis of an established corpus of images and by providing a nuanced understanding of the relationship between embodiment and imagery in music.

Parsimonious Te-utsuri: Modeling Instrumental Space in Shō Performance

Toru Momii (Columbia University)

This paper incorporates the physical gestures of performing the shō into an analysis of its *aitake*—five- to six-note pitch clusters used in *tōgaku*—to explore the relationship between performance practice and theories of modality. I demonstrate that the idiosyncratic arrangement of the pipes on the shō is closely related to the pitch structure and tonal function of the *aitake*. My analysis synthesizes two approaches. First, I adopt David Lewin's transformational attitude (1987) to analyze the processes of motion in *te-utsuri*—the standardized fingering changes for shifting between *aitake*. Second, I treat the *aitake* as sonic byproducts of a performer's instrumental gestures—rather than as static harmonic entities—to examine how each of the *aitake* are related to one another kinesthetically, and whether these relationships correlate with the pitch structures of the *aitake*. Relatedness between *aitake* is determined by the parsimony of *te-utsuri*. By analyzing the pitch structure of *aitake* through the lens of *te-utsuri*, I demonstrate that the most parsimonious movements can be enacted between *aitake* built on the fundamental tones of five of the six *tōgaku* modes: *Ichikotsu-chō*, *Hyōjō*, *Taishiki-chō*, *Ōshiki-chō* and *Banshiki-chō*. These findings reveal a striking correlation between gestural parsimony and tonal function in shō performance.

FMA Session D3: Transcription and Recognition (Wednesday, 13:30-16:30, Hall 2)

Chair: Andre Holzapfel (KTH Royal Institute of Technology)

The Hidden Modes: A computer-assisted approach to tonality analysis of Swedish Folk Music

Sven Ahlbäck (Kungliga Musikhögskolan, Stockholm)

In this paper, tonality in a general sense is targeted within the style and repertoire of older Swedish folk music. Since the beginning of the 19th century, intonation practice and specific traits of tonality in Swedish folk music has been recognized by scholars as well as performers. However, there are only a couple of more extensive studies on the subject. Fundamental problems regarding such studies include for example the influence of transcription detail in different source material.

In the present study, a computer-assisted approach has been employed in order to study if recorded source material and notations from folk music collections can be used in connection, to find indications of general tonality traits within a diverse source material, including manuscripts, transcriptions and field recordings. The findings indicate that this approach points to the possibility of revealing culturally significant tonality traits from a diverse source material, using an extended set of features of melody structure, beyond the most common note frequency, duration and interval measures. In particular, the present study reveals structural indications of tonality in different sub-styles of older Swedish folk music.

Two methods to compute melodies for the lost chant of the Mozarabic rite

Geert Maessen (Gregoriana Amsterdam) and Darrell Conklin (University of the Basque Country)

Several medieval chant traditions are preserved in precursors of modern music notation. Virtually all chants of the Mozarabic rite are only preserved in the earliest of these: pitch-unreadable neumatic notation. Melodic intervals are not available. This paper sketches two computational methods to produce melodies based on a comparison of transcriptions of the early notation with pitch-readable preserved traditions encoded in a data set.

Player recognition for traditional Irish flute recordings

Islah Ali-Maclachlan, Carl Southall, Maciej Tomczak and Jason Hockman (DMT Lab, Birmingham City University)

Irish traditional music (ITM) is a form of folk music that developed alongside dancing over hundreds of years to become an integral part of Irish culture. The wooden flute is widely played in this tradition and mastery in performance is judged by personal stylistic interpretation. Automatic player recognition allows for musicological analysis in an environment where players are individuated based on their interpretation of a common set of melodies. This paper presents two player recognition methods based on convolutional neural networks (CNN). We implement two evaluation contexts for both methods, using a new *ITM- Flute-Style6* dataset alongside our existing *ITM-Flute-79* dataset. The results demonstrate that in both simplified and realistic scenarios, the proposed system is capable of high performance in recognising individual musicians playing melodies with individual stylistic traits that are idiomatic of the genre.

Automatic makam recognition using chroma features

Emir Demirel, Barış Bozkurt and Xavier Serra (Music Technology Group, Universitat Pompeu Fabra)

This work focuses on the automatic makam recognition task for Turkish Makam Music using chroma features. Chroma features are widely used for music identification and tonal recognition tasks such as key estimation or chord recognition. Most of prior work on makam recognition largely rely on use of pitch distributions. Due to the imperfection of automatic pitch extraction for non-monophonic audio, use of chroma features is an alternative that has been showed to be effective in a previous study and we follow the same approach. Our work does not propose a new architecture but rather considers parameter optimization of chroma based recognition for makams. In our tests we use an open-content dataset and perform comparisons with previous studies. As a result of parameter optimization a better performance is achieved. All resources are shared for ensuring reproducibility of the presented results.

Automatic transcription of flamenco guitar falsetas

Sonia Rodríguez, Emilia Gómez and Helena Cuesta (Music Technology Group, Universitat Pompeu Fabra)

This work deals with the automatic transcription and characterization of flamenco guitar, with a focus on short melodic interludes improvised between sung verses. These are called *falsetas* in the flamenco argot and are very challenging for manual and automatic transcription due to their fast and highly ornamented nature. However, they are a key resource for guitar players to practice. We adapted a state of the art singing transcription algorithm to process an audio signal containing one or several guitar *falsetas* and extract their symbolic representation. The algorithms first perform a segmentation to locate the guitar fragments and then a symbolic transcription of these segments into symbolic representation. In order to evaluate it, we collected the first (to our knowledge) annotated *falseta* datasets. Our results confirm the difficulty of the task, and a detailed study of two transcriptions revealed that combining the algorithm with specific musical knowledge about the scale used by the song, improves the performance of the system. Our approach follows the principles of research re- producibility, and the system is integrated in a computer-assisted paradigm, where the user complements the automatic annotation with a priory knowledge to generate a final transcription.

Wednesday, June 27, 17:00–18:00, FMA Keynote address (Auditorium)

Automatic transcription of world music collections
Emmanouil Benetos (Queen Mary University of London)

Automatic music transcription refers to the process of converting a music recording into some form of human- or machine-readable music notation. It is considered to be a fundamental problem in the field of music information retrieval, with several potential uses in the fields of digital musicology and ethnomusicology. However, it still remains an open problem, especially in the context of polyphonic and heterophonic music. Another challenge facing automatic music transcription methods and music informatics methods in general is the so-called “Western bias”: most such computational methods are not directly applicable to music styles outside the purview of Western/Eurogenetic Music.

In this talk I will first present the state-of-the art on automatic music transcription, with a focus on world, traditional and folk music. I will illustrate it with our own research on automatic music transcription for specific music styles, including Turkish makam music and Cretan dance tunes. I will describe the challenges regarding modelling, evaluation and adoption of such tools, and on ongoing efforts towards pitch and tuning analysis on a large corpus of audio recordings from the British Library's World & Traditional Music collections. In the final part of the talk I will outline future directions in the intersection between computational ethnomusicology and music information retrieval, and on ways of carrying out mutually beneficial research between the two communities.

Thursday, June 28, 9:00–12:00, Parallel Sessions E

AAWM Session E1: Africa and Empiricism (Thursday, 9:00-12:00, Auditorium)

Chair: Sylvie Le Bomin (Muséum national d'Histoire naturelle)

Performing Wisdom: Generative Processes in the Seperewa Music of Osei Korankye
Colter Harper (University of Pittsburgh)

This paper explores the music of Osei Korankye, the primary advocate and virtuosic performer of the seperewa (Akan harp lute). Unlike its northern relatives such as the kora and hunter's harp, which still enjoy widespread use in the Sahel, the seperewa has largely fallen out of use in Akan society. Made up of the Twi words *se* (speak), *pere* (touch), and *wa* (connoting something small), the instrument's name is translated by Korankye as "when this small instrument is touched, it speaks." This translation implies that the music is structured as a conversation between sung and instrumental melodies. Expanding on J. H. Kwabena Nketia's 1994 article "Generative Processes in Seperewa Music," this paper focuses on the title song from Korankye's commercial recording *Seperewa of Ghana: Emmere Nhyina Nse* produced for Akwaaba Records in 2016. Collaborating with Korankye on the recording provided an intimate look at how he conceptualizes song structures and improvisation in relationship to West African bell patterns, an aspect previously unexplored in Nketia's article.

How to Listen to the Response Drum Part in Agbadza (Ewe, Ghana/Togo): Form, Accentuation, and Reciprocity

David Locke (Tufts University)

The drumming music of Agbadza, a type of performance art of the Ewe-speaking people of West Africa (Ghana/Togo), centers on the interplay of lead and response drums. Timbral/rhythmic patterns from the response drum part move in their own temporal line while simultaneously contributing to the thick ensemble texture of Agbadza. This paper will examine the design of musical form and the patterning of accentuation in response drum themes. Reciprocity will be highlighted as a way of listening to the response drum part; that is, the mutual impact between the response drum part and other components of an Agbadza performance (dance, time parts, lead drum part, song). Information for the analysis comes from a recorded performance of twenty-five Agbadza songs by Gideon Foli Alorwoyie and the Afrikania Cultural Troupe of Anlo-Afiadenyigba, Ghana.

Measuring Rhythmic Complexity in the West African Standard Pattern: An Empirical Approach

Juan Diego Diaz (University of California, Davis)

The so-called West African standard pattern <2212221> is a ubiquitous rhythm that serves as a temporal reference for dozens of genres across the Black Atlantic. But this pattern also appears in rotated versions—i.e. with other onsets of the pattern perceived as the reference point. This occurs in specific traditional genres (e.g. Nigerian Yoruba drumming <2212212>) and in

experimental Afro-diasporic musics (e.g. "Das Arabias," [Orkestra Rumpilezz, 2016] <1222122>). In fact, some musicians deliberately aim to increase rhythmic complexity by using various types of rotations of the pattern (Diaz 2017). How do musicians and audiences who are familiar with the standard pattern in its version <2212221> react when the point of reference is shifted in time? This paper engages this question from an empirical standpoint with three psychological experiments on rhythm realized in Ghana. The experiments measure perceived, metric, and performance complexity of the standard pattern in its 12 possible rotations and in three contexts: the rhythm alone, and in conjunction with a 12/8 and a 3/2 pulse. The results are compared to analysis of rhythmic complexity based on syncopation and metric strength (Agawu 2003, Diaz 2017). The paper argues that that familiarity with the "base" rotation <2212221> is crucial to studying rhythmic complexity of other rotations of the pattern.

Getting the Groove: Variation, Expectation and Affective Responses Across Cultures Maisie Sum (University of Waterloo)

In his landmark study, *Emotion and Meaning in Music*, Leonard Meyer wrote: "emotional response to music does take place, [but the evidence] tells us almost nothing about the nature of the response or about the causal connection between the musical stimulus and the affective response it evokes in listeners" (1956: 6). More than half a century later, technological advances have enabled researchers to directly measure neural, physiological, and chemical responses when listening to music (e.g., Becker 2004; Hallam et al. 2008; Juslin and Sloboda 2010). Studies in music and emotion suggest that listening to self-selected or preferred music potentiates strong affective responses. The current study investigates the affective responses evoked in listeners unfamiliar with music used in therapeutic practices worldwide, in particular Gnawa music, and changes to their physiological responses upon repeated exposure--that is, as the music becomes more familiar. I posit that the increasing familiarity with initially unfamiliar music leads to a heightened affective response when the music possesses key temporal features (such as polyrhythms and regular periodicity) and repetition is nuanced (with variations), and conversely, a reduced affective response when repetition is exact (with no variations). In particular, I suggest that temporal features and nuanced repetition can create moments of expectation and surprise that potentiate affective responses strong enough to induce therapeutic benefits, despite having no understanding of the musical context and meaning. The null hypothesis (H0) suggests that the increasing familiarity with initially unfamiliar music does not change the affective response evoked in listeners who do not understand the musical context and meaning. In order to test the null hypothesis, three sets of musical stimuli are used--the original live recording which includes vocals, the instrumental portion of the same live recording (with the usual varied repetition of motives), a manipulation of the instrumental portion of the same live recording in which musical motives are exactly repeated without variations. During the listening experiment, physiological data is measured in real time as an indicator of affective responses. The study hopes to demonstrate the significance of varied repetition in therapeutic music practices worldwide and to better understand their appeal and potential impact across cultures. More generally, it contributes to the growing studies concerned with listener response to unfamiliar music and to cross-cultural studies in this area.

AAWM Session E2: Marking and Perceiving Segmentation in East and South Asian Music (sponsored by the Society for Music Analysis) (Thursday, 9:00-12:00, Hall 1)

Chair: Laura Leante (Durham University)

An Analytical Study of Musical Segmentation in South Korean Shaman Ritual Music

Simon Mills (Durham University)

In the East Coast region of South Korea, the rituals performed by hereditary shaman troupes guiding the community through a long series of propitiatory and therapeutic actions and performing a great many narrative myths, sung prayers, dances, and non-religious popular favourites. Music is performed almost continuously, involving an extensive array of structures with diverse tempi and patterning. While previous studies of this tradition have focused on the most commonly-played rhythmic cycles to elucidate typical musical characteristics, this study extends the frame to consider also the ritualists' more seldom-played repertoire – specifically to expose the full range of their approaches to musical segmentation. The current study identifies and probes three contrasting approaches to segmentation: 1) Certain cycle-based musical structures are markedly and unambiguously segmented in nature, with all parties working in unison to divide up the cycle's duration into well-defined sub-sections. In such cases, any listener would be in agreement regarding the boundaries of segmentation. 2) In most other cycle-based structures, the drummer employs his improvisatory skills to divide up the cycle's duration into a succession of phrase segments. Typically, he varies the phrases' lengths and details in successive cycle renditions – a key strategy for 'bamboozling' the listeners' minds and evoking a sense of divine presence, and also for musically representing the cathartic benefits of breaking free from constraints. 3) In certain rare episodes, a few shaman musicians play together at impressively rapid tempo, each stringing together smaller patterns of differing lengths to create music that is both polymetric and heterometric – occurring entirely outside of the confines of cycle. This approach is reserved for critical moments when a spirit's ties to this world are to be severed. To explore these three distinct approaches to musical segmentation, this paper presents a series of detailed musical analyses. It considers how each approach relates to ritual objectives, and argues that switching between them constitutes an especially powerful means for ensuring a rich and fulfilling experience.

Gesture, Segmentation, and Meaning in South Indian Raga Performance

Lara Pearson (Max Planck Institute for Empirical Aesthetics)

Vocalists from North and South Indian art music traditions typically produce elaborate hand gestures while singing. These gestures are spontaneous and uncodified, although similarities can be seen between the gestures of different performers. In this paper I explore the ways in which vocalists' gestures act to segment and punctuate the flow of melody in the South Indian, Karnatak style: an inquiry that is part of a wider examination of structure and meaning in raga performance. In particular, I look at relationships between gestural strokes and melodic segments, examining the way in which gestures index smaller chunks within phrases, and asking what such gesturing can tell us about how performers conceptualise small-scale melodic structure. Audiovisual recordings of vocal performances were analysed to discern whether and how co-singing gestures coincide with musical segments at various structural levels, including svaras (notes), coarticulated chunks (svaras fused through ornaments), and vocal articulation. It was found that while gestural strokes are often aligned with the musical features examined, they

also occur in the absence of such features. The results are discussed with reference to the idea that both gestures and musical segments can refer to physical actions, and that this contributes to meaning in musical experience.

Analysis in Real Time? An Indian Music Segmentation Study

Richard Widdess (SOAS University of London), Tudor Popescu (Technical University, Dresden) and Martin Rohrmeier (École Polytechnique Fédérale de Lausanne)

The degree to which even unfamiliar music appears to “make sense” to listeners indicates that listeners are cognitively able to perceive inherent structural features of music, at least implicitly. One aspect to which they may be sensitive is segmentation, and a number of studies based on Western music (summarised in Mungan et al. 2017) suggest that both musically trained and untrained listeners rely mainly on surface features, such as durational separation, as markers of segment boundaries. So far there have been few segmentation studies based on non-Western music, but these indicate that Western listeners, both musicians and non-musicians, have some awareness of segment boundaries in unfamiliar Arabic and Turkish music, although less than musicians of the culture concerned (Ayari & McAdams, 2003; Lartillot & Ayari, 2009, 2011; Mungan et al. 2017). The present study grows out of a study of implicit learning in Indian music by Western subjects in which participants were set a segmentation task while listening to the training material (recorded sitār ālāp). The results of this task show significant convergence between the subjects’ perceptions and expert segmentation, and significant recognition of a grouping hierarchy. The questions will be considered how far subjects may be aware of deep structural features, and how far the performer articulates deep structure through surface cues.

Rainer Polak (Max Planck Institute for Empirical Aesthetics), discussant

FMA Session E3: Culture, Analogy, Embodiment, Creativity (Thursday, 9:30-12:00, Hall 2)

Chair: Matija Marolt (University of Ljubljana)

Effort-voice relationships in interactions with imaginary objects in Hindustani vocal music

Stella Paschalidou (TEI of Crete, Greece), Martin Clayton and Tuomas Eerola (Durham University, UK)

In Hindustani (dhrupad) vocal improvisation singers often engage with melodic ideas by manipulating intangible, imaginary objects with their hands while singing, such as through stretching, pulling and pushing. Such engagements ('MIIO' for Manual Interactions with Imaginary Objects) suggest that some patterns of change in the acoustic features relate to rudimentary interactions and the levels of effort that the respective objects may afford due to their physical properties. Through this work we seek to gain a deeper understanding of performance practice in the dhrupad music tradition in the specific cases where the singer seems to interact with imaginary objects, by examining whether effort and gesture types appear in an arbitrary fashion along with the voice or if they are related to the sound in a consistent way. The results suggest that a good part of the variance in both physical effort and gesture type can be explained through a small set of audio and motion features.

Creative harmonisation of folk melodies

Costas Tsougras, Maximos Kaliakatsos-Papakostas and Emiliios Cambouropoulos (Aristotle University of Thessaloniki)

Since the 19th century, many composers attempted to blend local national musical elements (such as traditional rhythms, modal thematic materials) with aspects of established western musical idioms (such as classical tonality, post-tonal harmony, atonality); this way, novel musical styles were created that have a characteristic local flavor. This paper focuses on issues of creativity involved in the interaction between traditional folk melodies and diverse harmonic idioms. Traditional melodies often embody characteristics outside the 'standard' western major-minor framework, posing a challenge for a composer that wants to reconcile partially incompatible music systems. Can a creative computer system assist such a task? This study employs a system that harmonises folk melodies in diverse harmonic styles and presents some results regarding its usage. This system is a rather rare instance of the application of creative technologies in the domain of traditional music.

Imitations-transformations: Birds of paradise in performance from the central provinces of Papua New Guinea

George Athanasopoulos (Aristotle University of Thessaloniki)

The aim of this paper is to present a sampling of ritual "bird-song" performances from Papua New Guinea, and to compare them to the actual birdsongs and courtship displays (where applicable) from which they yield their inspiration.

This exploratory research analysis of songs and dances imitating local bird fauna runs parallel with sonic information recorded in nature, carried out through sonogram and frequency analysis of song performances and through audio data captured during fieldwork in Goroka and Mt.

Hagen. Though the short sample size does not permit broader assumptions through observation, it is possible to yield interesting results regarding this organized display of social behaviour in ritual song/dance performance in Papua New Guinea. It has to be stressed however, that, it was only through interviews and bibliographic research that the actual causes of such behaviours were determined.

The results of this study forces us to reconsider the nature of “bird imitation” dances not as mere mimicry of nature, but a collective group activity as a form of social interaction.

An information ethics-centred approach to music as intangible heritage

Christian Benvenuti (Universidade Federal do Rio Grande do Sul)

This paper discusses ethical principles in the preservation of our increasingly digital musical cultural heritage, particularly in the context of the impact of information and communication technologies. UNESCO’s Information for All Programme has recently drawn attention to the digitisation of intangible cultural heritage as a primary safeguarding measure. This paper will focus on the unfolding ethical issues concerning digitisation policies, such as the likely excessive reliance on information and communication technologies, the ethics of the decision-making powers regarding the selection of what musical heritage is worth keeping, the vulnerability of digital depositories, and future ethics-oriented paths.

Thursday, June 28 13:30–16:30 Parallel Sessions F

Session F1: Cross-Cultural Theories (Thursday, 13:30-16:30, Auditorium)

Chair: Richard Widdess (SOAS University of London)

Interpersonal Entrainment in Music Ensembles: Cross-Cultural Perspectives

Martin Clayton (Durham University)

Interpersonal entrainment is a key process in the organisation and coordination of music ensembles, and one that may involve a number of processes, under various degrees of conscious control. In many cases this depends on sensorimotor synchronisation effected by individual participants on the basis of perceived event timing asynchronies. Coordination also usually involves appropriate alignment of metrical cycles and phrase hierarchies, while in many kinds of music structural transitions and tempo changes have to be managed, with or without reference to notation. Much remains to be discovered, however, about the dynamics of temporal coordination in actual musical performances, including whether these dynamics may vary between cultures. To what extent are these processes universal human abilities, and to what extent do they depend on choices that may be culture- or genre-specific? This paper outlines a new model of entrainment in musical ensembles, taking into account both sensorimotor synchronisation and higher-level coordination requiring shared knowledge. Based on analysis of multiple examples from different geographical regions, we discuss how these phenomena may vary between cultures or genres, and outline some of the factors that predict this variation. The main contributions of this paper will be to (a) propose a model of ensemble coordination integrating different timescales (from beat subdivisions up to sections and whole pieces) and the modalities (primarily auditory and visual-kinaesthetic) through which this is achieved, and (b) briefly outline some of the ways that coordination may vary cross-culturally, and some of the factors that predict this variability.

The Art of Putting Creativity in Boxes, or Can We Analyze Improvisation Cross-Culturally?

Leslie Tilley (Massachusetts Institute of Technology)

Humans improvise. It is an impulse that crosses styles, genres, and continents, used to varying degrees in almost every music culture. Yet many important scholarly works analyzing improvised and improvising musics, from Hindustani rag to jazz, Baroque preludes and cadenzas to Balinese arja drumming, focus on single traditions. While the depth that such studies provide is invaluable, improvisation's near ubiquity suggests rich (and relatively untapped) potential for cross-cultural analysis. The lack of terminological coherence in diverse studies across music disciplines, however, makes intertextual reference among them that much more challenging. The goal of this paper, then, is to present a framework for thinking analytically about improvisation across cultures and practices. Such an undertaking requires terminology and categories of improvisational techniques broad enough to be cross-culturally appropriate yet adaptable enough to embrace the specificities of individual genres and practices. Through comparative analyses of a Hindustani alap and an excerpt of Balinese arja drumming, I explore the inherent flexibility of improvisatory techniques found across contrasting traditions. Shifting between the

specific and the broadly applicable, this study provides a springboard for analyzing improvised forms in a more unified way, thus cultivating a space for comparative and cross-cultural research.

Testing Boundaries: Empirical and Hermeneutic Symbiosis in the Cross-Cultural Study of Musical Endings

Cecilia Quaintrell (University of Bristol)

Large-scale ethnomusicological comparison has faltered severely since the late 1960s, perched uncomfortably and seemingly irreconcilably between the methods of scientific empiricism and hermeneutic interpretation based on fieldwork (Schneider 2006). Recent years have produced a sprinkling of landmark studies (e.g. Tenzer and Roeder 2011; Savage et al. 2012), but the potential of comparative approaches to understand important questions of musical practice, ideas and concepts, and to challenge questioning based on ingrained thinking, remains largely untapped. Here I show how the study of musical endings in a cross-cultural range of ontologies can illuminate (not obfuscate) the phenomena of diversity and change. Drawing on a broad range of examples that includes Sámi and Bahraini music cultures, and focusing on creative metaphors and interactive metaphoricity (Ricoeur 1981), this paper considers the value of a structured heuristic approach to the comparative study of multiple musical communities. Combining in-depth qualitative and quantitative analysis with the insights from a modest yet maximally diverse broad cultural sample offers extraordinarily revealing perspectives on musical activity which have implications for methodologies in both global and local study, whilst allowing us to demonstrate aspects of musical ending that are not readily identifiable any other way.

Theories of World Music

Lawrence Zbikowski (University of Chicago)

In a 2017 essay Kofi Agawu took clear and careful aim at the idea of ethnotheories, arguing that the notion is at best ill-defined and at worst a patronizing gesture made by Western musicologists toward the musical practices of subaltern Others. Although Agawu's arguments are compelling, what is less clear is the status of "theory" within his account. On the one hand, Agawu recognizes that the theories developed for Western music are every bit as culturally constrained as those that might be developed for the musical practices of non-Western populations. On the other hand, Agawu sets the bar for what counts as a theory rather high: although he is far from explicit on this point, it appears that for thinking about music to count as a theory it has to be fully articulated, internally consistent, and comprehensive. In this paper I offer an alternative notion of theory informed by recent research in cognitive science, according to which theories are seen as relatively compact knowledge structures that guide reasoning and inference. The advantages of this approach are two. First, the knowledge that what guides musical practice becomes linked with a broad range of implicit yet systematic knowledge of the sort that has been proven to be key to human development. Second, embodied knowledge, which has been shown to be of central importance to musical understanding, can be more easily accommodated. This perspective makes it possible to do away with the distinction between "ethnotheory" and "theory" that so troubled Agawu, and provides a framework for characterizing the conceptual, material, and embodied resources through which musicians organize their understanding of musical practice. My examples will be drawn from recent work

on theories of African music, and from research on relationships between music and gesture in South Asian music.

AAWM Session F2: Oceania and Southeast Asia (Thursday, 13:30-16:30, Hall 1)

Chair: Andy McGraw (University of Richmond)

Analysis in Context: Contemporary Lanna Repertory in the Piphat Ensembles of Modern Society in Phayao, Thailand

Tat Amaro (Durham University)

The dynamics of musical change in Thailand's Phayao province reverberate with the notion of 'progressive traditionalism': most musicians strive to keep their traditions alive through innovation. The need to adapt to new social and musical preferences has seen piphat ensembles in the Lanna region in the north of the country incorporate Western musical instruments and modern repertory at an ever increasing rate. The refashioning of traditional Lanna repertory towards contemporary styles deserves this 'progressive' label as the adaptation itself becomes the very foundation of creativity in live performance in Phayao. This paper explores how musicians balance older traditional elements with newer innovations within the piphat scene, through musical analysis of three pieces, namely, Mon Chiang San, Mon Lampang and Prasat Wai, recorded by the researcher at live performance events, specifically at funerals and spirit possession parties. I will examine how this balance of endogenous and exogenous elements is achieved in the areas of formal structure and harmony, and in the preserving and developing of traditional instrumental techniques.

Chanting Rhythms: Exploring the Tahitian Pehe

Geoffroy Colson (independent scholar, France)

In this paper, I investigate a fundamental component of the polyrhythms accompanying traditional Tahitian dances, which Tahitians refer to as pehe, or rhythmic sequences performed in the percussion ensemble. The aim is to explore the syntax governing the composition of these rhythmic patterns, and to identify their qualitatively relevant properties. To this end, I analyze an ensemble of base versions of thirty-four pehe, as the culture bearers teach them. The paradigmatic analysis draws on Arom's structuralist approach to musical systems, and extends the method proposed by Vida Chenoweth for analyzing melody to the Tahitian rhythmic realm. After identifying the basic rhythmic cells and investigating their interrelations, I explain how these elements participate in the rhythmic macrostructures. Subsequently, the study explores the poietic processes and the processual dimension at work. The research brings out elements governing timbre, form, temporality, multidimensionality, and significance within the studied pehe repertoire, and characterizes their combinatorial and sequential nature. In highlighting the resonance of these characteristics in other musical contexts such as strumming techniques and traditional singing, this study opens the path for further research within the performed repertoire, and for comparison with other drumming repertoire in the area and beyond.

Do Ko Gyi Kyaw: Music Structures, Interaction Processes, and Performance Context of a Burmese nat-chin

Lorenzo Chiarofonte (SOAS University of London)

Ko Gyi Kyaw is one of the most popular nats of the Pantheon of the Thirty-Seven, the local spirits Burmese people worship in order to obtain health, wealth, and success. A womaniser and a drunkard, this powerful spirit is considered the Prince of nat pwe ceremonies in Central Burma (Myanmar). During a ceremony, the hsaing waing music ensemble invites and welcomes the Prince by playing with even more dynamism than usual; the ritual participants indulge in the consumption of alcohol and cigarettes, experiencing possession supported by the intense sound of spirit songs. Based on a performance of the Kyi Lin Bo Mingala Hsaing ensemble from Yangon, this paper presents a performance analysis of the popular nat-chin (spirit song) “Do Ko Gyi Kyaw”. Supported by video and audio examples, the analysis finds that the song is constructed by alternating two musical phases – one, preparatory, outlining the identity of the spirit through vocals and melody; a second, resolute, supporting the possessed dancers with intense drumming. This paper argues that spirit possession is facilitated by the interaction between singers, players and dancers: following the song’s bipartite structure, hsaing waing musicians respond to the presence of possessed human participants operating shifts in dynamics and intensity, thus triggering, supporting, and controlling the spirit possession.

Cyclical Structures in Central Javanese Skeletal Melodies

Jay Rahn (York University)

Informed by general observations of cyclical structure in Indonesian music, as surveyed by David Goldsworthy (2005), and by detailed technical accounts of 'beat' (ketegan), 'measure' (gatra), 'phrase' (kenongan), and 'section' (gongan) in Central Javanese instrumental music, as discussed by Rahayu Supanggah (2006), the initial (mérong) sections of 131 pélog gendhings that span four 16-beat phrases, as compiled by Barry Drummond, are analyzed with a view to determining whether, and if so how, their skeletal melodies (balungans) are related to the cyclical patterning of the colotomic instruments. Chief findings include the following:

- a) the melodies' rhythms comprise an integer-valued pulse that is interrupted by 'rests' and supplemented by off-beat onsets in a manner that varies coherently throughout the mérongs' spans of 4, 16 and 64 beats;
- b) among the many ways in which rests are distributed, certain kinds of 'commetric,' 'dotted,' and 'syncopated' rhythm predominate;
- c) the longest continual repetitions of both rests and pitch onsets tend to occur at analogous times in immediately successive 16-beat spans and tend to conclude at the kenong strokes at ends of these spans.

FMA Session F3: Similarity, Repetition and Segmentation (Thursday, 13:30-16:30, Hall 2)

Chair: Maximos Kaliakatsos-Papakostas (Aristotle University of Thessaloniki)

Modeling song similarity with unsupervised learning

Matevž Pesek, Manca Žerovnik, Aleš Leonardis and Matija Marolt (University of Ljubljana)

The SymCHM, which was developed for the pattern discovery, was applied to the music similarity task. It was used as a feature extractor, unsupervisedly learning repeated patterns on pitch-time representation, eliminating any additional high-level information. The output was used in the retrieval, where the model achieved 74.4 % classification accuracy on the Dutch folk dataset. By the unsupervised aspect of model's training and the ability to perform similarity using only the most basic song representation, we find the results sufficient to further explore the use of the model on datasets with a low number of additional features and basic music representations.

A non-melodic characteristic to compare the music of medieval chant traditions

Geert Maessen (Gregoriana Amsterdam) and Peter Van Kranenburg (Utrecht University)

Since a large number of medieval chants has been preserved in pitch-unreadable neumatic notation, we need non-pitch features to classify them according to their origin. We show that the number of notes per syllable is a good characteristic. It appears to be possible to make claims about relations of chant melodies within and between different traditions without reference to their pitch content using n-gram modelling and t-SNE dimension reduction. This result complements previous work in which we have shown that chants of medieval traditions preserved in pitch-readable notation can be classified with very high accuracy using the sequence of pitches.

Visualising melodic similarities in folk music

Chris Walshaw (University of Greenwich, London)

The aim of this talk is to discuss a technique for visually exploring melodic relationships within traditional tune collections encoded in abc notation, a widely used text-based music representation system particularly popular for folk and traditional music. There are approximately ½ million melodies encoded in abc on the web and abcnotation.com provides a searchable index of the entire corpus with tools to view, download and listen to the scores.

This talk stems from related work known as TuneGraph which uses a melodic similarity measure to derive a proximity graph representing relationships between tunes in the abc corpus, and which allows users of abcnotation.com to explore melodic similarity. As it stands TuneGraph only gives a localised view of the melodic relationships: this paper aims to look at exploring those relationships at a global (corpus-based) level via a prototype visualisation tool. Currently the tool is not interactive: in this talk the aim is to consider a proof-of-concept approach to explore where there is a useful visualisation possible; future work will look at user interactivity with the tool.

Feature analysis of repeated patterns in Dutch folk songs using Principal Component Analysis

Iris Yuping Ren, Hendrik Vincent Koops, Dimitrios Bountouridis, Anja Volk, Wouter Swierstra and Remco Veltkamp (Utrecht University)

Local structures, namely characteristic motifs, or prominent, nonliterally repeated patterns, play an important role in folk music. This paper uses Principal Component Analysis (PCA) to better understand characteristics of musical patterns and to further use this information for designing and evaluating future pattern discovery algorithms. We show what features can summarise the data variance in musical patterns and propose using feature selection and extraction methods to improve pattern discovery algorithms. Using PCA, we show the prominent features of MTC-ANN patterns. The pitch related and rhythmic features contribute together to the first PCA component; the second and third component consists mainly of pitch-related features and rhythmic features respectively. According to what PCA shows, in designing and evaluating pattern discovery algorithms, we should take metric structures into consideration as well as the repetitions and pitch related features in the patterns.

Going deep with segmentation of field recordings

Matija Marolt (University of Ljubljana)

In the paper, we explore the performance of deep residual convolutional networks for labelling ethnomusicological field recordings. Field recordings are integral documents of folk music performances captured in the field, and typically contain performances, intertwined with interviews and commentaries. As these are live recordings, captured in non-ideal conditions, they usually contain significant background noise. Labelling of field recordings is a typical step in segmentation of these recordings, where short sound excerpts are classified into one of a set of predefined classes. In the paper, we explore classification into four classes: speech, solo singing, choir singing (more than one voice) and instrumental performances. We describe the dataset gathered for the task and the labelling tools developed for gathering the reference annotations. We compare different input representations and convolutional network architectures based on residual modules for labelling short audio segments and compare them to the more standard feature based approaches, where an improvement in classification accuracy of over 5% was obtained.

Thursday, June 28, 17:00–18:00, AAWM Keynote Address 2 (Auditorium)

Timely Negotiations: Formative Interactions in Cyclic Duets
John Roeder (University of British Columbia)

Susanne Fūrniſs’s (2006) magisterial survey of Aka polyphony analyzes a remarkable duet in which each singer draws material from a regularly repeating cycle but substitutes pitches on the fly to complement her partner’s likewise varying repetitions. This texture of two independently cycling but interacting voices, although well-suited to the Aka’s conception of musical structure, is not unique to them; indeed, examples from many traditional cultures have been recorded. In some instances, the musicians may be heard coordinating their variations to forge large-scale musical form out of what would otherwise be uniform repetition. This paper analyzes three items that illustrate the potential of such equal-voice cyclic duets to support formative interactions of timbre, timing and grouping that are not possible in monophony and not so effective in other polyphonic textures. In a funeral lamentation from the Solomon Islands, the singers’ overlapping groups efface cycle boundaries, while their timbral variations set up and realize large-scale formal articulations. In a flirtatious song of the Ecuadorian Amazon, as the singers repeat irregularly timed cycles at different tempos, they adjust the timing of their respective beats to create phases of greater or lesser synchrony, hocket, and changing leader-follower relationships. And in a communal dance of French Guyana, one instrument adjusts its timing to accommodate the addition and deletion of events by the other, creating an unpredictable, dramatically charged process that they gradually direct towards a stable regular groove. Like the Aka duet, these compositions transform what might be a rote, mechanical procedure into a lively vehicle for distinctive formal and expressive effects, and they provoke some reflection about the nature and possibilities of meter and grouping.

Friday, June 29, 9:00–12:00, Plenary Session G (Auditorium): Transcription and Recent Theories of Music Structure

Chair: Michael Tenzer (University of British Columbia)

Emmanouil Benetos (Queen Mary University of London),
Barış Bozkurt (Universitat Pompeu Fabra, Barcelona)
Panayotis Mavromatis (New York University),
Tara Browner (University of California, Los Angeles),
Kalin Kirilov (Towson University)
Sylvie Le Bomin (Muséum national d'Histoire naturelle)

AAWM conferences and publications since 2010 have nuanced our perspectives on structure in musical traditions of the world exposing us to even more variety than one would have imagined to be there. All the while, a proliferation of music theory and cognition research has reconceived music-analytical categories relevant to our work. Beat and meter are now increasingly seen in relation to a continuum of micro-timed durations rather than simply to a presumed isochrony; and how we think about pitch encompasses more than tones in a scale, often taking into account changing timbre and fluid pitch categories.

Transcribers have always transcribed in ways that suit their purposes and methods. But now, for many kinds of music, a default conception of pitch and duration relative to a set of discrete, fixed coordinates on a grid is open to re-evaluation. Automatic transcription tools can measure and represent music on grids so finely calibrated that questions arise of how precise to be, and what level of musical significance is attached to the precision. Ethnographers are challenged to find the stance that works best, negotiating among local and cosmopolitan perceptions of structure, and amid changing cultural configurations and identities. More broadly, we are faced with calibrating our visual representations of music more carefully than before, but also more creatively, in more kinds of visual formats, even if staff notation is still common currency. In this session we consider the implication of new concepts and technologies for the transcription and representation of music.

Friday, June 29, 13:30–16:30, Parallel Sessions H, I

AAWM Session H1: Historically Informed Approaches to Mediterranean Music (special session organized by the Local Committee) (Friday, 13:30-15:00, Auditorium)

Chair: Nathan Hesselink (University of British Columbia)

Analytical Methods and Approaches to Byzantine Music: Retrospectives and Perspectives

Maria Alexandru (Aristotle University of Thessaloniki)

Byzantine chant, one of the major cultural and spiritual heritages of the Eastern Roman Empire, which survived and developed dynamically until today in connection with the Eastern Orthodox Church in southeastern Europe, Asia Minor and in many countries across the world, represents also a highly interesting domain for music analysis.

This paper presentation aims at: 1) giving a historical overview of analytical methods and approaches encountered from the 10th century until the present time in theoretical treatises and practical sources of Byzantine chant, 2) exploring the various analytical approaches—descriptive, motivic, modal, syntactic, functional, structural, polyprismatic, generative, interdisciplinary, fractal or interpretative—proposed by musicologists and theorists during the 20th and 21st centuries and conducted on different corpora of repertoire and musical textures (syllabic, syllabo-melismatic, moderately and highly melismatic), and 3) hinting at some bridges with reductive analytical methodologies developed for Western music, such as the Schenkerian and GTTM approaches.

The discussion and presentation will be complemented by the comparative analysis of a short *sticheron doxastikon* (antiphon preceded by the small doxology) in the plagal of the fourth mode, illustrating the differences between selected analytical methodologies and the benefits of employing a multi-faceted analytical approach.

The Big Bang Theory of Music: A Tool Towards the Understanding of Modality in Eastern Mediterranean Music Cultures

Sokratis Sinopoulos (University of Macedonia, Thessaloniki)

The interpretation and comprehension of modality in eastern Mediterranean musical traditions (*Makam* or *Echos*) has always been a challenging task for tutors, students and professional musicians as well. The great number of modes mentioned alongside their complex rules of melodic development and the variety of musical intervals leads to a hard to approach musical universe. In this paper the basic idea of the Big Bang Theory in the creation of the universe is adopted in order to formulate a theory about the creation of modal music. By following its gradual expansion from monotony to a complex but systematic melodic organisation we could approach and describe the phenomenon of modality in its totality, a task that can serve as an additional pedagogical tool towards the understanding of the fundamental rules and, eventually, the logical development and simplicity of the universe of the modal systems of eastern Mediterranean.

AAWM Session H2: Dance Music (Friday, 13:30-15:00, Hall 1)

Chair: Áine Heneghan (University of Michigan)

What's in a Tune? Construction of Cape Breton Fiddle Tunes

Jane Piper Clendinning (Florida State University)

Cape Breton, Nova Scotia, Canada is known for its distinctive fiddling style and Gaelic culture, which have become emblematic of the Scottish heritage of this island. In this corpus study, I examined approximately 250 fiddle tunes that are the standard repertoire of the Cape Breton Fiddlers Association and the Ottawa Cape Breton Session, two leading performance- and teaching-based organizations preserving Cape Breton fiddle culture. These commonly-played tunes are ones that fiddlers in this style are expected to know, including jigs and reels, marches, slow airs, and strathspeys. My analytical method included hands-on examination of the tunes to become familiar with how the intervals and rhythmic figures of these melodies lie on the instrument, and the finger motion and bowing used to perform them. Questions addressed include: what are typical opening and cadential figures? What are the types of melodic and rhythmic figures employed in the first and second reprise sections of these binary form compositions? Do these figures differ based on the type of tune (jig, reel), key (D, A, E), or mode (major, minor, Aeolian, Mixolydian)? This pilot study provides groundwork for a larger digital humanities research project with a corpus of several thousand Cape Breton fiddle tunes.

Interdependent Roles of Dancers and Musicians in Structuring Transylvanian Village Music

Judith E. Olson (American Hungarian Folklore Centrum)

Transylvanian village socializing consists of dance, music, and song, each often analyzed independently. However, their relationship within dance cycles is affected by factors beyond these arts. Village dancers as a collective hire musicians in a service capacity to provide them with music. This economic relationship is further heightened by ethnic and class difference--most of the musicians are Roma. Their role is to help the dancers have fun and look good among themselves. Content is directed in large part by dancers--musicians know songs and rhythms preferred in a particular village and what individual dancers like, often from long-year relationships. The *primás* (band leader) must create a musical structure with contrasting tempo areas and acceleration, changing when the dancers need it, and responding to the dancers' immediate demands. The village dancer's primacy in structuring the work is underscored by comparison with urban versions, such as performance by musicians without dancers, and dance parties organized by musicians and populated by dancers who do not necessarily know their proper role.

This discussion analyzes videos of village dances, exploring interactions between dancers and musicians which affect musical structure. It compares these with videos made in other contexts where the controlling person is not the dancer.

AAWM Session H3: Rhythmic Strategies (Friday, 13:30-16:30, Hall 2)

Chair: Chloë Alaghband-Zadeh (Loughborough University)

Understanding Temporal Structure of Gagok Performance: A Study of Periodicity in Ujo Chosudaeyeop

Iljung Kim (University of British Columbia)

This paper introduces unique characteristics of Korean gagok, and in particular Ujo Chosudaeyeop, by analysing its periodicity. Gagok is a traditional genre of vocal music accompanied by an ensemble of instruments dating back to the late Goryeo Dynasty (918-1392). It is famous for the difficulty of mastering its performative timing. I analyze the seemingly arbitrary tempo changes in Ujo Chosudaeyeop. Harnessing the visual advantage of the Korean traditional jeonggan notation system that is better suited to display the overall structure, I have created a tempo map with a hybrid score system, using both jeonggan and western notations. The analysis reveals that the planned tempo changes play supportive roles for the singer to perform its intricate melody. Despite the highly flexible tempo changes within each rhythmic pattern, durations of the 16-beat rhythmic pattern remain surprisingly consistent. To explain such temporal structure effectively, I introduce the concept of hanbae, a Korean term for tempo. These findings also support a view of the jeonggan notational system as a highly intuitive visual representation of the dualistic temporal structure, which is an inherent characteristic of "Ujo Chosudaeyeop."

Īqā': a Canon to Respect or Break? The Dichotomy between Rhythm Making Strategies in Composition and Improvisation in Classical Music of the Arab Mashriq

Saeid Kordmafi (SOAS University of London)

In the musical cultures in the "maqām" music traditions, Īqā'āt or uṣūl (metric cycles) are persistent ostinatos, embodied in the designation of percussion strokes. Metric cycles provide melody with its rhythmic schema in composition. They also guide performers in improvisation or performance of a pre-composed piece. Among its counterparts in the maqām realm, the urban art tradition of the Mediterranean Eastern Arab region (mashriq) is the only musical culture in the modern era that gives a crucial role to metric improvisation whether instrumental or vocal. A number of metric cycles in this tradition are widely employed both for improvisation and composition. However, and interestingly, the functions that they fulfil in these two procedures of music making are completely different. While they provide pre-composed pieces with their melodic mapping (the internal division and articulation of melody), the art of the improviser lies in breaking the rhythmic framework given by the metric cycle and returning to it in the final cadence. Adopting an analytical approach informed by ethnographic data gathered during fieldwork in Lebanon in 2016-17, this paper proposes a descriptive theory of how differently metric cycles may be treated in the courses of composition and improvisation in the given tradition. The paper also provides a case study of how the different methodological strands in ethnomusicology—music analysis, participant observation and dialogical interaction with informants—may be productively brought together in our research.

Improvisation Techniques of the Repique Drum in Uruguayan Candombe Drumming

Luis Jure (Universidad de la República, Uruguay)

With its deep African roots, Candombe drumming is one of the most defining features of Uruguayan culture and symbol of the identity of communities of African descent in Montevideo. Its cyclic, clave-based rhythm results from the interplay between the patterns of its three drums. The small, high-pitched chico drum establishes the pulse by repeating a simple one-beat pattern throughout the whole performance, while the bigger, deep-sounding piano drum delineates the timeline with a more varied and ornamented pattern. The repique, the drum with the greatest degree of freedom, introduces an element of syncopation and complexity through a great variety of rhythmic figurations. Although it has a primary pattern or "repique básico", the repique is essentially an improviser and its repertoire of patterns is difficult to classify. This article presents musical transcriptions and analyses of several repique solos from both field and studio recordings of notable players belonging to the two most important traditional styles. The purpose is to assess the importance of the primary repique pattern and its derived forms in the improvisation, as well as identify patterns not directly related to the "repique básico". Differences among players of different generations and neighbourhoods will also be taken into account.

Specifically Generic Accompaniments: Clump Vectors in Guinean Malinke Dance Drumming

Tiffany Nicely (University at Buffalo)

Guinean Malinke dance drumming incorporates three types of musical parts within a polyrhythmic fabric of four to ten simultaneous patterns: a background of multi-use supporting accompaniments, a middleground of melo-rhythmic themes specific to each piece, and a foreground of licks and improvised passages in dialog with the dancers and unique to each performance. All parts are contextualized by multiple isochronous and non-isochronous temporal layers, including a steady tactus embodied in the dancers' feet, at least one layer of tactus subdivisions, and a timeline. This analysis examines the ways in which background stock accompaniments played on bells, kenkenis (small stick drums), and djembes shape the musical landscape by providing a context of specific musical relationships. My analysis is based on two fundamental aspects of this genre: that rhythmic motives have quantifiable shape and direction relative to the multiple temporal layers that contextualize them, and that this momentum often simultaneously inhabits different envelopes relative to different layers, creating musical complexity and depth. I focus on "clumps": pairs of attacks moving at the fastest increments of the texture, analyzing each clump via a three-digit vector reflecting the relative "to-ness," "from-ness" and "neutral-ness" of each clump relative to all context layers.

AAWM Session I1: Workshop: An Introduction to the Metric Adaptability of Southeast European Folk Dances (Friday, 15:00-16:30, Auditorium)

Daniel Goldberg (University of Connecticut)

This workshop introduces participants to several common folk dances from southeastern Europe. Participants will learn the basic steps for four dances belonging to the class of line dances referred to as *horó* in Bulgarian, *óro* in Macedonian, and by similar names in neighboring countries. The workshop will also demonstrate how a single pattern of dance steps can correspond to pieces of music in different meters. For example, the music for *lésnoto* is typically notated with a time signature of 7/8 and three unequal beats that last for three eighth notes, two eighth notes, and two eighth notes. *Právo horó* has essentially the same pattern of dance steps as *lésnoto*, but conventionally its music is written with a time signature of 6/8 (or 2/4 with frequent triplets) and two equal beats. By learning the steps for *lesnoto* and *pravo horo*, as well as one other pair of dances, workshop participants will gain embodied knowledge of this form of metric adaptability. No prior dancing experience is needed to participate in the workshop.

AAWM Session I2: American Folk and Blues (Friday, 15:00-16:30, Hall 1)

Chair: Maisie Sum (University of Waterloo)

“Old, Weird America”: Metric Flexibility in Harry Smith’s Anthology of American Folk Music

Nancy Murphy (University of Houston)

The 1952 release of Harry Smith’s Anthology of American Folk Music is often credited with influencing the 1950s and 60s American folk revival. This general influence on mid-century songwriting has been established, but we can also more specifically position it as a precedent for the kinds of metric irregularities found in folk-influenced 1960s singer-songwriter music, particularly Bob Dylan’s early songs. The 84 tracks on the three-volume Anthology include “old” songs from folk, blues, old-time, country, Cajun, and gospel genres that were originally released between 1927 and 1932. In the 1960s folk scene, versions of songs from the Anthology were performed by artists like Bob Dylan, Joan Baez, and Dave van Ronk, who referred to the collection as a “bible” for songwriters. In this study I investigate how metric irregularities found in the “Ballads” and “Songs” volumes of the Anthology result from preferences for grouping guitar strumming, changes of harmony, and accentual-melodic cues at various levels of metric hierarchy and how these irregularities are employed in text expression. The “weird” meter found in Smith’s Anthology situates these early twentieth-century recordings as precedents for the similar use of flexible meter in folk-influenced songwriting of the latter half of the century.

Dynamic Grouping Complexes in John Lee Hooker’s Blues: A Case Study in Metric Particularity

Grant Sawatzky (University of British Columbia)

Some definitions of musical meter presume the existence of a hierarchic anticipatory scheme, or metric grid, against which the rhythmic events of the musical surface are interpreted. Hasty (1997) critiques the fundamental premise of this view of meter, arguing instead that the rhythms

of a given piece create and express the metric particularity of a given passage. Metric theories of Berry (1976) and Benjamin (1984) anticipate this aspect of Hasty's critique, defining meter as a special condition of certain grouping interactions. I present a case study in metric particularity, or 'meter as grouping complex' using John Lee Hooker's blues recordings from the mid-twentieth-century as primary examples. Hooker's music, like most blues, references widely shared harmonic/phrase-structural schemas (e.g. 12-bar blues), stock motives, and lyric formulas. Stock materials are associated with conventional metric templates, but a blues musician's idiosyncratic combination of stock gestures and schemes often brings about rhythmic irregularity at local and phrase-structural levels. The proposed paper avoids casting these irregularities as obfuscations of an underlying isochronous metric structure, instead describing dynamic grouping complexes defined by the discrete strata in select examples of Hooker's blues as a vital aspect of the music that positively contributes to the creation of the unique time-sense of a given piece.

CONCERTS PROGRAMME

The joint conference hosts a series of stimulating music performances—one-hour length evening concerts—spotlighting the multi-faceted music of the Balkans and the Mediterranean. The events feature traditional idioms (Balkan vocal group, Byzantine chant, mixed choir, instrumental group) as well as experimental ones (woodwinds and beatboxing, fusion ensemble, mixed media performance).

The three concerts of the joint conference will take place at the Auditorium of the Piraeus Bank Conference Center, Katouni 12-14, Ladadika, Thessaloniki.

1st Concert: Tuesday 26 June, 20:00-21:00

Nikos Diminakis: Beatbox & Winds

Modal4: Music from the ensemble's recent CD

2nd Concert: Wednesday 27 June, 20:00-21:00

Choral Workshop of the Aristotle University of Thessaloniki: Y. Constantinidis's "8 Asia Minor songs"

Byzantine Choir of the State Conservatory of Thessaloniki: Selection of Byzantine hymns

STRINGLESS female a capella vocal group: Selection of traditional Balkan songs

3rd Concert: Thursday 28 June, 20:00-21:00

Athena Katsanevaki: Moiroloi Trilogy by Dimitris Bakas

BAHARÍ/Flamenco Arabe: Flamenco music with kanun, flute, guitar and vocals

ABOUT THE PERFORMERS

1st Concert: Tuesday 26 June, 20:00-21:00

Nikos Diminakis: Beatbox & Winds



Beatbox is a vocal technique standing for the *box* that produces the *beat*, meaning briefly the performer's mouth and its sounds. This term (i.e. beatbox) initially defined a historically recorded musical idiom that branched out of the American underground hip-hop movement of the 80s. By now it has grown to be a worldwide associated and dynamically evolving way of musical expression not only in the hip-hop culture but also in other musical genres like drum&bass, dub, dubstep, electro, techno, etc. Beatbox is also transforming rapidly in

an umbrella term since it manages to combine a number of diverse sound production techniques of different ethnic groups in various periods of their cultural identity (i.e. mongolian throat singing, eefing, etc.). It acts as a continually expanding depository of musical sounds (produced solely by the performer's mouth) and thus reflects somehow the ongoing ancestral music process of experimenting with every potential environmental sound in order to incorporate them gradually in an art form.

Furthermore, the wind instruments in use here are the flute, the baritone saxophone, the pvc didjeridou, the melodica and the double recorder. There is also a mouth harp presented, which is originally labeled as a lamellophone (plucked idiophone), but in this case is being played as a rhythmic drone-making wind instrument due to the respiratory techniques applied in it. The program is based on the successive alteration of the above instrumental suggestions along with the beatbox techniques in a number of original compositions/tunes.

<https://www.facebook.com/N.Diminakis>

MODAL4



modal4 lies between yesterday and today, post modernism and tradition, the "old ways" and the "shape of things to come".

modal4 lies between black and white, without being gray but more as messenger through time reflecting the echoes of a forgotten ritual, the never ending agony of expressing the deeper and darker moments of a human soul. Music has always been a way to share and express our feelings and especially love, pain and

grief...and that's exactly what modal4 do...they share. They share through their music and performance adding us to their companion making each one part of their sonic ritual. Forgotten melodies and dusty soundscapes of another era coming forward through a variable prism of influences and references...from the vast musical tradition of the east mediterranean to the lush and reverberant dark wave sounds of the 80's and from the nonconforming free jazz aesthetics to the post rock sonic spaces of the last decades.

modal4 is a band of 4 individuals contributing their own perspective to an ancient and still never ending journey to the deepest human emotions: Evgenios Voulgaris: yayli tanbur, Thanos Gountanos: fretless guitar, Dimitris Tasoudis: drums, Pavlos Spyropoulos: contrabass.

<https://www.facebook.com/Modal4>

2nd Concert: Wednesday 27 June, 20:00-21:00

Choral Workshop of the Aristotle University of Thessaloniki

Conductor: Erifili Damianou



Choral Workshop ("Chorodiako Ergastiri") was founded in October 2016. It is a youth choir affiliated with the School of Music Studies of the Aristotle University of Thessaloniki. Its members are students who have completed the compulsory course in the School's Choir and are particularly interested in the further study and presentation of choral music. The repertoire of the group focuses on a

capella music –Renaissance, classical and contemporary– while special emphasis is given to the works by Greek composers. The group frequently sings in concerts and formal ceremonies of the Aristotle University receiving positive reviews. The "Choral Workshop" is conducted by Erifili Damianou.

In their AAWM/FMA concert they will present Yannis Constantinidis's "Eight Asia Minor songs", a set of 8 Greek folk songs from Asia Minor, idiomatically harmonized and arranged for mixed choir by the Greek composer Yannis Constantinidis (Smyrna 1903 - Athens 1984).

Byzantine Choir of the State Conservatory of Thessaloniki

Conductor: Petros Papaemmanouil



Byzantine Chant is the music of the liturgical rite of the Christian Roman Empire of the East from the time of the establishment of Constantinople (at the site of ancient Byzantium) in the early 4th century and persisting beyond the interruption of the Eastern imperial succession by the Ottoman conquest in 1453. The rite is still practised by tens of millions of Eastern Orthodox Christians whose native language, or liturgical language, is Greek. It has remained the dominant liturgy of

the Christian East during the past 1500 years. The Byzantine chant continued to flourish after the fall of Constantinople, specifically in monasteries throughout the former empire and at the patriarchal see of Constantinople, and is now, besides its ritual function, an active field of artistic expression and musicological research.

The Byzantine Choir of the State Conservatory of Thessaloniki, conducted by Petros Papaemmanouil, professor of Byzantine Chant at the Conservatory and PhD candidate in Byzantine musicology, will present a selection of Byzantine hymns based on liturgical texts.

STRINGLESS



STRINGLESS is a vocal a capella group of six women singers of Bulgarian and Greek origin. The name STRINGLESS is a word pun on the English word meaning "without strings" and the onomatopoeic word meaning "shrews", mythical creatures of the Greek folk tradition. Their first CD recording was recently published by OUTLANDISH Productions (2018). They are: Albena Koutova, Dorothea Michail, Vassiliki Alexiou, Elsa Mouratidou, Katerina Mavrofrydou and Stella Yaltzi.

The program of their AAWM concert is based on Greek folk songs from Epirus, Pontus and Macedonia, as well as on Bulgarian and Turkish folk songs. All arrangements/harmonizations are polyphonic, even when the original song is intrinsically non-polyphonic, and they are devised by the members of the group.

<https://www.facebook.com/thestringless>

3rd Concert: Thursday 28 June, 20:00-21:00

Athena Katsanevaki: *Miroloi* Trilogy by Dimitris Bakas



Miroloi Trilogy (2012-2013)

Composition: Dimitris Bakas

Vocals: Athena Katsanevaki

Released on CD (*FATA*)

by Migro Records, London, 2015.

Miroloi is a trilogy for live traditional voice, electroacoustic sounds and field recordings. This four-dimensional composition functions as:

- an archive of traditional songs and performances (ethnological field research done by Athena Katsanevaki),
- an aesthetic comparison of old and new performances (live voice) of the same traditional songs,
- an attempt to bring closer traditional and contemporary forms of expression by mixing the above recordings with 1) electroacoustic sounds and field recordings that either come from the original ones or from field recordings done by the composer 2) contemporary voice techniques (extended techniques), and 3) classical instruments with contemporary techniques, such as, Prepared Piano (pre-recorded),
- an archive of lost sounds of the pre-industrial life, such as the *Loom* that are long lost from the contemporary consciousness.

BAHARÍ / Flamenco Arabe



Flamenco is a musical genre originating from the southern part of Spain, Andalusia. There, the existing local music Andalus, rich in elements of Baroque, Basque as well as Arabic and Byzantine music, was united with the gypsy culture giving birth to Flamenco.

BAHARÍ travel through the coexistence of the rhythms of Africa, the twelve meter forms, the very rich harmony comping of Flamenco music with the contrasting modal monophonic musical heritage of the maqam tradition of the Arab world. The result of this mixture is the well-known sound of Flamenco emphasizing its Middle Eastern elements. BAHARÍ is a newly formed trio and its members come from very different musical backgrounds. From the scope of European classical, Flamenco, Middle Eastern and Jazz training they find themselves in an endless field of musical experiments/possibilities which have just started. Their first appearance was at the “Petit Paris” 2017 music Festival in Athens and since the beginning of 2018 they are working on their first CD recording.

BAHARÍ will present a number of tunes, original and/or rearranged for flamenco guitar, flute, qanun (kanun), as well as flamenco and arabic vocals. Band members are: Yota Baron (flamenco vocals), Anastassia Zachariadou (qanun, flute, Arabic vocals), Panos Kartimpelis (flamenco guitar).

<https://www.facebook.com/BahariFlamencoArabe>

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