Preface

Concepts of virtual worlds are strongly related to the current innovations of the Internet and new media communications. Nowadays, the research areas of virtual worlds include different scientific fields coming from Science, Technology, Arts, Design and Digital Cultures.
This book explores the interdisciplinary development of Virtual world's aesthetics and semantics through many approaches of metaplastic conceptualizations. The term metaplasticity, generally in neuroscience, defines mnemonic and adaptive synaptic properties. Metaplasticity conceptualization, differently in plastic arts, is a process of creation and transformation.

From these definition qualities, the goal of this book becomes finding new definitions of the metaplasticity term for Digital media and Virtual Worlds fields. It would be proposed diverse interdisciplinary meanings of digital media researches for the purposes of this book.

This volume starts with *Virtual Metaplasticity* (*Ars Metaplastica*) chapter where the analyses of Modern Art history and the definition of new Metaplastic discipline are based on the intersection of plastic formalism with digital technology. The Metaplasticity concept defined within an interdisciplinary research field introduces the characteristics of a metaplastic virtual media model and their possible applications to different research fields.

The *Metaplastic Virtual World Theory* chapter describes how the metaphor of artistic machine finds its new realization within the metaplastic virtual world, where the machine metaphor itself becomes aesthetic expression of the virtuality. The methodology explains the becoming of new virtual worlds typologies made through abstract art languages and artificial intelligence.

Joan Truckenbrod and Paul Catanese in *Tangiality of Digital Media* illustrates the immateriality as a conceptual materiality of virtual world. It makes an interdisciplinary analysis of many contemporary experiences that use this concept in their examples of hybrid and multimodal artworks.

Everardo Reyes Garcia continues with *Pervasive Virtual Worlds* experience where virtual media are explained through different social media definitions that virtualize human senses and capabilities.These notions are expressed with three different digital installations.

Vadim Slavin and Diane Love in their chapter *Semantic Entities in Virtual Worlds* describe how semantic knowledge base could define virtual world architecture richness by giving their virtual entities behavior and their relationships with human participants.

Jeffrey Morris in his *Humanness Elevated through its Disappearance* argues on human's different types of presence and the blurring boundaries between real and virtual in art experiences. His artistic approaching to virtual world is seen as a counterpoint with reality.

Diane Gromala, Chris Shaw and Meehae Song describe in their *Meditation Chamber: Towards Self-Modulation* an immersive virtual environment, which analyzes human feelings including stress,

anxiety and pain and their biofeedback technologies. They discuss results and new findings on possible applications in neurosciences.

Daniel Thalmann, Félix Ramos, Héctor Orozco, Victor Fernández and Octavio Gutiérrez in *A Behavioral Model based on Personality and Emotional Intelligence for Virtual Humans* developed a behavioral model for Virtual Humans and implemented it in a system that uses various calculus formalism driven by emotions and try to define virtual human behaviors for each situation they experience in the environment.

Jocelyne Kiss, Sidi Soueina, Martin Laliberté and Adel Elmaghraby in *Virtual World of Cerberus* present an avatar singer application that performs different sounds and express their correspondent facial emotions.This study applies the metaplasticity notion differently, as used in neuroscience, in an avatar model to enhance memory functions and simulated feelings related to a virtual context.

Carola Moujan in *Learning from Barouque*, gives a historical and cultural perspectives through phylosophical studies implications with proposing mixed realities artistic installations. This essay indicates a radical change into artist's view for creating meaningful experience and participation of spectators in artworks. It explains the Baroque architecture as an relevant early example of virtuality in Art.

Elif Ayiter in her chapter *Synthetic Worlds, Synthetic Strategies: Attaining Creativity in the Metaverse* attempts to define theoretical premises and definition of an immersive learning approach pertaining to visual arts to be implemented in an online synthetic worlds. The author proposes recent educational approaches as well as an examination of creative practices into the formulation of an virtual world learning strategy.

Dew Harrison and Denise Doyle in *Kritical Artworks in Second Life*, introduce their SL island where they experiment creative practice and give curatorial view in virtual world. They introduce various case studies of artist's exhibition in Second Life.

Ina Conradi in *Digital Media and the Quest for the Spiritual in Art*, presents her public virtual art exhibition and defines a virtual world's aesthetics based on spectator's oneiric virtual world realization. The virtual media accomplishes its aesthetics within different mental states with a connected user.

Catherine Nieky in her *Plastika Totipotenta* presents her biotope virtual "vivarium", where biological creatures "live" into a simulacrum and the concept of metaplasticity is applied from natural and nanosciences into biotechnological virtual world.

Michael Johansson with his *City of Abadyl* generates an interactive virtual scenario of an open work project of the city of Abadyl. It is a database that contains information which is continuously updated and this interactive updating it is called "fieldasy".

Hidenori Watanave in his *Spatial Design and Physical Interface in Virtual Worlds* proposes a new spatial model, a contents oriented architectural space design methodology to create spatial experience in a 3D virtual world.

Germán Mauricio Mejía, Felipe César Londoño, Paula Andrea Escandón in their *Social and Citinzenship Competencies in a Multiuser Virtual Game* describe educational gaming that shows a metaphor of collective challenge and indicates an overview of everyday life complexity and learning transferability. The authors discuss findings according to proposed theories and models about effects of video games in education and behavior.

The chapters collected an in-depth coverage of the state-of-the-art of virtual worlds experiences. It has traced some of research tendencies and paths, regarding virtual worlds aesthetics and semantics, and grouped them into the following areas:

- knowledge communication in virtual worlds as social media;
- development of methodologies dedicated more precisely to human perceptiveness, with greater involvement of human participants into different and inter-crossed levels of realities;
- intersection of relations and roles between dynamics of virtual world and representation, and virtual participant and co-creator;
- cultural strategies analysis of creative practice, education, exhibition and communication within virtual worlds;
- virtual worlds concepts between architectures, new territories, new biotype creatures into real-virtual societies. In conclusion, the experiences of contemporary virtual worlds indicate a necessity of changing the actual methodologies and practices toward new languages dedicated to humans and solving their cultural and social issues.

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Editor