

Contents

1	A ‘Kansei’ Multimedia and Semantic Computing System for Cross-Cultural Communication	1
1.1	Introduction	1
1.2	The Mathematical Model of Meaning (MMM)	2
1.3	Cross-Cultural Computing System for Music	3
1.3.1	System Architecture	4
1.3.2	Impression-Based Metadata Extraction for a Cross-Cultural Music Environment	6
1.4	An Applied Model of MMM to Automatic Media-Decoration	8
1.4.1	Basic Semantic Spaces and a Media-Transmission Space	8
1.4.2	Basic Functions for Media Decoration	9
1.5	Media Design with “Automatic Decorative Multimedia Creation”	9
1.5.1	Music Decoration with Images	10
1.5.2	Color-Based Impression Analysis for Video and Decoration with “Kansei” Information	11
1.6	Cross-Cultural Computing System for Images	14
1.7	Conclusion	18
	References	19
2	Cross-Cultural Aesthetics: Analyses and Experiments in Verbal and Visual Arts	21
2.1	A Theoretical Framework for Computing Aesthetics	21
2.1.1	Birkhoff and Bense	22
2.1.2	IR and EVE’	23
2.1.3	Models of Memory	24
2.2	A Computational Model of Verbal Aesthetics	25
2.2.1	Haiku Humor	25
2.2.2	Serious Semantics	27
2.2.3	Amusing Advertisements	28

2.3	An Experimental Study of Visual Aesthetics	29
2.3.1	Abstract Artworks	30
2.3.2	Personal Preferences	34
2.3.3	Cultural Comparison	35
2.4	The Fundamental Challenge of Computing Semantics	38
	References.	39
3	Information Sensibility as a Cultural Characteristic:	
	Tuning to Sound Details for Aesthetic Experience	43
3.1	Introduction	43
3.1.1	Information Dynamics.	45
3.2	Information Seeking as an Aesthetic Perception	45
3.2.1	Information Dynamics and Music Cognition.	46
3.2.2	Musical Information: Structure Versus Meaning	46
3.2.3	Paradigmatic Analysis Revisited	48
3.3	The Variable Markov Oracle (VMO) Model: Capturing the Past to Predict the Future	49
3.3.1	Motif Discovery	51
3.3.2	The Oracle Structure	52
3.3.3	Model Selection	54
3.4	Neutral, Aesthetic and Poietic: Tuning Acoustic Sensibility in Order to Maximize the Information Rate	54
3.4.1	Choice of Experimental Repertoire	55
3.4.2	Analysis Method.	55
3.5	Results and Discussion	58
3.5.1	Multi-level Listening	60
3.6	Disclaimer	60
3.7	Conclusion	61
	References.	61

Cross-Cultural Multimedia Computing

Semantic and Aesthetic Modeling

Dubnov, S.; Burns, K.; Kiyoki, Y.

2016, XII, 62 p. 31 illus., Softcover

ISBN: 978-3-319-42871-0