cates some problems to be pursued. What is, for instance, the relationship between interval size and melodic/tonal tension? What is the nature of the symmetry between ascending and descending melodic motions?

*Bengt Edlund*

Anders Meng, *Temporal Feature Integration for Music Organisation*
Kgs. Lyngby, Danmarks Tekniske Universitet, 2006
IMM-PhD-2006-165

Peter Ahrendt, *Music Genre Classification Systems – A Computational Approach*
Kgs. Lyngby, Danmarks Tekniske Universitet, 2006
IMM-PhD-2006-164

This is not a review proper but merely a brief presentation of two closely related Ph.D. theses from the Technical University of Denmark (DTU).

The subjects of these theses lie within the research area *Music Information Retrieval* (MIR) and aim at a computerized genre recognition mechanism working on the acoustical signal as it appears on a CD or other standard music medium.

The mechanisms developed may be compared with fingerprints and DNA-tests in forensic medicine. These methods may certainly be crucial in establishing 'who did it', but they do not in themselves contribute to our understanding of the crime committed, psychologically or sociologically. In the same way the concepts *Short-time Feature Extraction* and *Temporal Feature Integration* which form the central approaches in both theses may well establish that a given sequence of music belongs to a certain musical genre or that it is written by a certain composer – but they do not tell us anything about music – neither the music analysed nor music in general.

*Short-time Feature Extraction* consists in cutting the music into overlapping slices of typically 10–40 ms. The slices are then analysed with regard to frequency and intensity. It should be noted, however, that a Fourier transform performed on such narrow time windows yields a very coarse frequency resolution. Consequently the extracted spectra may not be intuitively connected with any normal musical concept such as harmony or timbre. This, however, does not prevent the analyses from yielding useful information in connection with MIR.

*Temporal Feature Integration* 'is the process of combining (integrating) all the short-time feature vectors in a time frame into a new single feature vector on a larger time scale' (Ahrendt, p. 31). Various, mainly statistical methods are discussed, none of which, however, speak directly to the musician or the musicologist.

The performance accuracy of the systems is tested on two data sets, one of which is made up of 100 songs evenly distributed among the five genres Classical, Jazz, Pop, Rock, and Techno. The other, and much larger set consists of 1,210 songs distributed among 11 genres: Alternative, Country, Easy Listening, Electronica, Jazz, Latin, Pop & Dance, Rap & HipHop, R&B Soul, Reggae, and Rock. The first set is tested on a panel of 22 persons 'without any

specific knowledge of music' between 25 and 35 years of age. With music examples of 10 seconds the accuracy with which the panel could label the examples was 98%. The second data set was tested in a similar fashion. With examples of 30 seconds the accuracy was 57%. When tested by the computerized systems the best hit-rate was 92% for the first data set (as compared with 98% by the human test panel) and 48% for the second (as compared with 57%).

These two theses may well prove to be useful for an uninformed user in search of music in a specific genre – and it must be stressed that this is what the projects aim at. But as contributions to musicology in the traditional meaning of this term they do not contribute at all.

*Finn Egeland Hansen*

Jens Westergaard Madsen, *Kreativt klaverstudium*
København: Museum Tusculanum Forlag/Københavns Universitet, 2006
2 vols.: i: Tekstdel, 110 pp.; ii: Nodedel, 133 pp.
incl. 1 CD: Jens Westergaard Madsen, *En kort introduktion*
ISBN 87-7289-930-1
DKK 198

Jens Westergaard Madsens *Kreativt Klaverstudium* består af to bind – en tekstdel og en nodedel – samt en CD, hvor forfatteren på godt fyrre minutter i en blanding af spillede musikeksempler og talte kommentarer giver et indblik i bogens sigte og de muligheder bogens arbejdsmetoder åbner for. Og de muligheder er langt mere vidtrækkende end bogens titel lader ane. Bogens sigte er at nedbryde nogle af de eksisterende grænser mellem repertoirespil, improvisation og diverse satslæreddiscipliner, og det gør *Kreativt Klaverstudium* i lige så høj grad til et kreativt studium af satslæreprincipper – ja, i sidste instans til en kreativ indføring i selve musikkens substans – som et studium i (brugs)klaverspilsteknik. Musikken, der arbejdes med, er den dur-mol-tonale, klassiske musik repræsenteret gennem et begrænset værkudvalg af Bach, Mozart, Beethoven, Chopin og Brahms.

Metoden til dette er at træne sig i bogstaveligt talt at få musikken op i fingrene. Dette forløb har forfatteren tilrettelagt i fire trin: satsreduktion, transposition, sekvensering og modelkomposition.

Første trin, satsreduktion, består i at reducere en given klaversats til dens rene melodiske og harmoniske skelet i en såkaldt 'ageret analyse'. Det 'agerede' er centralt for bogens ærinde: Analysen af musikken sker gennem lige dele finger- og hjernearbejde således, at hjernearbejdet udmøntes i fingrenes bevægelser snarere end i nedskrevne analysesymboler. I en progressivt tilrettelagt, klar og pædagogisk gennemgang viser forfatteren, hvorledes dette kan gøres og hvilke overvejelser og indsigter det kan give anledning til.

Med den reducerede sats er vejen banet for de to følgende trin, transposition og sekvensering. Særlig sekvenseringen af satsen har forfatterens bevågenhed, da en sekvensering af et givent materiale i højere grad end den blot mekaniske transposition kræver stillingtagen til satsudformningen (fx i forbindelse med eventuelle bidominanter, håndtering af tonekøn m.m.). Og som en ekstra bonus medfører dette et kapitel viet til en grundig gennemgang af samtlige dur-mol-musikkens sekvenser.

Musikeksemplerne fra bogens første del genoptages og perspektiveres i disse følgende øvelser, der igen viser sig at fremstå som forberedende for metodens fjerde og sidste del, modelkomposition. Efter indledningsvist at have dokumenteret, hvorledes denne måde at undervise i satslære på har været praktiseret fra 1700-tallet frem til det 20. århundrede, appliceres den på det materiale, læseren (eller rettere: brugeren) har arbejdet med. Model-