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The Mapping Between Interactive Art and Classical Rhetoric: An Analogy Approach

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Abstract

Merging modern science and technology, media art has become an increasingly crucial genre of contemporary art. The ways that media art appeals, generates, configures, persuades, stylizes and delivers resemble the general principles of rhetoric. Modern rhetoric, inspired by posthumanism, has expanded into a wide variety of domains, including film, visual art, journalism, advertising, fiction, architecture science and so forth, yet the linkage between media art and rhetoric remains relatively unaddressed. This thesis explores this connection by highlighting the intersections between interactive art, one of the most representative genres of media art, and classical rhetoric, which established the paradigm for general rhetoric. This aim of the thesis is to provide a methodology for analyzing interactive art from the rhetoric viewpoint and to propose a paradigm of *Media Art Rhetoric*. In this research, methods of analogy study, case studies of the author's artistic work and scientific modeling are utilized. The two domains are outlined and bridged according to their characteristics, mapped according to the five canons of rhetoric, the extracted methodology is applied and finally, a visual model is generated as the result. Although this thesis is limited within the domains of interactive art and classical rhetoric, there are still enormous potentials for further research in other realms of rhetoric and media art.

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Chapter 1
Introduction

Along with the sparkling scientific advancement and booming technology in past few years, (new) media art (sometimes also referred to as *digital art*) has been developing dynamically and vividly. Cross-disciplined with broad fields, mediated both conventions and inventions, harnessed with fresh ideas and authentic approaches, media art, as an ongoing-contraversive and becoming-legitimate genre of contemporary art[1], has been drew a lot attentions and expanded at large. The ways that media art appeals, generates, configures, persuades, stylizes, and deliveries resemble the principles of rhetoric significantly.

Roughly ten years ago, Lev Manovich discussed emerging new media in terms of attributes, literacy and possibility in his well-known book *Language of New Media*[2]. Shortly after, some insights about new media poetry[3] from Eduardo Kac came out. Following that, some other researches had dealt with the correlation between literary science and media art from various perspectives. On the other hand, modern rhetoric, inspired by posthumanism, has evolved into a wide variety of domains, including film, visual art, journalism, advertising, architecture, science and so forth.

1 "Medienkunst gibt es nicht | Stefan Heidenreich." 2010. 16 Apr. 2016 <http://www.stefanheidenreich.de/2008/01/medienkunst-gibt-es-nicht/>
2 Manovich, Lev. The language of new media. MIT press, 2001.
3 Kac, Eduardo. "New media poetry: Poetic innovation and new technologies-Introduction." Visible Language 30.2 (1996): 98-101.

However, the linkage between media art and rhetoric keeps unaddressed. In order to establish the linkage pertinently, this thesis highlights a representative genre of media art called interactive art and narrows the general rhetoric down to classical rhetoric that established the main principles. It is organized by outlining the two objects, bridging them according to their characteristics, mapping them according to the five canons of rhetoric, applying the extracted methodology and modeling a picture rhetoric in media art. In the research, the methods of analogy study, case study and scientific modeling are also applied. This thesis aims to provide an authentical methodology for analyzing interactive art from the rhetoric viewpoint and to propose a paradigm of *Media Art Rhetoric.* Although this thesis focuses currently on the domains of interactive art and classical rhetoric, there are enormous potentials for further research in other realms of rhetoric and media art.

1.1 Methodology

This thesis mainly adopts the approach of analogy, which is a cognitive process of transferring information or concept from particular subject to another in order to solve problem, make decision,etc. The analogy research comprises of exemplification, comparison and conclusion. In this thesis, inferences are made by exploration of the similarities between interactive art and classical rhetoric. In the research, case study, diagram, datasheet, and visual modeling are the assistant methods for the better illustration of the analogous relationships.

1.2 Source and Target Domains

In principle of the analogy, the source domain and target domain are supposed to be defined[4]. In this thesis, classical rhetoric is chosen as the source domain, while interactive art as the target domain. As rhetoric is one of the oldest subject of knowledge, it encloses the abundant theories and principles of rhetoric from all its history, from classical rhetoric to the Middle Age rhetoric, from the Renaissance rhetoric to modern rhetoric. In the period of classical rhetoric, great minds like Aristotle, Plato, Cicero, Quintilian and other Sophists, established the paradigm and theories, which lay the foundation of today's rhetoric. Therefore classical rhetoric is defined as the source

4 The tradition in cognitive psychology, in literary theory, and in specializations within philosophy outside of logic, speaks of a mapping from what is typically the more familiar area of experience, the source, to what is typically the more problematic area of experience, the target. "Analogy - Wikipedia." 2011. 2 May. 2016 <https://en.wikipedia.org/wiki/Analogy>

domain of the analogy. On the other hand, interactive art is defined as the target domain for several reasons. Firstly, interactivity acts as the one of the most recognizable and typical essence of media art, and historically interactive art is one of the major and founding genre in realms of media art. Secondly, having been richly developed since 1990s, interactive art has vast amount of accumulated materials, theories and resources which could facilitate this thesis. Thirdly, as the author has been doing interactive art for a couple of years, the accumulated experiences of conceptualization, realization and exhibition could facilitate greatly with the research.

1.3 Structure

This thesis firstly takes an overview of classical rhetoric in Chapter 2, outlining its definition, brief history, and basic principles. Chapter 3 covers an introduction of interactive art, its evolution, some attributes, and aspects that are similar with classical rhetoric in order to bridge them. Following that, Chapter 4 operates a detailed mapping function according to the five canons of rhetoric which play a significant role in general rhetoric analysis. The mapping encompasses major procedures and activities that rhetoric principles may involve in interactive art, from generation to configuration, from stylization to representation, from action to distribution. Next, Chapter 5 demonstrate the author's own interactive artworks as the case study. And then, Chapter 6 quantifies the data and establishes a rhetoric visual model of interactive art. Lastly, Chapter 7 reviews the whole analogy research, concludes the findings and results, and points out the practical values of media art rhetoric and research outlook.

1.4 Examples

In order to illustrate the mapping between classical rhetoric and interactive art, the most representative and illustrative artworks are selected from the interactive art category of Prix Ars Electronica[5]. Born in the year of 1979 and formally known as *Klangwolke Festival*, Ars Electronica is one of the first and most influential media art events throughout the world. In 1990, it launched the prize called Prix Ars, also known as *Award of Cyber Arts*. It contains Golden Nica(GN), Award of Distinction(AD) and Honorary Mention(HM). Since then, Interactive art category exists till

5 "Ars Electronica | Prix Ars Electronica - Ars Electronica Center." 2011. 7 May. 2016 <http://www.aec.at/prix/en/>

now. Every year, various experts related to the field team up a jury group, choosing the outstanding artwork among thousands of entries that year. The accumulated projects represent the historical trend of media art in each year, and systematically render the development timeline of interactive art. Furthermore, the widely accessible and rich online archive of Ars Electronica[6] provides catalogs, pictures, and documentaries of all Prix Ars entries from all its history. Additionally, the first-hand artistic description, key shots, jury statement of the project will be the ideal reference for the following rhetorical analysis.

All these would serve the aim of better understanding and interactive art creation from the rhetoric point of view. This thesis discusses how this particular media art form reflects the theory of classical rhetoric and how it may be generated, configured and stylized according to the canons of rhetoric. As an analogy study, this thesis aims to provide a framework for analyzing interactive art from the rhetoric point of view and to propose a paradigm of rhetoric in media art.

6 "Ars Electronica Archiv." 2012. 7 May. 2016 <http://archive.aec.at/>

Chapter 2
Outlining:
Classical Rhetoric

Rhetoric has been taught and practiced for more than two thousand years. Although it sometimes suffered from the pejorative attitude and severe criticism, it is still valuable and inestimable if people realize its power and pervasiveness. Before linking it with other subject, it is necessary to unfold the some of the basics and principles of rhetoric, especially in the ancient Greek and Roman period.

2.1 Definition

The classical rhetoric refers to the practices and pedagogy of rhetoric in ancient Greece and Rome from roughly fifth century B.C. to the early Middle Ages. It was intended to help citizens succeed in the court. Thus, it is highly associated with persuasion. As one of the oldest academic subjects throughout the history, it is a great challenge to precisely define rhetoric defined, since the scope and debate about it evolved dramatically over times. From the origin, "The word rhetoric can be traced back ultimately to the simple assertion 'I say' (*eiro* in Greek). Almost anything related to the act of saying something to someone in speech or in writing can conceivably fall within the domain

of rhetoric as a field of study."[7] Perhaps the best-known definition of rhetoric comes from the writer of *Rhetorica* Aristotle "Rhetoric is the counterpart of dialectic. It is the faculty of discovering in any particular case all of the available means of persuasion".[8] In Cicero's dialogue *De Oratore*, rhetoric is defined as "Speech designed to persuade".[9] Quintilian mentioned that "Rhetoric is the art of speaking well".[10] George Campbell: "[Rhetoric] is that art or talent by which discourse is adapted to its end. The four ends of discourse are to enlighten the understanding, please the imagination, move the passion, and influence the will."[11] In the modern time, Kenneth Burke: "The most characteristic concern of rhetoric [is] the manipulation of men's beliefs for political ends...The basic function of rhetoric [is] the use of words by human agents to form attitudes or to induce actions in other human agents." [12]

Rhetoric can assist us in becoming more effective writers. Regarded as a system for gathering, selecting, arranging, and expressing our material, rhetoric represents a positive approach to the problems of writing. It is an art and a discipline that facilitates our understanding of the nature and function of symbols in our lives.[13] Rhetoric can also effectuate the speech or composition, and in turn make people influential. It also teaches and trains people to be smart, logic, rational, and to become better citizen.

2.2 Historical Summary

The origin of rhetoric dates back to 5th Century B.C., when Corax and his student Tisias founded it for the purpose of forensic speech in a colony named Syracuse in Sicily of ancient Greece. Around 465 B.C., there was a revolution that terminated the monocrat despot and started the democratic system. Then, an abundance of exiled people came back asking for lawsuit for their lost possession. Since there were barely any contract or evidence, they had to claim their property via forensic speech. Consequently, Corax, on purpose of instruction, wrote a treatise called *Art*

7 Richard E. Young, Alton L. Becker, and Kenneth L. Pike, Rhetoric: Discovery and Change, 1970
8 "Aristotle's Rhetoric (Stanford Encyclopedia of Philosophy)." 27 Apr. 2016 <http://plato.stanford.edu/entries/aristotle-rhetoric/>
9 Cicero, Marcus Tullius., E. W. Sutton, H. Rackham, and Marcus Tullius. Cicero. Cicero. De Oratore .. Cambridge, MA: Harvard UP, 1942. Print.
10 Gunderson, Erik. The Cambridge companion to ancient rhetoric. Erik Gunderson. Cambridge University Press, 2009.
11 Bitzer, Lloyd F, and George Campbell. "The Philosophy of Rhetoric." Philosophy & Rhetoric 1.4 (1968): 255-258.
12 Burke, Kenneth. A rhetoric of motives. Univ of California Press, 1969.
13 Foss, Sonja K, Karen A Foss, and Robert Trapp. Contemporary perspectives on rhetoric. Waveland Press, 2014.

of Rhetoric and helped structure judicial speeches into various parts: poem, narration, statement of arguments, refutation of opposing arguments, and summary,. which lay the foundation of later rhetorical theory. The concept of rhetoric was then introduced by Corax' student Tisias and Gorgias(483-376 B.C.) to ancient Greek. Gorgias wrote *Encomium of Helen*, which set up the well-known speech paradigm. In Athens, democratic political system allows citizens to discuss public affairs and laws to ensure the social order. In this background, speech and argument is prevalent. A new profession, the early teacher of rhetoric, known as *Sophists*, which refers to those who masters the styles and skills of speech, was gradually appeared in Greece.

Protagoras(490?-420?B.C.), the initiator of sophistic movement, was one of the first Greek thinkers to give an account of language and reality that functioned ideologically as a defense of democracy and open debate. He posed his famous statement that "Man is the measure of all things", strengthening that there is no absolute truth, but that which individuals deem to be the truth. Because of the charge of sophists and awayness from the true, people start to doubt about the value of sophist. Isocrates(436–338 BC), a representative of sophists, argued that rhetoric is a creative art that focus on morality and character, which left the strong influence in the history of rhetoric. Rhetoric at that time became the cornerstone of classical education. Among the great minds, Plato hold the negative opinion towards the rhetoric of sophist. In his books *Gorgias* and *Phaedrus*, Plato disagreed with sophist intensively, believing that rhetoric ignores the truth and knowledge and should be regarded as a skill rather than art. In *Phaedrus*, he comprehensively stated the arrangement and style of speech. While on the other hand, Aristotle, the student of Plato and one of the most important figures, wrote a book *Rhetoric*, systemizing the rhetoric and laying the foundation of western rhetoric studies. In *Rhetoric*, combining Plato's and Sophists' traditions, he made a conclusion of previous rhetoric development, gave a relatively well-round definition to rhetoric, categorized the rhetoric according to various elements and styles, and proposed basic principles.

In ancient Rome, the earliest text on rhetoric could be the anonymous *Ad Herennium*, a roman version of Greek rhetoric, classically structuring rhetoric in five skills. Another crucial figure in Rome is a well-known rhetorician and politician named Marcus Tullius Cicero. He wrote *De*

Inventione and *De Oratore*. He tried to recombine philosophy with rhetoric, and found a balance between styles of the plain, the moderate and the grand. Around 1st Century B.C., there is another rhetorician and educator called M.Fabius Quintilian, who wrote *Institutes of Oratory*, a highly systematic encyclopedia of rhetoric. Not only did it absorb widely from previous literates, but it also incorporated with his own teaching experience, shaping a theoretical system. Since then, rhetoric developed through the periods of Medieval, Renaissance, Enlightenment and new rhetoric.

2.3 Principles

Aristotle defines the Art of Rhetoric into the three proofs, which considered three agents involved in speech or composition. The first proof is **ethos**, which emphasizes the credibility of speaker or writer, in other words, how the character and credibility of a speaker can influence the audience. There are three qualities that contribute to a credible ethos: perceived intelligence, virtuous character, and goodwill. The second proof is **logos**, which focuses on the use of reasoning, either inductive or deductive, to construct the arguments. The third one is **pathos**, which concentrates on the affection and emotion alternation of audience through a variety of rhetorical strategies like metaphor, amplification, storytelling, and so forth.

Aristotle also classified the art of rhetoric into three branches determined by the three classes of speech listeners, namely **Deliberative** (legislative; to exhort or dissuade; Latin(L.)*genus dehberativum*; Greek(G) *genos symbouleutikon*), **Forensic** (Judicial; to accuse or defend; L. *genus iudiciale*; G. *genos dikanikon*), and **Epideictic** (Ceremonial; to commemorate or blame; L. *genus demonstrativum*; G. *genos epideiktikon* or *panegyrikon*). Deliberative type deals with political legislatures; forensic type deals with legal affairs and issues; epideictic type refers to display speech, ceremonial speech, and festival speech. It should be noted that Aristotle added the time attribute to the branches. He argued that these three kinds of oratory represent different kinds of time, purpose, and argument:

> These three kinds of rhetoric refer to three different kinds of time. The political orator is concerned with the future. . . . The party in a case at law is concerned with the past. . . . The ceremonial orator is . . . concerned

> with the present, since all men praise or blame in view of the state of things existing at the time.[14]

In *Ars Rhetorica,*[15] Aristotle identified three steps of rhetoric: invention, arrangement , and style. Later Cicero, who was key orator and educator among Roman rhetoricians, expanded the rhetoric and stated that it is one great art comprised of five parts: *inventio*, *dispositio, elocutio, memoria*, and *pronuntiatio*. Afterwards, the five arts became the five canons of rhetoric on purpose of structuring a speech or an essay, which were translated as **Invention** (G. *Heuresis*, L. *inventio*), **Arrangement** (G. *taxis*, L. *dispositio*), **Style** (G. *Lexis*, L. *elocutio*), **Memory** (G.*mneme*, L. *memoria*), and **Delivery** (G.*hypocrisies*, L. *actio*). These five canons will be the clue to make the analogy in this theis.

2.4 Expanding Rhetoric

The scope of rhetoric has been debated since the ancient times. Traditionally rhetoric was constrained in the realm of political, forensic or ceremonial discourse and composition, while in the modern times, scholars liberated and extended it into almost every social aspect, including the natural and social sciences, fine art, religion, journalism, digital media, fiction, history, cartography, and architecture. Some examples are given connecting rhetoric with other domains.

The Belgian semioticians, known under the name *Groupe μ*[16], developed a method of painting research to apply the fundamental rhetorical operations, known as structural semantic rhetoric, for the interpretation of a work of painting. In 1965, Gui Bonsiepe stated in *Visuell-verbale Rhetorik* that "it can be shown that a modern system of rhetoric might be a useful descriptive and analytical instrument for dealing with the phenomena of advertising."[17] In *Design as Rhetoric*, Gesche Joost and Arne Scheuermann demonstrate a panorama of expanding rhetoric:

> Proposals made by Bonsiepe [1965], Eco's < *Untersuchung zur Rhetorik der Werbung* > [1972], Barthes' < *Rhetorik des Bildes* > [1990], as well as analyses by Ehses [1984, 1988, 1989] and Poggenpohl [1998] are

14 Aristotle .Rhetorica. Translated by W. Rhys Roberts. In The Works of Aristotle Translated into English, ed. W. D. Ross, vol. 11. Oxford: Clarendon Press, 1924.
15 Aristotle. Ars rhetorica. Edited by W. D. Ross. Oxford: Oxford University Press, 1959.
16 "Groupe μ - Wikipedia, the free encyclopedia." 2011. 2 May. 2016 <https://en.wikipedia.org/wiki/Groupe_%C2%B5>
17 "Bonsiepe Visual Verbal Rhetoric 2010 - der Zeitschrift der hfg ulm 14/15/16 (1965)

> of special importance. Unger presented a persuasive elucidation for music rhetoric, applying rhetorical forms, as early as in 1941, which can be referred to in connection with design for creative works in the auditory field. In the world of the cinema, authors present themselves in short films. In the area of interface design, pattern and figures have been the subject of discussion for a short time. Works by van Welie 1999, Borchers 2001 and Tidwell 2006, however, do not refer to the study of rhetoric and, therefore, the devices are not arranged into a subordinate communication context, but refer to Christopher Alexander's architectural theory terminology of < *patterns* > as solutions for architectural tasks.

Furthermore, natural science can also be explained from the rhetorical point of view. Scientific methods involve problem-solution *topoi* (the materials of discourse) that demonstrates observational and experimental competence (arrangement or order of discourse or method), and as a means of persuasion, offers explanatory and predictive power.[18]

To sum up, the principles stated above formulate a basic understanding of classical rhetoric. They act as the useful resource or guidance for the later analogy research with interactive art and play a critical role of analyzing, evaluating, and structuring rhetoric in media art. Inspired by those interdisciplinary approach associating rhetoric to other fields, this thesis it is going to be bridged with interactive art.

18 "Rhetoric of science - Wikipedia, the free encyclopedia." 2011. 2 May. 2016 <https://en.wikipedia.org/wiki/Rhetoric_of_sc

Chapter 3
Bridging: Interactive Art with Classical Rhetoric

This chapter begins with introduction about the interactive art, and then compares some of the representative attributes with classical rhetoric. Compared with classical rhetoric, interactive art shares many common traits.

3.1 Introduction

Generally speaking, interactive art is an art genre that calls for active participation of audience and provides various ways of engagement and involvement. The behaviors of audience, finishing a feedback loop in turn, has been a crucial part of the artwork. However, the interaction may occur not only between artwork and audience but also between objects within the artwork, between the artwork and external data or environment, or between different audience. Interactive artists may apply wide range of scientific subjects or digital technology and may deal with a variety of social topics. The interactive art keeps away from traditional static or passive form of art, and therefore renders new sense of space and time. Interactive art is regarded as the subcategory of (new) media

art or digital art, and as a young-developed art form that emerged in 1960s.

It appears in many different forms, ranging from dance, music, drama, performance, kinetic, device, robotic, architecture, animation, etc. Technically speaking, interactive art is often realized by various hardware, software, even wetware[19], for instance, Arduino[20], Max/MSP[21], Processing[22], OpenFrameworks[23], or Pure Data[24].

3.2 The Evolution of Interactive Art

As early as 1920s, some pioneers started to bring some basic forms of interactivity to static visual art. The works from Marcel Duchamp, the *Rotary Glass Plates*(1920), *Anemic Cinema*(1926) and *Rotoreliefs* (1935) remarkably attached the kinetic motion realizing some optical illusion to art. The idea of participative art began to spread in 1960s. Some artists creatively invited the spectators to co-create or co-perform. Roy Ascott was among such kind of artists changing paintings at large. He worked with cybernetics and telematics, on an art which is technoetic, focusing on the impact of digital and telecommunications networks on consciousness. Theoretical works like *The Open Work*(*Opera aperta*) by Umberto Eco proposed the openness to interpretation and spectator of modern works. By the end of the decade, American computer artist Myron Krueger developed early interactive works building virtual reality and augmented reality for audience. Found in 1967, the group called *Experiments in Art and Technology (E.A.T)* established the collaborations between artists and engineers. In 1970s, artist began to use television, early electronic and satellites to explore more possibilities of performance and installation. Nam June Paik, though renowned as the father of video art, is also one of the most active figure in the participative art stage. In 1980s, the pioneer Jeffrey Shaw from Australia developed several milestone projects such as *Inventer la terre* (1986) and *Legible City* (1989). In 1981, *V2_, Institute for the Unstable Media*[25], an interdisciplinary center for art and media technology was founded in Rotterdam. In the year of 1985, MIT Media Lab[26] was founded, which boosted the kin relationship between art, media and technology. With the

19 It can be referred to the description of molecular biology and synthetic biology or brain science.
20 Open-source electronic prototyping platform allowing to create interactive electronic objects.
21 Max connects objects with virtual patch cords to create interactive sounds, graphics, and custom effects"Max| Cycling '74.
22 Processing is a flexible software sketchbook and a language for learning how to code within the context of the visual arts.
23 openFrameworks is an open source C++ toolkit for creative coding.
24 Real-time graphical dataflow programming environment for audio, video, and graphical processing.
25 "About - V2." 2011. 2 May. 2016 <http://v2.nl/organization>
26 "MIT Media Lab." 2 May. 2016 <http://www.media.mit.edu/>

development of computer-based interaction, 1990s was seen as the maturity of interactive art. Prix Ars Electronica set up the *interaktive Kunst* (interactive art) category in 1990. In that decade, artists like Rafael Lozano-Hemmer, Maurice Benayoun, Toshio Iwai, Masaki Fujihata, Christa Sommerer and Laurent Mignonneau are among the active interactive artists. The universities and institutes dedicated into media art started to appear, to name a few: The Academy of Media Arts Cologne (KHM)[27], Center for Art and Media Karlsruhe (ZKM)[28], NTT InterCommunication Center (ICC)[29]. Since 2000s, with more available and accessible software and hardware, interactive art has widely appeared in university system. The open source technology and a great many developer tools speed up the interactive art dramatically. Today's interactive art has been evolved into a blurry hybrid. The hacktivist Paolo Cirio is a good example, in that he operated a social hacking activities targeting copyright, finance, democracy and so forth. In academic field, scholars like Frank Poppe, Christiane Paul, Oliver Grau, Dieter Daniels, Katja Kwastek made significant contribution to interactive art.

3.3 Encounter Rhetoric

Interactive art, from conceptualization to realization, from exhibition to interpretation, from presentation to distribution could be considered as a rhetorical system. Numerous similarities are shared by both rhetoric and interactive art.

Intention Similarity

In general, rhetoric has the primary purpose of persuasion. Similarly, in order to convey the meaning of the work, interactive art encourages or persuades audience to finish a cloze created by the artists. Applying a variety of strategies like rhetoric, it invites the visitors to either perform the scenario, to activate objects, to witness phenomena, to sense the nuance changes, or to experience.

Communication Essence

Rhetoric is both the practice of persuasive communication and a formal subject of studying

27 "Kunsthochschule für Medien Köln: Aktuelles." 2 May. 2016 <http://www.khm.de/>
28 "ZKM | Zentrum für Kunst und Medientechnologie Karlsruhe." 2002. 2 May. 2016 <http://on1.zkm.de/zkm/e/>
29 "ICC ONLINE | ABOUT ICC | INTRODUCTION." 2004. 2 May. 2016 <http://www.ntticc.or.jp/About/introduction.html>

such communication. Similarly, interactive art operates the communication, yet in a reciprocal way. Interactive art is built upon the participation of audience, during which the conversation is formulated. It composes a context for the audience and is dedicated to providing a conversation either within a specific system or with audience. In 1949, Shannon and Weaver constructed the model of communication as Sender, Channel, and Receiver and vice versa. On the other hand, the model of rhetoric, compared with general model of communication, could also be illustrated in Figure below.(Fig 1.).

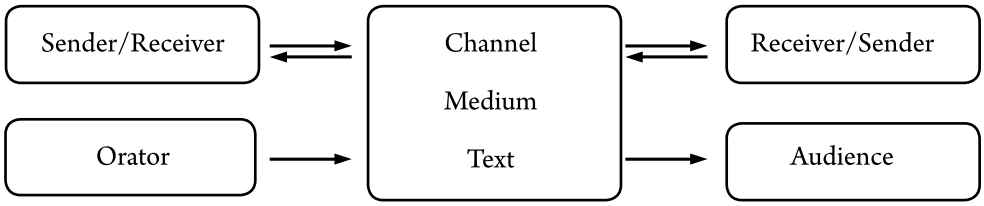


Fig 1. Comparison Between Model of Communication and Rhetoric

Triangular Consideration

Interactive art essentially involves three parts of consideration: the conceptualization from artist side, the design of an interactive system inside the artwork and the participation of audience. These three parts, whose subjectives are the artist, artwork, and audience, correspond to the three Proofs in terms of rhetoric as mentioned earlier: the ethos, logos, and pathos. The ethos of interactive art lies in how original, reliable, and honest the artistic expression is. The logos of interactive art leads the induction and deduction so that the interaction could actually come into effect. The pathos of interactive art defines how the artistic story telling could arouse audience's affection, affinity,interest, and appreciation.

Additionally, interactive art concerns not only about the artist, artwork, and audience, but also about actual relationships in all other occasions and aspects between curator, collaborator, assistant, performer, museum guide, reporter, reader, etc.

Beyond Scope

Like the rhetoric, media art has also been expanding its theme and topic largely to wide fields like politics, economy, laws, and a variety of societal aspects. Instead of persuasion in all these, whenever interactive art deals with economics, politics and law, it may sometimes use ironical tone or transgression approach to convey its wit, wise or poetic artist concept. This will be explained in following chapters. In addition, originated from the explorative nature, artists would always expand their artistic practice into all surrounding fields. Interactive art, or media art in general is not an exception of this. From Stephen Wilson's samples[30], we realize how broad the scope of the media art could be.

- **Biology** (microbiology, genetics, animal and plant behavior, the body, brain & body processes, body imaging, and medicine)
- **Physical Sciences** (particle physics, atomic energy, geology, physics, chemistry, astronomy, space science, and GPS technology)
- **Mathematics and Algorithms** (algorists, fractals, genetic art, artificial life); Kinetics (conceptual electronics, sound installation, and robotics)
- **Telecommunications** (telephone, radio, telepresence, web art)
- **Digital Systems** (interactive media, Virtual Reality, alternative sensors - touch, motion, gaze, personal characteristics, haptics, activated objects, artificial intelligence, 3-D sound, speech, scientific visualization, surveillance, information systems)

In a word, interactive art from its definition and evolution, involves the persuasive invitation, concerns the triangular relationship of the artist, artwork, and audience, possess the essence of communication, and expands to many other fields interdisciplinarily. Next chapter will bring this analogy to a more detailed level.

30 Art and Research - Stephen Wilson." 2012. 3 May. 2016 <http://userwww.sfsu.edu/swilson/papers/wilson.caapaper.htm>

Chapter 4
Mapping: A Function Based on The Five Canons

Given that rhetoric and interactive art share numerous similarities, it could be reasonable and valuable to carry the analogy further to an overall rhetoric framework. An analogy that exerts a mapping function requires a reference or clue in order to transfer information or meanings. Since historically, the five canons of rhetoric serve as a common guide for persuasive messages and arguments, they are selected as the reference of the mapping function. As we described in the Chapter 1, interactive art is designated as the target domain of the analogy. Interactive art in general involves development of an idea, creation of an art piece, setting up for exhibition, presenting or performing to the audience, explaining to the audience and distribution of the artwork, which could fit in the five canons.

4.1 From Invention to Generation

In the realm of rhetoric, invention ("to find" , G. *heuresis*, L. *invenire*) means finding or discovering something to argue. It also sometimes refers to the art of concept developing, process of the idea,

creation and discovery. Not only does it associate to the creation of composition and argument, but also deal with a problem and leads to a judgement or a solution. Invention concerns a systematic approach or method for finding subjects and arguments. The procedure of invention requires several fundamental selections of proper and persuasive arguments, proofs, and topics.

By analogy, in the "invention" phase of interactive art, the artists not only start to develop idea or concept with accumulated knowledge, information, and resources, but also have imagine the possible exhibiting scenario, to plot the narrative of the interaction, to speculate the response of the audience as well as to consider the persuasive point of view: how to engage audience, how to utilize and apply the artistic theory and technology properly, how to provide an innovative perception and experience, etc. In order to organize all of these considerations, we are going to refer to the principles of invention in terms of rhetoric, which may in turn benefit the conceptualization and realization of interactive art. Therefore, the canon of invention is mapped with the generation in terms of interactive art.

4.1.1 Proofs

Aristotle pointed out two kinds of proofs for persuasion, namely non-artistic one and artistic one. Non-artistic proofs are: laws, witnesses, contracts, tortures, and oaths, which are unrelated to the interactive art. More relevant proofs are the artistic ones via the appeals of the speaker, content and audience.

Artist's Ethos

As we investigated in the previous chapter, ethos emphasizes on the establishment of rhetor's credibility with the audience. In interactive art, the credibility of artist is established by several approaches.

First and foremost, the quality of the interaction sets up the most of the credibility of the artist. The quality consists of mainly originality, preciseness, and intuitivity. Original interaction catches the attention of the audience dramatically. Intuitivity ensures the interaction being smooth and natural; preciseness will let the audience trust the artist and admire the creation. In one of the

most influenced interactive artworks, *The Legible City* (1990, AD[31], Fig 2.) by Jeffrey Shaw, which invites audience to ride on the bike in front of a city constructed of English characters. In this piece, Shaw innovatively and intuitively transformed the bike gestures into the virtual digital world. The movement, the responsive images and the digital content are matched precisely.

Fig 2. Quality of the interaction.
Jeffery Shaw, *The Legible City.*

In interdisciplinary and collaborative artworks, the people, group, or institute from other fields, add the professional layer of the piece, which would increase the credibility of artist. Agnes Meyer-Brandis, has collaborated with numerous scientific institutes and laboratories. In her work *SGM – Iceberg Probe*(2007, HM[32]) and Earth Core Laboratory and *Elf-Scan*(2003, HM) she explored the possibilities of taking geology as an interface by utilizing scientific instrument and collaborating with engineers, programmers and laboratories.

(a) (b)

Fig 3. Interdisciplinary and collaborative. Agnes Meyer-Brandis, (a)*SGM – Iceberg Probe; (b) SGM – Iceberg Probe.*

Some interactive artworks, for different purpose, deliberately show the **inner component** or partial functionality in order to give some hint of how the artwork is fabricated. In some cases, it could raise their credibility. Matt Richardson's *Descriptive Camera*(2013,HM)outputs a text description of the scene instead of an image. In the package of the work, the artist exposes what's inside the "camera" to confirm his artistic intention. Ken Rinaldo also uncovered the electronic component in the work *Augmented Fish Reality* (2004, AD). So did Norman T. White in his *Helpless Robot* (1990, AD).

31 AD is short for Award of Distinction of Prix Ars Electronica.
32 HM is short for Honorary Mention of Prix Ars Electronica.

(a) (b) (c)

Fig 4. Inner Component. (a) Matt Richardson,*Descriptive Camera; (b)* Ken Rinaldo, *Augmented Fish Reality; (c)* Norman T. White, *The Helpless Robot.*

Artists can also increase the ethos by creating series of correlated projects based on a certain theme or by applying certain type of medium or material. In this way, they set up a strong image and identity, increasing the credibility accordingly. To illustrate this point, Daniel Rozin could be a perfect example. Daniel Rozin is an artist who transformed wide ranges of daily objects into various reflective mirrors. The idea of physical mirror serves as his name card even without his introduction.

(a) (b) (c)

Fig 5. Series of projects. Daniel Rozin, (a)*Angles Mirror, (b) Wooden Mirror, (c)Peg Mirror.*

Some artworks involves some assistant materials like performance footage, lab-based experiment, the making-of video, the function explanation, texts, graphics, or other supporting materials etc. They are accompanied by detailed documentary along with core parts of the work. Typical examples are *Loophole for All* (2014, GN[33]) and *Face to Facebook* (2011, AD) by Paolo Cirio. As he did interactive art in the broader society scale, the artwork is not available for interaction on site. Thus, the documentary and documents are presented in the exhibit.

33 GN is short for the Golden Nica of Prix Ars Electronica.

(a) (b)

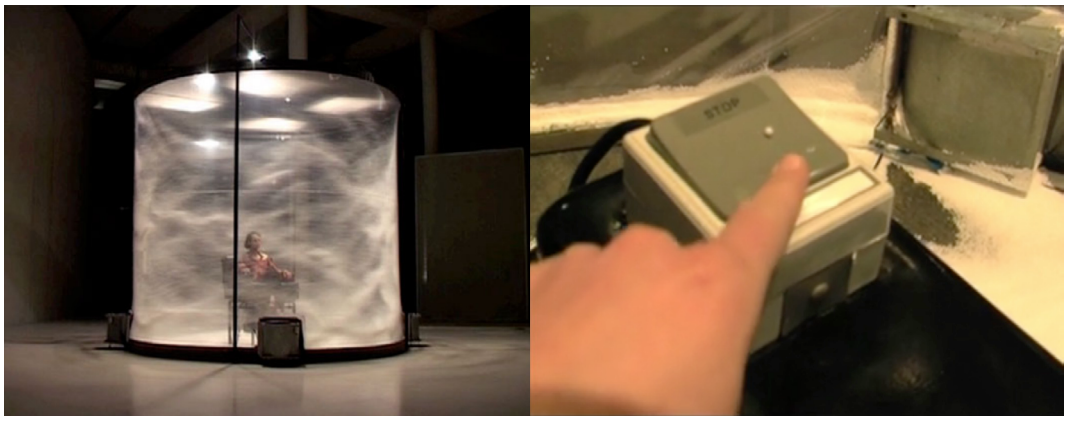
Fig 6. Assistant Materials. Paolo Cirio, (a)*Loophole for All, (b) Face to Facebook*.

Artwork's Logos

Logos is the appeal for reasons that reflect the intellectual power of one's speech or writing. The logos of interactive art point to its soul: the interactivity. It is the significant essence and unique expression which sets itself apart from other kinds of contemporary art. Interaction means the certain action that occurs when two or more objects have an effect upon each other. Interactive art requires the detialed design of it, though it does not necessarily go for the purpose of efficiency and accessibility like interaction design. It deals with the practice of designing interactive digital products, environments, and systems. Moreover it also asks for logical reasoning of overall aspects and details of interaction: deduction and induction which involve the analysis of the psychology and behavior, consideration of cognition, imagination, narrative plotting, etc. Since these issues are partially overlapped with the next chapter, only dominant parts are discussed in this section.

The logical reasoning of interactivity lies mainly in the deduction and induction. Deduction is a form of reasoning in which a conclusion follows necessarily from the stated premises. In interactive art, artists use premises of audience to modify them, and plot the narrative and construct a certain scenario. On the other hand, induction is a form of inference producing propositions about unobserved objects or types, either specifically or generally, based on previous observation. When projected into interactive art, it means after perceiving and experiencing the artwork, audience will address the comments from aesthetic or the applicable point of view. In the end, artists invite the audience to get close to the work, participate in the work and inspired or influenced by the work. The piece *Nemo Observatorium*(2009, GN) by Lawrence Malstaf induces the audience by giving them premises of playground to experience the eye of storm and allowing them to observe from

outside the experience of others. The button inside gives the installation clear and straightforward affordance. After having a fresh experience, audience may deduce some feedback and comments.



(a) (b)

Fig 7. Logos in interactive art. Lawrence Malstaf, *Nemo Oberservatorium,* (a)*site view, (b) button inside.*

Audience's Pathos

The third proof is Pathos, or emotional appeal, according to Aristotle in the *Rhetoric*, "when the audience are brought by the speech into a state of emotion... They give different decisions under the sway of pain or joy, and liking or hatred".[34] Aristotle also defined the emotions as "those states which are attended by pain and pleasure, and which, as they change, make a difference in our judgments". Interactive artists use several methods to largely arouse audience' interest, curiosity, motivation, and affection. Consequently, they consciously or unconsciously appeal the audience's emotions. Roy Ascott once claimed that "Once positioned in relation to an artwork, he can become totally involved in it physically, intellectually, and emotionally."[35] Emotional and pleasure theories exist to explain people's responses to the use of interactive products. These include Don Norman's emotional design model[36], Patrick Jordan's pleasure model[37], and McCarthy and Wright's Technology as Experience framework[38].

34 Aristotle. *The Rhetoric of Aristotle*. Ed. and trans. Lane Cooper. Englewood Cliffs, NJ: Prentice, 1960.
35 Ascott, Roy. "Is there love in the telematic embrace?." *Art Journal 49.3* (1990): 241-247.
36 Norman, Don. "Emotion & design: attractive things work better." *interactions 9.4* (2002): 36-42.
37 Jordan, Patrick W. "Pleasure with products: Human factors for body, mind and soul." *Human factors in product design: Current practice and future trends* (1999): 206-217.
38 McCarthy, John, and Peter Wright. "Technology as experience." *interactions 11.5* (2004): 42-43.

Sensorium modification or the manipulation of senses, is the core part for almost all genres of interactive art. Sensorium refers to the sum of an organism's perception. Media theorist Marshall McLuhan claimed that media has the effect of manipulating the ratio of our senses. Artist, using different media, also aims to remix the sense of audience and give them a specific sensory experience. Plenty of interactive artworks arouse audience's relational memory via providing the daily scenario and objects, which can also be seen from contemporary art in general. Ever since Marcel Duchamp, artists intend to provocatively challenge the boundaries between art and everyday life. It would give them more intimacy and curiosity to discover. More often, they would be utilized as a new interface for artistic purposes. As Katja Kwastek stated, "In fact, everyday objects are often used as an interface for the very reason that their function, symbolism, or operation is familiar to the recipient".[39] However, another aspect of the intersection between art and daily life is even more significant for the aesthetic experience of media art: Because the technical devices with which media art operates are increasingly becoming everyday objects themselves. New questions are now arising about boundary between the artistically configured work and the everyday environment. For example, the umbrella interface in the piece from Paul DeMarinis is called *RainDance*(2001,HM) which converted the umbrella into a sound generator. It gave the audience a fresh sensary experience.

Fig 8. Sensorium Modification
Paul DeMarinis, *RainDance*

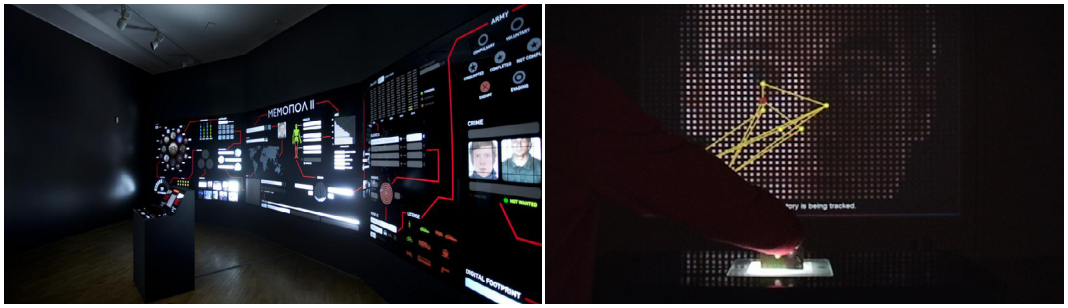
Providing souvenir or some outputs for the audience to take is also an attractive pathos. For instance, Wim Delvoye created *Cloaca(*2007, AD*)*, a huge assembly machine that produces excrements. He provided the final products called Cloaca and sold them online.

(a) (b) (c)

Fig 9. Souvenir or output. Wim Delvoye, *Cloaca* (a)*installation, (b) Ad, (c)package.*

39 Kwastek, Katja. *Aesthetics of interaction in digital art.* Mit Press, (2013):18-19.

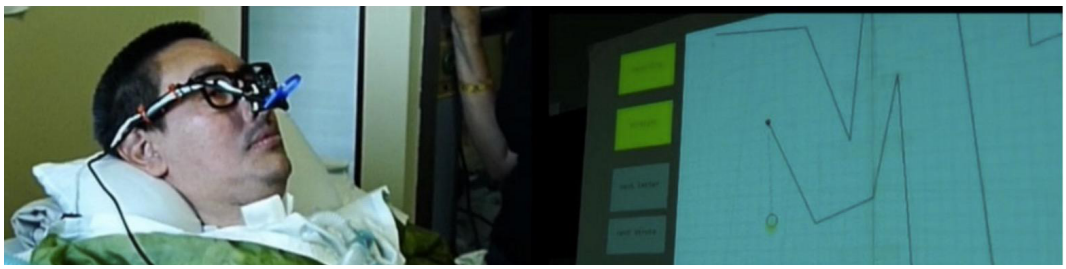
Some pieces reflect the identity or property of the audience and it could be also another strategy of pathos. Interactive art takes considerable number of attributes from audience as the source of parameters, ranging from body characteristics to personal belongings. People would naturally be more aware of something that are related to themselves; therefore those emotions of them would be significantly enhanced. Take Timo Toots' *Memopol-2* (2012, GN) as an example, it is a social machine that maps and visualizes the visitor's information field through requiring from them the official personal documents. Same with Ryota Kimura's *S.U.I*(2006,HM) which extracts geo-location from people's metro cards. Other projects may take people's body identity like Daniel Rozin's mirrors which reflect the body shape of the audience.



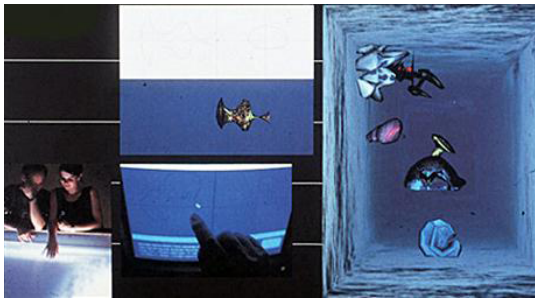
(a) (b)

Fig 10. Identity reflection. (a) Timo Toots, *Memopol-2; (b)* Ryota Kimura, *S.U.I.*

Some artists follow the path of enabling people to tackle or create something. In this way, they provide the audience a way to interact with the artwork, and meanwhile they give them the feeling that they are taking significant part in the artwork via becoming artists themselves. The strengthened subjectivity makes emotional fondness. The *EyeWriter*(2010, GN) is the epitome of this kind. It is a pair of a low-cost eye-tracking glasses paired with custom software, which allows paralyzed artists and graffiti writers to draw using only their eyes. Not only does it give the user an ability, but also enable a new sensorium and power of creation. Another example, Laurent Mignonneau and Christa Sommerer created a piece called *A-Volve* (1994, GN), an interactive environment where visitors can draw two dimensional shapes, see vivid three dimensional(3D) creatures, and further interact with them. Except for creating by drawing, *Topobo* (Amanda Parkes, Hayes Raffles, 2004, HM) is a constructive 3D assembly system with embedded kinetic memory and the ability to record and play-back physical motion. It extends possibility of creation, and more importantly, it interests children.



(a)



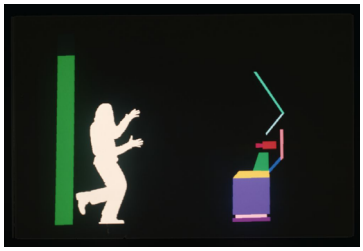
(b)

(c)

Fig 11. Enable creativities. (a) Zach L., James P., Tony Q., Evan R., Chris S., Theo W., *EyeWriter;* *(b)* Christa S & Laurent M., *A-Volve* (c)Amanda P., Hayes R.,*Topobo.*

Last but not the least, the gamification would also gain pathos, which could be defined as an application that applies the gaming structures, elements, or principles in non-game contexts. The flood of Fluxus and happening movement made game narrative a fundamental strategy for art. Game is naturally attractive for lots of people. While on one hand, interactive art is sometimes criticized for blurring the border with art and game; yet on the other hand, the playfulness that originated from game elements are emotional attraction for the audience. To name a few, Chris O'shea's *Hand from Above*(2010, HM) enables passengers to be playfully transformed on big monitor; Myron Krueger's *Videoplace*(1990, GN) allows participants to interact with objects provided by the computer system and the silhouette of people. *Messa di Voce* (2004, HM) is a concert in which the performers' speech, shouts, and songs are radically augmented by custom interactive visualization software.

(a)



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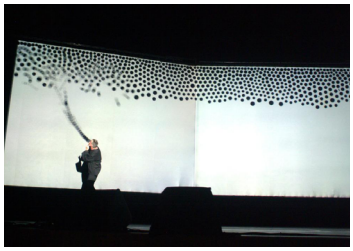


(c)

Fig 12. Gamification. (a)Chris O'shea*, Hand from Above,* (b) Myron Krueger, *Videoplace,* (c) Jaap B, Joan L.B, Golan L., Zachary L.,*Messa di Voce.*

4.1.2 Topics

Topics (G. *topoi*, L. *loci*) are the concept introduced by Aristotle to define how to locate certain arguments that are appropriate to a given subject. Aristotle identified two main categories of topics: (i) the special topics (*idioi topoi*); (2) the common topics (*koinoi topoi*). The special topics were limited to classes of arguments, which fit to particular kinds of discourse, as the three branches of classical rhetoric described in previous chapter. By contrast, the common topics refer to a series of arguments that could be used for any occasion or type of speech.

In interactive artworks, it is probable to find out that certain objects are digitized and the extracted parameters are associated with some other objects, which resembles the four categories of common topics. Edward Corbett[40] gave us an optimized outline and we could map it with the attributes of interaction:

Definition (Genus/Division) resembles the type of the parameter that are chosen for interaction. In *Khronos Projector*(2006, HM), Alvaro Cassinelli chose the push gesture(forward and backward) to intuitively map with time parameter of the image.

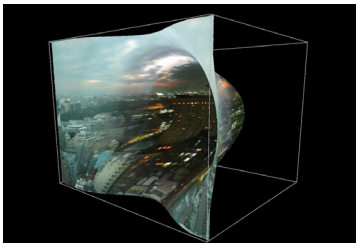


Fig 13. *Khronos Projector*

Comparison (Similarity/Difference/Degree) resembles the algorithm of how the parameters are compared. *Sports Time Machine*(2014,HM) from Ryoko A. and Hiroshi I. simply compares the previous running records projected on wall.

Fig 14. *Sports Time Machine*

Relationship(Cause and Effect/Antecedent/Consequence/ Contraries/Contradictions)resembles the reaction which interaction brings. *Fly tweet*(2012, HM) by David Bowen is a device sends Twitter[41] upateds based on the activities of a

Fig 15. *Fly Tweet*

40 Corbett, Edward PJ. "Classical rhetoric for the modern student." (1973):97-98.

41 Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets".

collection of houseflies. It discusses the contradiction of the activities between animal and human reflecting the principle of cause and effect relationship.

Fig 16. *Avena Test Bed*

Circumstance (possible/impossible/past/future) resembles the status of the interaction. Benedikt Groß challenged the possibility of print the agricultural and digitally alter the landscape in his project *Avena Test Bed*(2014, HM). Markus Kayser's *Solar Sinter Project*(2012, AD) explores the potential and possibility of desert manufacturing. They both creatively develop circumstance topic with futuristic vision.

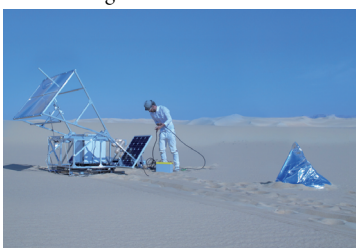


Fig 17. *Solar Sinter Project*

Furthermore, interactive artworks nowadays do not merely demonstrate the potentiality of the technology, but also associate themselves with certain topics or themes, adding a meaningful layer and impact for the audience in multiple perspectives. The pervasive ability of interactive media art has been expanding and permeating into such a diverse range of fields that Prix Ars has to create another category called *Hybrid Art*. Coincidently, this could roughly fits the special topics of rhetoric. If we include projects which belongs to Hybrid Art, the realm of interactive art could reach itself to natural sciences, social sciences as well as humanities, which is far beyond the magnitude of political, ceremonial, and judicial branches. Some provoking projects like Julian Oliver's *Newstweek* (2011, GN), Julius von Bismarck's Image *Fulgurator*(2008, GN) and Paul DeMarinis' *The Messenger*(2006,GN), all deal with more broader societal issues and bravely touch some sensitive points of the society.

(a) (b) (c)

Fig 18. Special topics of interactive art. (a)Julian Oliver, *Newstweek,*
(b) Julius von Bismarck,*Image Fulgurator;* (c)Paul DeMarinis, *The Messenger.*

4.2 From Arrangement to Configuration

Arrangement(L. *dispositio*; G. *taxis*)concerns how one orders his/her speech or writing. In his early treatise *De Inventione,* Cicero defined invention as the "discovery of valid or seemingly valid arguments to render one's cause probable." In ancient rhetorics, arrangement referred solely to the order to be observed in an oration, but the term was broadened to include all considerations of the ordering of discourse, especially on a large scale. Cicero and Quintilian identified these six:

- **Exordium**(G. *prooimion*; L. *exordium*): introduction and statement of goal;
- **Narrative** (G. *prothesis*; L. *narrâtio*): background facts and context;
- **Partition** (L. *divisio* or *propositio* or *partitio*): divided points;
- **Confirmation**(G. *pistis*; L. *confirmatio* or *probatio*): argument support the case;
- **Refutation** (L. *confutatio* or *reprehensio*): weakness of opponent's arguments;
- **Peroration** (G. *epilogus*; L. *conclusio* or *peroratio*): conclusion.

In *A Rhetoric of Motives,* Kenneth Burke defined the arrangement as "rhetorical form in the large" involving the following: "a progression of steps that begins with an exordium designed to secure the goodwill of one's audience, next states one's position, then, points up the nature of the dispute, then builds up one's own case at length, then refutes the claims of the adversary, and in a final peroration expands and reinforces all points in one's favor while seeking to discredit whatever had favored the adversary."[42]

By analogy, the arrangement could be translated as the configuration of interactive art which contains spatial configuration and the temporal configuration. Oskar Bätschmann referred the artworks as "configurations of experience"[43] , which suits the interactive art perfectly. These configurations are of great importance for interaction with several reasons. First, the majority of interactive artworks are mixing different hardware, software or even wetware in non-standard way, which calls for a great effort to configure each presentation. Second, most artists do not have the fabrication ability or strict and reliable test like those for commercial products. In the exhibit scenario, a lot of works have to thoughtfully consider the over or misuse by audience

42 Burke, Kenneth. A rhetoric of motives. Univ of California Press, 1969. 69-70. Print.
43 Kwastek, Katja. Aesthetics of interaction in digital art. Mit Press, 2013. 59-60.Print.

and maintenance of the project. Third, the location of the exhibit could sometimes affect the artwork dramatically. In order to show roughly how each step of arrangement is mapped with each procedure of configuration in interactive art, a table has been shown below(Table 1.). From it, we could grasp the overall process of arrangement in rhetoric and space or time configuration.

CANON II. ARRANGEMENT		**CONFIGURATION**	
Steps	**Explanation**	**Spatiality**	**Temporality**
Exordium	Introduction, Statement of goal	Site specificity, exhibit theme	Entrance attraction
Narration	Background facts, context	Traffic flow, how audience approach	Observation and expectation
Division	Divided points	Allocation based on the floor plan	Understanding of procedure
Proof	Arguments support the case	Test run and evaluation	Attemptation and exploration
Refutation	Weakness of opponent's arguments	Counter fraud, maintenance, debugging	Guessing and criticize
Peroration	Conclusion	Installation	Exit and conclude

Table 1.

Spatiality

To begin with, the exordium of spatiality requires the concern about the theme of the exhibit which results in having certain people with certain expectation for it. Besides, the basic attributes of location like lighting, networks, electricity etc. The narration also requires knowing the exhibit traffic flow and how audience approach the artwork. Next, the division means allocating components of artwork according to the specific floor plan. Later, the proof confirms the functionality of the work by testing and evaluating. And then the refutation avoids the fraud or misuse and further care about maintenance and emergency solution. Eventually, the peroration is the final installation.

To depict this exactly, Ken Rinaldo's *Augmented Fish Reality* (2004,AD) would be a good example. It is an interactive installation of five rolling robotic fish-bowl sculptures designed to explore inter-species and trans-species communication. It was exhibited in CyberArts 2004 in OK Center for

contemporary art. A collection of winning projects of Prix Ars were shown there. The work required a narrow long square space with projection on the side wall. In such way, when exhibit traffic passed through the work, they would have enough time to see the fish and robotic interaction along with the surveillance camera. Considering of the visibility of projection, there were only some spotlights on robots. In this piece, Ken Rinaldo spreaded out a circle of rocks with equal distance around the moving robots, which made the piece more natural and poetic. Along with the blanket covered on, a playground was well-defined. Furthermore, the rocks would friendly keep the audience outside of robots' playground.

Fig 19. Ken Rinaldo, *Augmented Fish Reality*

Temporality

Firstly the exordium of temporality could be some intriguing sound, some indication light or other small excitement. Shortly after, the narrative starts when the audience observe, assume, and expect. Then, the proof unfolds if the audience attempt to try out and further explore the piece. Later on, the refutation is generated with form of guess and criticism. Finally, peroration acts as the conclusion in the opinion of the audience.

Take the piece by Norimichi Hirakawa as an example, *a plaything for the great observers at rest* (2008, AD). It is an installation which enabled the audience to control the viewpoint and switch between geocentric model and a heliocentric model by operating device. From my own experience, before entering the black box, the audience could hear the spacious rustle, which arouses the curiosity. Stepping into the dark room, a metal device stood in the center of a circular moving images with geometrical lines. Right at this moment, the interactive narrative was expected as the device triggered the moving

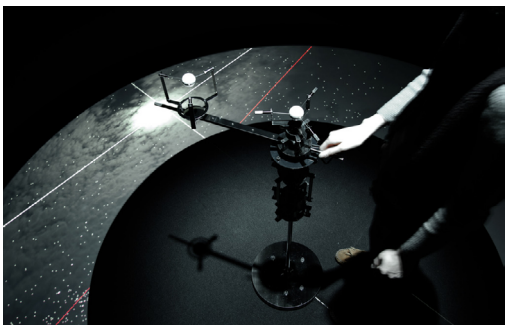


Fig 20. *A plaything for the great observers at rest*

images. Reading the description of the work which listed the functionality of each components, the procedure could be defined as: turning the metal bar and moving spheres would simulate the celestial view and switch the models as previously described. After immersive explorations, a guess of how to realized the interaction was generated and some comments were made. Eventually, when the audience exited the room, they would have the affective celestial aesthetic audio visual experience.

4.3 From Style to Stylization

Style is the third canon of classical rhetoric, which is interpreted as the devices or figures that ornament discourse or composition. If invention and arrangement focus on what to say, then, the style would emphasize on how to say or present. The style of rhetoric, especially rhetoric figures could be found in large amount of interactive artworks, which is the original intention of the thesis. From the rhetoric perspective, the strategies harnessed in media art could be considered as styles and figures. Furthermore, the principle of style also affects and permeates into all the other canons, no matter behavioral or conceptual, composition or speech. Through the "stylish creation and modification" which is a process of stylization, interactive art affords more tension and expressiveness, thus, unexpectedness and poetic.

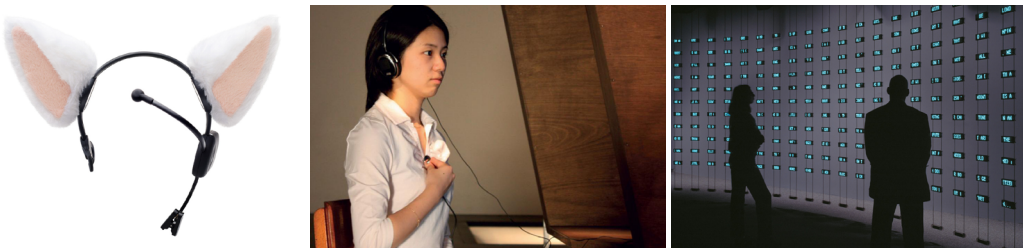
4.3.1 The Three Levels

The canon of style starts with the description of the grade. There are fundamentally three levels of style: the low or plain style (*attenuata, subtile*); the middle or forcible style (*mediocris, robusta*); and the high or florid style (*gravis, florida*). Additionally, Quintilian associated each of those style with various function of rhetoric. The plain style fit in instructing (*docendi*); the middle in moving (*movendi*); and the high in charming (*delectandi*). Accordingly, interactive art could also be measured with rhetorical levels depending on the parameters of scale or size of the work, complexity of the components or procedures, intensity of the interaction, pace of the reaction, and feedback, advancement in terms of technology. A table here(Table 2.) by will illuminate the three equivalent levels in measurement of interactive art.

3 LEVELS	INTERACTIVE ART MEASURE				
	Scale	**Complexity**	**Intensity**	**Pace**	**Advance**
Plain	Micro	Minimal	Light	Piano	Low tech
Middle	Neutral	Medium	Mild	Mezzo	Intermediate
Florid	Macro	Complex	Strong	Forte	High tech

Table 2.

Standard for the measurement of interactive art is not defined. Yet for the purpose of research and classification, we roughly define three levels in terms of scale, complexity, intensity, pace, and advance. Scale literally refers the size of the artwork, ranging from handheld/wearable scale like *Necomimi*(2013,HM), through table-top scale like *Empathetic heartbeat*(2011, HM), to wall scale like the installation Mark Hensen and Ben Rubin's *Listening Post*(2004, GN).



(a) (b) (c)

Fig 21.Scale of artworks. (a)Neurowear, *Necomimi,*
(b)Hideyuki A, Masahiko S and Junji W, *Empathetic heartbeat;* (c)Mark H., Ben R., *Listening Post.*

Complexity evaluates how sophisticated and complicated the components of the interactive artworks are: from minimal *LED Eyelash* by Soomi Park (2008,HM), through the medium level *Tischgeflüster*(2010,HM), to complex Rhizomatiks' *Particles*(2011, AD).

(a) (b) (c)

Fig 22.Level of coplexity. (a) Soomi Park, *LED Eyelash,*
(b) TheGreenEyl, *Tischgeflüster;* (c)Rhizomatiks, *Particles.*

Intensity elucidates the immersive level of interaction, ranging from DIY style *i3DG*(2010, HM) through medium like Keith Lam's *Moving Mario*(2008, HM), to the head-mount or full body immersion like *Clouds*(2014,HM).

(a) (b) (c)

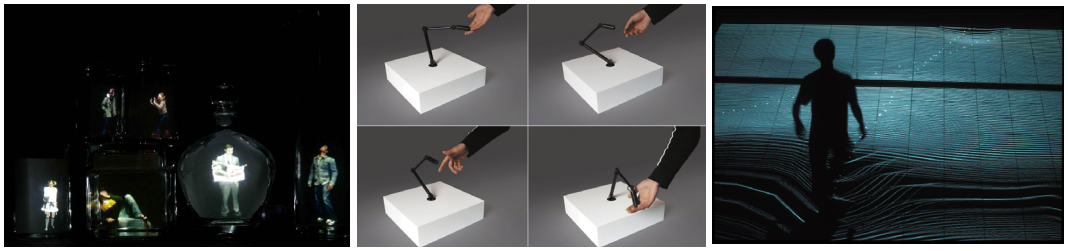
Fig 23. Level of Intensity. (a)Direction Inc., *i3DG,*
(b)Keith Lam, *Moving Mario;* (c)James G., Jonathan M., *Clouds.*

Pace represents how fast and rich the interaction is processed. Ranging from the piano level like *Perpetual Storytelling Apparatus*(2009, HM) through the mezzo as *Double-Taker*(2009,HM, Stephen B, Lawrence H) to the forte level like Tetsuaki Baba*'s Freqtric Project*(2007, HM).

(a) (b) (c)

Fig 24.Scale of artworks. (a)Bejamin M, Julius v B., *Perpetual Storytelling Apparatus,*
(b)Golan L, Fannie W., *Double-Taker ;* (c)Tetsuaki Baba, *Freqtric Project.*

Advancement identifies how advanced the technology is applied in the projects, ranging from low tech projects like Gabriel Barcia-Colombo's Animalia Chordata(2007, HM), through typical accessible technology used in project like *Outerspace* (2006, HM, Markus Lerner, Andre Stubbe), to massive technologically devoted projects like *gravicell*(2005, HM) by Sota Ichikawa and Seiko Mikami.



(a) (b) (c)

Fig 25.Level of Adcvancement. (a)Gabriel Barcia-Colombo, *Animalia Chordata,* (b)Markus L. Andre S., *Outerspace;* (c)Sota Ichikawa, Seiko Mikami, *gravicell.*

4.3.2 The Four Virtues

Two pupils of Aristotle, Theophrastus and Demetrius, developed the virtues of styles. Then ancient Roman rhetoricians Cicero and Quintilian modified them slightly and taught the virtues to their students. The four virtues had been discussed and regarded as the basis of style in *De oratore*. The four virtues correspond with the qualities of the interactive art in many ways.

Purity (*purus et Latinus*), refers to the correctness of the speaking or writing in accordance with the grammar rules and norms. Cicero says "we shall preserve case and tense and gender and number…" [44]Correct usage of language ensures clear and precise communication and increase the credibility of the speaker. This virtue could be mapped with the preciseness of the interaction. This contains the accuracy of the data, the feedback as expected, the crafts inside artwork and so forth. This virtue could improve the credibility or ethos of the artwork dramatically. An example for purity can be found in the piece named *Captives*(2014, HM) by Quayola, the sculptures made digitally by robotics, which he defined as a contemporary interpretation of Michelangelo's unfinished series Prigioni (1513-1534) and his non-finito technique. The accuracy is provided by the precise movement of the robotic arm as well as the original digital modeling. Conceptually the accuracy is crucial for its exploration of man-machine dialectics.

Fig 26. Purity. Quayola, *Captives*

44 Cicero, Marcus Tullius., E. W. Sutton, and H. Rackham. Cicero: De Oratore. Cambridge, MA: Harvard UP, 1959. Print.

Clarity (*dilucide palenque*) means to keep away from ambiguous expression, excessive number of words, too elaborated metaphors, broken sentence structure and any confused and disturbed elements. This virtue emphasizes the simplicity and comprehensibility, which is also suitable for interactive art. Artwork with spirit of simplicity stands out in that it conveys the meaning more directly and honestly. John Maeda once mentioned "Simplicity is about subtracting the obvious and adding the meaningful." One of the good instance for this is the *Robotic Chair*(2006, HM) is an apparently practical and generic wooden chair with the unique capacity to fall apart and put itself back together. Its iconic clarity unfolded countless contemplation and imagination.

Fig 27. Clarity. Raffaello A, Max D., Matt D., *Robotic Chair.*

Propriety (*decorum*) deals with fitting the style to the subject and occasions of the speech, the character of the speaker, the sympathies of the audience, and the kind of speech. It could also be understood as saying the right thing at the right place and at the right time. Propriety of interactive art lie in the proper design of the interface and sometimes good user experience. Blast Theory's *Can You See Me Now?*(2003, GN) would illustrate the virtue of propriety. The piece uses the overlay of a real city and a virtual city to explore ideas of absence and presence. They built up portable interface and online real-time platform for this mixed reality game. Proper timing and geo-positioning is the core element of the piece.

Fig 28. Blast Theory, *Can you see me now?*

Ornateness (*Ornatus*) utilizes the rhetorical figures or device to make the speech or composition interesting. Interactive art does have lots of rhetoric figures, which will be more thoroughly in next section.

4.3.3 Selected Figures

There are roughly two hundred rhetoric figures and terms, ever since the birth of rhetoric, having been invented by Latin and Greek over time and applied into speech and composition. Over time, the figures have been organized and classified in a variety of ways to make sense of them and to distinguish their nuanced distinctions and functions. Traditionally, they are divided into the dichotomy of either *Tropes* and *Schemes* or figures of speech and figures of thought. In order to associate them systematically with interactive art, a customized way is introduced classifying them according to the three different phases in the workflow of interactive art whicare conceptual figures, expressive figures, and descriptive figures. Compared with traditional rhetoric classification, it is flexible in that the figures are applied depending on various pieces. Some figures can be used in all phases, while some applied to only one phase.

Figures for interactive art		
Conceptual	**Expressive**	**Descriptive**
Antithesis, Archaism, Animalification, Irony, Personification, Metaphor, Simile, Synaesthesia, Ellipsis, Paradox, Symbolism, Malapropism, Verisimilitude, Innuendo, Zeugma, Kairos, etc.	Parallelism, Matrix, Repetition, Synecdoche, Asyndeton, Climax, Metastasis, Parody, Onomatopoeia, Vernacular, Hyperbole, Meiosis, Anastrophe, Cacophony, Rhyme, Palindrome, etc.	Epigraph, Idiom, Allusion,Euphemism, Pun, Portmanteau, Hyperbole, Meiosis, Climax, Ellipsis, Parallelism, Vernacular, Tone, Metaphor, Asyndeton, Repetition, etc.

Table 3.

Conceptual Figures

In the phase of concept, artists outline the topic and theme, generate ideas, decide materials or structures, confirm the tone and style of the expression, roughly sketch the blueprint of the piece, imagine how the audience interact with the piece, etc. From the rhetoric point of view, chances are that they will apply one or some figures.

Metaphor and **Simile** both refer to one thing as another, yet the latter implying a comparison while former without. They are widely used in interactive art and actually a lot of other contemporary art in general. Typically they can be found through the interface manipulation. For instance, *Turing Train Terminal* (2004,HM) used toy train as the metaphor for data transferring gate and processing. More clearly implies the comparison, simile can be commonly found in simulation works such as *a playing for the great observer at rest* and *Clouds* as we shown previously.

Fig 29. Severin H. and David M., *Turing Train Terminal*

Personification refers to abstractions or inanimate objects as though they had human qualities or abilities. Most robotic artworks display this gifure. Like the *Android Theater*(2011, HM, Hiroshi Ishiguro) other than robotic, like *Audience*(2009, HM) consists of a large crowd of head-size mirror objects. Each object moves its head in a particular way, simulating the most basic different characteristics of human behavior.

Fig 30. rAndom International ,*Audience*

Similarly, **animalification**, in which the animal attributes are imposed upon non-animal objects. As *Double-Taker* (2009, HM, Steven B., Lawrence H., Golan L., Fannie W.) deals with a creature on roof that made from pipe making contact with passengers. Furthermore, it can be found in projects like *Beach Animal* (2005 SP) by Theo Jansen and *Scavengers* (1996, AD, Louis P. Demers and Bill Vorn)

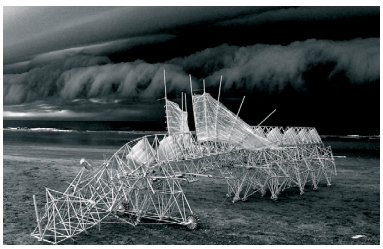


Fig 31. Theo Jansen, *Beach Animal*

Synaesthesia refers to a technique adopted by writers to present ideas, characters, or places in such a manner that they appeal to more than one senses like hearing, seeing, smell etc. at a given time.

Iori Nakai's *Streetscape*(2003, HM) a device that extracts environmental sounds and city form, and immerses visitors in them so that you can imagine your surroundings. It give them a sense of drawing, going through the city, and hearing the sound at the same time.

Fig 32. Iori Nakai *Streetscape.*

Zeugma, from Greek "yoking" or "bonding", is a figure of speech in which a word, usually a verb or an adjective, applies to more than one noun, blending together grammatically and logically different ideas. Interactive artist are used to changing the objects in daily statement and replace with new concepts. For instance, *Menstruation Machine*(2012, HM)) bonds male with the experience of menstruation. Solar Sinter Project bonds sand with 3d printing technology.

Fig 33. Sputniko!
Menstruation Machine.

Antithesis, which literally means the opposite, is a rhetorical device in which two opposite ideas are put together in a sentence to achieve a contrasting effect. It uses words to convey ideas in different ways from the common words and expressions of daily life. Thus, it conveys the meaning more vividly than ordinary speech. When contrasting ideas are brought together, the idea is expressed more emphatically. Equipped with this figure, interactive art tends to be conceptually more robust. *Rain Room*(2013, AD)) by rAndom International is spectacular example for this figure. It invites audience to walk in the raining area without being drenched in the process. The antithesis of rain and no-rain is strongly emphasized in this piece.

Fig 34.rAndom International, *Rain Room.*

Paradox is a statement that appears to be self-contradictory or silly but may include a latent truth. Paradox is widely used in most poems openning the mind of reader. In the art field, It is a long-established term referring to some contradictory elements of the work that are different from the previous experience and understanding. Here are two projects that have the feature of paradox

the most. One is *Pendulum Choir*(2013, GN) by Cod.Act group, which constitutes of nine sophisticated mechanical stands for nine a cappella voices and 18 hydraulic jacks. The platform and structure empower the performers to tilt, rotate, and move along with the quality-changing sonority voices, which creates both visual and audio paradox. The experience that is opposite to nature fact could be tremendous paradox like the recent work by Jacob Tonski. In his *Balance from within*(2014, AD), a sofa stands on its one leg. Another one is *when laughter trips at the threshold of the divine*(2009, AD) by Osman Khan and Kim Beck. It moves the automatic sliding door to a natural environment. The door stands without any connecting walls and functions as usual when people pass by. Paradox makes the works more poetic and meaningful not only in the poems but also in the artist context

Fig 35. Cod.Act,*Pendulum Choir*

Fig 36. Osman K., Kim B.,*when laughter trips at the threshold of the divine*

Fig 37. Jacob Tonski
Balance from within

Irony is a figure of speech in which words are used in such a way that their intended meaning is different from the actual meaning of the words. Irony makes a work of literature more intriguing and forces the readers to use their imagination and comprehend the underlying meanings of the texts. Irony is not fresh at all to discuss in the realm of art. Interactive art is not an exception. Paolo Cirio, Julian Oliver and Julius von Bismarck are distinctive examples using irony. Via their devices, activity, performance, the provoking and ironical power that scorns, criticizes and challenges the all kinds of social orders and norms could be found as crucial part of their artifacts and aesthetics. The audience is not only intriguing into the artifact, but also feeling mind-blowing.

Ellipsis is a literary device that is used in narratives to omit some parts of a sentence or event, which gives the reader a chance to fill the gaps while acting or reading it out. It sometimes incorporates into the conceptual part of

Fig 38. Rejane C., Leonardo C.,*Tunnel*

interactive art. Like the kinetic architecture work *Tunnel*(2011, HM, Fig 38.) excludes any digital control and electricity, any type of complex interface and description. The fluid array of porticos sways according to just the body mass of audience. Another example would be again Quayola that intentionally omits the left work of the sculpture, leaving both attraction and imagination.

Verisimilitude is a figure that mimics the reality so that the object can be more plausible. This applies typically to the artwork dealing with virtual reality and augmented reality. They simulate an environment as an experience for the audience. For instance, the virtual space built by Knowbotic Research in 1990s.

Fig 39. Knowbotic Research, *Simulationsraum-Mosaik mobiler Datenklänge*

Expressive Figures

Expressive figures refer to the artistic configuration during the period of realization and exhibition of the artworks. Artists generate ideas about how the work be arranged, customized and exhibited in order to present it in efficient and impressive way. Some figures typically used in this phase will be discussed below.

Hyperbole, derived from Greek meaning "over-casting" is a figure of speech, which involves an exaggeration of ideas for the sake of emphasis. The figure partially correlates to the telematic works, giving audience a perspective of exaggerated world. Such as Global String(2002, HM, Atau T., Kasper T.), a network-based musical instrument that exaggeratedly allow audience to co-play it in multiple sites. Telematic Dreaming(1993, HM, Paul Sermon) made a hyperbole by enabling the telematic presence in the same bed.

On the contrary, **Meiosis** is the figure that diminish or belittles something or someone, giving the impression that the object is less important than it is. *Body Movies - Relational Architecture No. 6*(2002, AD)by Rafael Lozano-Hemmer equipped with the meiosis. It simply uses multiple lights to create body shape onto the facade. More examples are previously mentioned robotic chair and

clouds intended to use some unattractive common word in a humble way to title their works.

(a) (b) (c)

Fig 40. Hyperbole and Meiosis. (a) Atau T., Kasper T., *Global String*, (b)Paul Sermon, *Telematic Dreaming;* (c)Rafael L.H., *Body Movies - Relational Architecture No. 6.*

Parallelism is the use of components in a sentence that are grammatically the same; or similar in their construction, sound, meaning or meter. It allows speakers and writers to maintain a consistency within their work and create a balanced flow of ideas. This figure calls back what we have already discussed before, the series of artworks that enhances the ethos or credibility of author. Artists, in some cases, would like to create series of artworks that have the same concept or same structure. Maywa Denki's pieces well explain this point. Tsukuba Series is played by the movement of motors and/or electromagnets at 100V and makes a sound by physically beating/knocking a substance.

Fig 40. Parallelism. Maywa Denki, *Tsukuba Series*

Repetition is a literary device that repeats the same words or phrases a few times to make an idea clearer. There are several types of repetitions commonly used in both prose and poetry. It is one of most widely used in fine art context in general and also appears in several different forms. Matrix is one of the representative, though there's no specific figure in rhetoric literacy could match this form. Matrix, in terms of mathematics a rectangular array, is the phenomenal essence of digital content, since the basic visual images function based on it. Matrix here refers the multi-dimensional repetitions that exist in interactive art. For instance, the interactive work Global

Interior Project(1996, GN), Epiphyte Chamber(2014,HM), and POD (Wind Array Cascade Machine)(2005, HM), also including what we mentioned previously Listening Post and Gravicell

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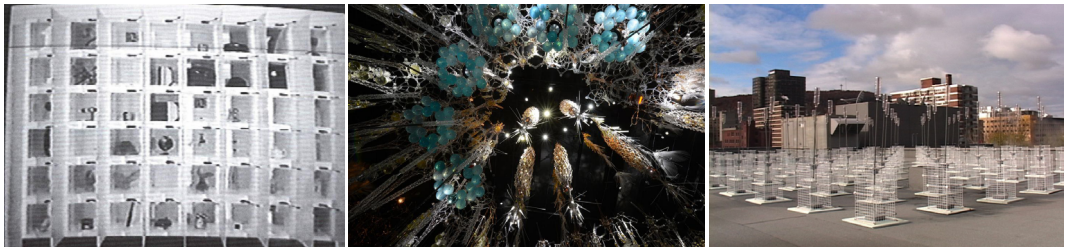


(a) (b) (c)

Fig 41. Repetition. (a) Masaki Fujihata, *Global Interior Project,* (b)Philip Beesley, *Epiphyte Chamber;* (c)Steve Heimbecker, *POD (Wind Array Cascade Machine).*

Anastrophe is a literary technique in which the normal order of words is reversed in order to achieve a particular effect of emphasis. It creates the balanced effects or makes emphasis on certain point. The title of the piece *Music Plays Images x Images Play Music*(1997, GN) Toshio Iwai and Ryuichi Sakamoto implies its content and emphasize the mechanism behind it via anastrophe. Similarly, the *Jammer Horn*(2009,HM) conceptually reverses the function and attribute of horn and in fact blocks the modern communication. Furthermore, in the piece called *On the Expressive Potential of the Computer Controlled Human Face*(1997, HM), artists switch the order of the fact that muscles trigger music.

(a) (b) (c)

Fig 42. Anastrophe. (a) Toshio I., Ryuichi S., *Music Plays Images x Images Play Music;* (b) Willy Sengewald, *Jammer Horn;* (c)Arthur E., Huge H., Remko S., *On the Expressive Potential of the Computer Controlled Human Face.*

Descriptive Figures

Description phase comes after the expression. It comprises the title of the artwork, description text, picture or video documentary, as well as other documents for media coverage and distribution. In this sense, rhetoric here is almost identical to its traditional composition. Therefore, description

period could contain all of the figures. Concerning about the aim of the thesis, feature ones discussed below. The figures in this part make the artworks attractive and memorable without actually seeing them.

Idiom, refers to a set expression or a phrase comprising two or more words. The phrase is understood as to mean something quite different from what individual words of the phrase would imply. Plus, idioms vary in different cultures and countries. This figure apply into the creation of the title or concept indicating that the artwork inspired or driven by the idiom. *Ishin-Den-Shin*(2013, HM), a Japanese idiom, is also the name of the artwork that denotes the traditional concept of interpersonal communication through unspoken mutual understanding. *Messa Di Voce* is another example that applies the musical term from Italian. This figure adds both pathos and ethos for the artistic expression.

Fig 43. Disney Research Lab,
Ishin-Den-Shin

A **pun** is a play on words in which a humorous effect is produced by using a word that suggests two or more meanings or by exploiting similar sounding words having different meanings. For instance, *Newstweek*, a device for manipulating the news read by other people on wireless hotspots, contains the two layers of meanings: news and tweek, adding the logo that ironically resembles the famous media called *Newsweek*. Another example is *PainStation*(2002, HM, Volker M., Tilmann R.), an arcade game based on Pong with pain feedback, reflects both "pain" and "PlayStation".

Fig 44. Volker Morawe, Tilmann Reiff
PainStation

Alliteration, means a number of words, having the same first consonant sound, occur close together in a series. This applies to the title of the artwork, for example, pieces like *Face to Facebook* and *Turing Train Terminal*.

Portmanteau is a figure that combines two or more words together. As a common figure for

making the titles of pieces, it makes the concept of the artwork explicit to understand, such as the *EyeWriter*, *Raindance* as well as *PainStation*.

4.4 From Memory to Representation

The fourth canon of rhetoric is memoria (Greek, *mnēmē*), concerned with memorizing speeches. In Rhetorica ad Herennium, Cicero wrote,

> There are, then, two kinds of memory: one natural and other, the product of art. The natural memory is that memory which is imbedded in our minds, born simultaneously with thought. The artificial memory is that memory which is strengthened by a kind of training and system of discipline. [45]

Plato asserted that the use of written characters is a hindrance to memory, as once we have committed a thing to writing, we cease to guard it in our memory and lose it out of sheer carelessness[46].

In the realm of interactive art, memory is also needed in variety of different situations and groups of people. The artist explains to audience, museum guide or the media and they further explain to others. In order to convey or distribute the idea, content, function and other detailed aspects of the work, different people may apply various strategies.

The memory of the interactive artwork lies in all the surrounding material of the artwork like the title, descriptive text, keyshot of the artwork, demonstrative video and so forth. They need to be kept in artist's mind, audience's mind, curator's mind and the infor-trainer's mind. The requirement or demanding of the memory level differs in those groups.

Another strategy that artist used is to create series of artwork either within same theme, with same material, or with same principle. In this way, artwork creates bonding memory with audience. Daniel Rozin created a bunch of mirrors based on physical objects , ranging from wood, feather, peg,

45 CAPLAN, H. Ad C. Herennium de ratione dicendi (ad herennium III xvi 28-29) 2013.
46 "Plato, Phaedrus, section 275d." 2010. 7

mirror, brush and so on. Zach Liebermann has the principle of *Poetic Computation*[47]. He created work within this principle. The keyword will be the key factor for the artist to be remembered.

It is an interesting fact that relatively few people pay attention to is that the concept of the artwork is partially conveyed by a third-party group, the museum guide whose normal profession is not art or related to art. Apart from the traditional responsibility of taking care of the work and informing the visitors about artworks, they are also required to bear in mind more or less the functionality of the work which requires sometimes some basic background knowledge. The standard museum guide of Ars Electronica Center (known as the info-trainer) is one of the most demanding in the world. It requires info-trainer to discuss and exchange views with visitors and furthermore requires prior knowledge in the fields of digital media, the life sciences (biotechnology & genetic engineering, neurosciences, robotics, bionics) or geo-information. For the memory purpose, they have to combine their background and interests with the artwork. And through the communication with different audience, their memory about specific artworks will definitely be strengthened.

4.5 From Delivery to Action

The fifth canon delivery concerns how things is said. The Greek word for delivery is "hypokrisis" or "acting", which rhetoric has borrowed to represent the attention to vocal training and to the use of gestures. In Book III of the *Rhetoric*, Aristotle considers delivery "of the greatest importance." And in *De oratore*, Cicero asserts that delivery "is the dominant factor in oratory." In *Rhetorica ad Herennium*, Cicero boldly affirms the usefulness of the delivery. He then explains it in two sides: voice quality and physical movement.

By analogy, delivery lies in the key moment when interaction happens, the specific gestures trigger the hidden content, and simultaneously the feedback and certain response exert backwards. It could be any action: witnessing, observing, walking, running, wearing, drawing, pushing, buying, performing or even peeping, damaging. This action plays a critical role in interactive art, since it is the very moment that the audience get affected, amazed, and engaged, the very moment the

47 "School for Poetic Computation: SFPC." 2013. 5 May. 2016 <http://sfpc.io/>

project realizes itself, and the very moment that the artist is most satisfied with. For the majority of the interactive artworks, this action movement plays key role in making the unique artistic expression, generating what Benjamin coined authentic and unreplicable *Aura* and aesthetic experience[48]. Lorenz Dittmann states that the work becomes manifest only in the moment in which it is experienced , and thus, calls for a concept of art that places the intuitive presence of the artwork at center stage.

In order to present this canon in interactive art,, a dataset of action in interactive artworks from Prix Ars is visualized according to the frequency as the form of word-cloud below(Fig 45.).

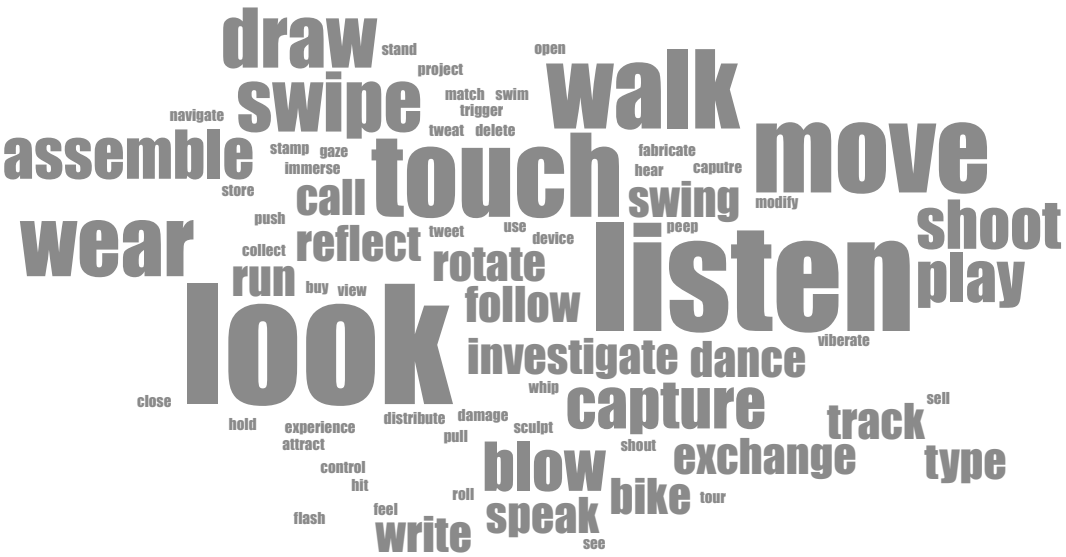


Fig 45. Wordcloud of actions in interactive arts

So far, a clear map between classical rhetoric and interactive art has been unfolded. On purpose of visualizing the mapping function, a mind map is shown in Appendix 1.

48 Benjamin, Walter. "The work of art in the age of mechanical reproduction." Visual Culture: Experiences in Visual Culture (2011): 144-137.

Chapter 5
Applying: The Author's Own Artistic Works

In the rhetorical pedagogy field, an influential rhetorician called Peter Ramus divided rhetoric into two main activities: *analysis* and *genesis*. The observation of successful speaking or writing (analysis) preceded and improved one's own speaking or writing (genesis)[49]. Analysis, for him, was the foundation of operating didactically on a work, which was not sort of art but an exercise. On the other hand, he believed that genesis, which he also named as *compositio*, begins with mimicry and simulation then gradually became a free expression. Previous chapters, concerned mainly with investigation and examination of interactive art based on the principles of classical rhetoric, act as *analysis*. This chapter concentrates more on *genesis*, in other words, the application of those *analysis*. The author's interactive artworks are demonstrated, which were inspired by those rhetorical principles, analyses and paradigms.

49 Ramus, Peter. "Arguments in rhetoric against Quintilian." The rhetorical tradition: Readings from classical times to the present (1986): 681-97.

5.1 Root Node

Root Node is a site-specific interactive installation. It involves stacked layers of disassembled remote controllers that are strung together by conductive rods and planted into the ground. Whenever its root gets damp, nodes can be generated due to the conductivity of the earth interface, which in turn triggers the pulse-signal-based soundscape. The visitor wears the head-mount device to receive the signals within the range of the infrared light.

In the piece, the circuit boards of remote controller and electronic components of the helmet are exposed, which partially increases the ethos. There are also some graphical instructions stick on the two pedestal. They are beneficial for the better appreciation and interaction of the work, in other words, for better logos. The work concerns the pathos by representing the daily objects as well as the activity in a fresh way so that it triggers the curiosity of audience. The topic has mainly

(a) (b)

Fig 46. Yao Guo(Nathan), *Root Node(2014)*, (a) Interaction from Top View; (b) Exhibit Setup at Interface Culture 10th Aniversary., 2014

chosen the cause and effect relationship. The water activates the connection of the button, the button triggers the infrared signals, the helmet receives the signals and translates it into sounds. These series of data transfer and process form the mechanism of the interaction.

The exordium for this piece would be the vertical extension in the exhibit space. It arouse the curiosity of audience before entrance into the room. The work was installed at main square of Linz as Interface Culture's 10 Years Anniversary exhibition that is incorporated into Ars Electronica

Festival. In that context, a large number of visitors are very experienced in media art field. Thus, many of them observed and already expected the work to be interactive. Concerning how they approached to the piece, I put the main sculpture in the middle of the room so that people could easily see it, when they come closer, two parts of assistant objects were presented on the pedestals. Then the audience picked the water can and put the helmet on. After they poured the water into the roots of the sculpture, they would hear some various beep sounds triggered by the signals.

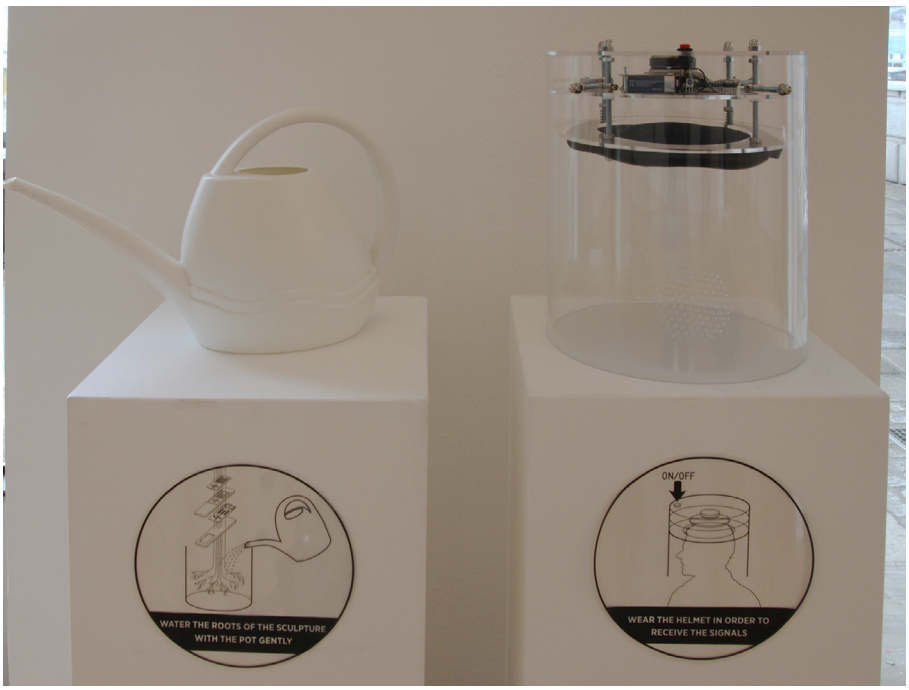


Fig 47. Partial Configuration of the project *Root Node*

The installation used medium rhetoric level. Though it's tall, it doesn't count as large scale. The structure requires some loads of fabrication and some time to interact with. Technologically speaking, it's also the intermediate level. But in terms of pace, it belongs to piano level, since it needs a bit of time to get wet and contact.

When it comes to rhetoric figures, the installation applies, first of all, the figure of repetition: stack of dissembled remote controller line up to the ceiling as the basic element. The sculpture part seems more impressive and integrated. Secondly, the common usage of remote controller is actually inverted: instead of pushing the button and controlling the TV, the installation let the actuator receive the signal of the controller. In this reversion, irony is generated so that people

could think in deeper layer. Thirdly, the container of sand and stone, the water bottle and the title of the piece established the metaphor of a plant that made out of electronics. The piece becomes more poetic. Lastly, the title of the work is a pun since root node refers originally the topmost or the bottom node in a tree data structure. In this work, root fits the metaphor and node fits the connection contacted button triggered by the water. This installation has several actions: wear the helmet, switch on the button, pick up the water can, water the roots, move around and listen to the signal. Among them, watering the roots is the key moment triggering the function of the installation.

5.2 Wanderl_st

Wanderl_st is an interactive installation which utilizes the digital dartboard system as an agent of google map navigator. The user can get to certain geo-locations step by step according to the relative positions of thrown darts on board. Meanwhile the routes are collected and the familiar directional guidance is translated spatially into rhythmic acoustic. The computing queries therefore creates an innovative way to explore the geographical territory with trans-spacial experience.

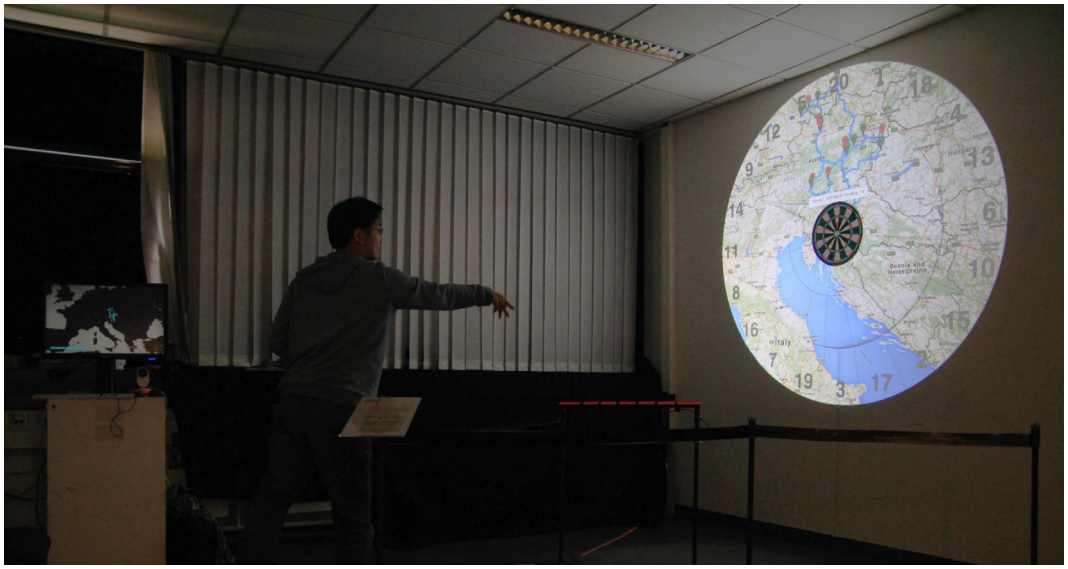
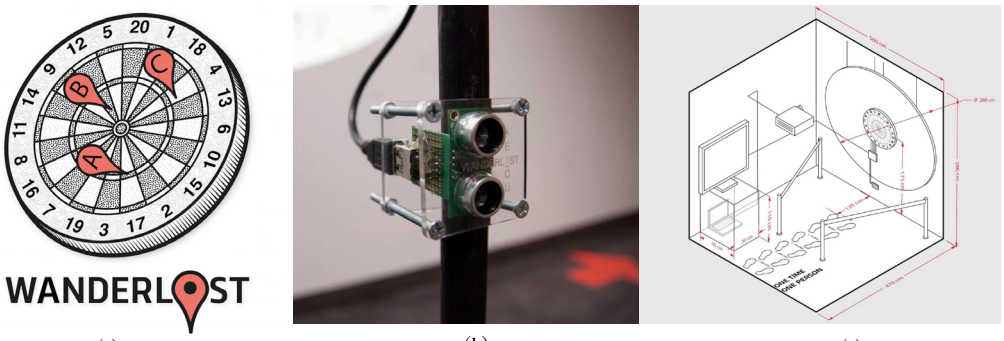


Fig 48. Yao Guo(Nathan), *Wanderl_st(2015)*

Firstly the immediate sound feedback when the darts hits the board increases the ethos. Additionally, the monitor presents the path that the audience has made and levels up the credibility of the artist. Secondly the dartboard interface of this artwork boosts the pathos dramatically. The gamification

approach makes people affected and engaged well. Thirdly the logos are reflected by the footprints on the ground that indicate the position where the parameter of the map can be changed. The interaction in this piece contains two common topics. One is the cause and effect, as the audience throw the dart immediately they get the corresponding position on map as well as the indicating sounds. The other is comparison. People will naturally compare each dart they threw and compare the result with the actual map and the knowledge they have about the map.

The work was installed in the *Post City*[50], a storage warehouse of former Austrian post in Linz and also stands as the theme of the Ars Electronica Festival 2015. It is allocated in a room with the length of 5 meters and width of 4 meters. The image was projected on the side wall so that when people pass by, they can grasp the panorama of the piece. Zooming function of the map is indicated by the footprints sticker on the floor; The cordons are also installed alongside the footprints for the safety of the audience. The darts are situated on a bar of wood in front of the projection. The author made a lot of test run and debug especially for the space.



(a) (b) (c)

Fig 49. Yao Guo(Nathan), *Wanderl_st*, (a) Graphic as symbol; (b) Sensor; (c) Spcial Setup.

Regarding the canon of stylization, the piece can be classified as medium level, in terms of scale, complexity, intensity, pace or advance. Its interaction reflects the virtues of purity and propriety: process and response is accurate; sensor value is interpreted well; it does have certain affordance. Moreover, it employs several rhetoric figures. In first place, the title utilizes the omission and wordplay. The underscore in *Wanderl_st* could be replaced by audience according to their understanding of the work. Simile is visual resemblance of both dartboard and navigator. The delivery of the artwork is the action of throw, the key moment when people realized the artistic value and start to think about what it means and what is it used for.

50 "2015 Ars Electronica Festival - Post City." 2015. 9 May. 2016 <http://www.aec.at/postcity/en/>

5.3 Alibi

Alibi is an ongoing project that also applies the media art rhetoric paradigm. Basically it is an interactive installation that creates an astronaut suit for fish and gives it the ability to move around via mounting to a robotic arm. Inspired by the "*Becoming Animal*" concept by Gilles Deleuze[51] and the approach of critical design, this project intends to propose a playground for animal, provide a high tech scenario and the right to explore the "outer-space" for the animal, meanwhile to give people a vigilant and reflective contemplation.

For the conceptualization part, this piece is equipped with the figures such as zeugma via questioning what if technology is applied to animal instead of human; verisimilitude via mimicking the motion of fish by robot; symbolism via taking astronaut suit as the techno fact; mild irony and paradox via giving the impression that the fish swims in the air. For the expression, parody and hyperbole can be found in the performance of the installation. For the description, the title is the metaphor indicating that the fish is away for some reasons. We plan to use climax and parallelism to film the making-of video about how we realize the project.

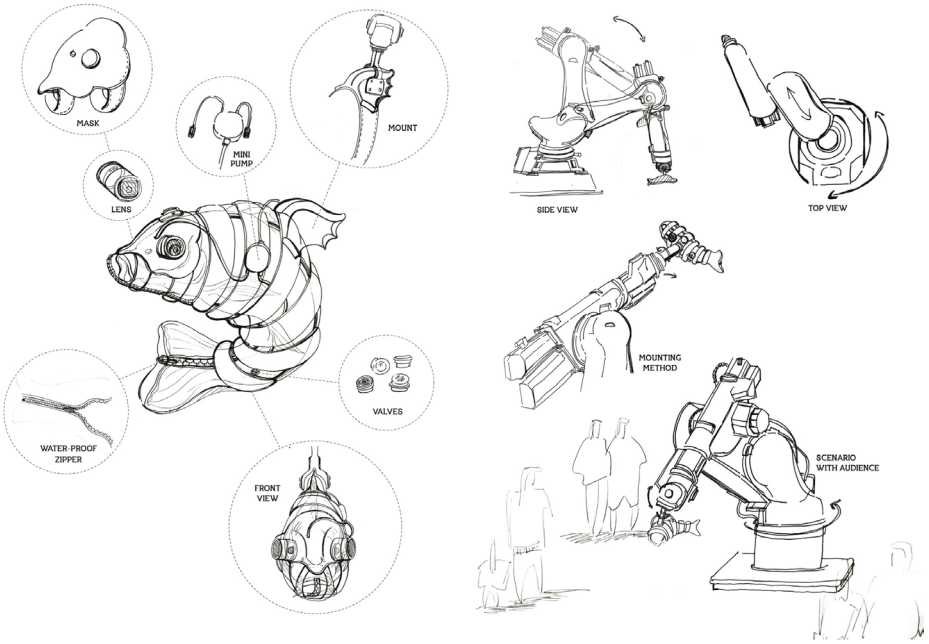


Fig 50. Yao G.(Nathan), Munchen Z., *Alibi(2016)*

51 Deleuze, Gilles, and Félix Guattari. "Becoming-intense, Becoming-animal. Becoming Imperceptible." *A Thousand Plateaus. Capitalism and Schizophrenia* (1987): 232-265.

Chapter 6
Modeling:
Media Art Rhetoric

So far we have outlined the basic principles of both classical rhetoric and interactive art, made the analogy systematically by mapping attributes from classical rhetoric to interactive art and applied the mapping result to my own artistic practices. In this chapter, we are going to build an example based on the analogical model of media art rhetoric in order to visually demonstrate the whole picture of the research. The modeling contains two parts: rating and visualizing.

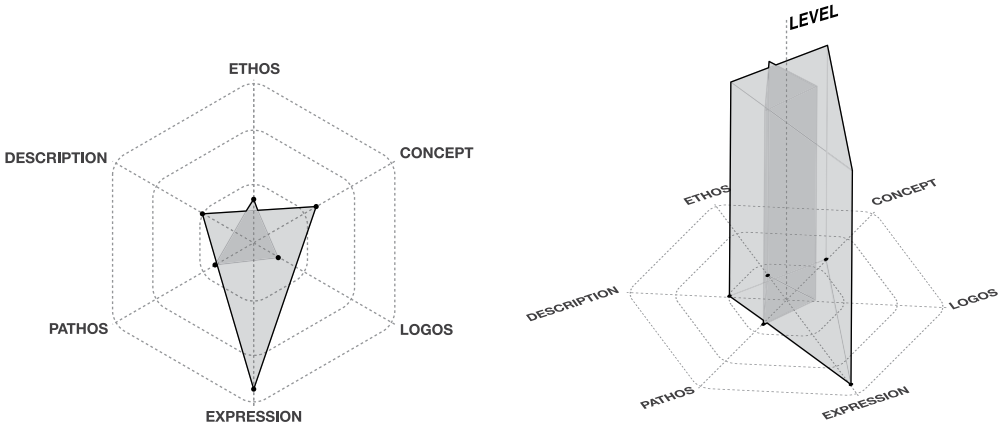
The rating procedure are following: firstly, we collect Golden Nica winner projects of Prix Ars in each year and order them chronologically. Secondly, they are analyzed according to the rhetorical framework as we used previously. Thirdly, we filter out the attributes that are difficult to quantify and left only the representative attributes, the level of the rhetoric, the three proofs and three classes of rhetoric figures. Fourthly, we rate the each attribute according to how each individual project reflected or applied the rhetoric function and finally generate a rhetoric index for each artwork. Take the project Listening Post as an instance. It increases the credibility of the artist in several points: natural human sounds, flow of the information, the collaboration of the laboratory and partners from various backgrounds(Ethos). It builds up its interaction by streaming the live post from

internet(Logos). It is equipped with the figures in concept: synaesthesia, metaphor, symbolism; in expression: repetition, asyndeton, metastasis, parody, vernacular, hyperbole, cacophony and rhyme; in description: asyndeton and climax. We add base point of 2, add every 2 points to each item and rate it as below. For the rhetorical level, we rate the project according to scale, complexity, intensity, pace and advance of technology and get a level index.

Ethos	**Logos**	**Pathos**	**Concept**	**Expression**	**Description**
6	4	6	6	16	6
Scale	**Complexity**	**Intensity**	**Pace**	**Advance**	**Level Index**
8	7	6	6	5	6.4

Table 4.

Afterwards, we visualize the data above by a six axis extruded radar chart. Three axes illustrate the three rhetoric proofs while the other three depict three classes of rhetoric figures. The extrusion represents the rhetoric level of each project. For example, *Listening post* could be illustrated as follows:



(a) (b)

Fig 51. Rhetoric radar charts for media art, (a) two rhetoric triangles; (b) extrusion illustrates rhetoric level.

Additionally, the models of my own projects are shown below:

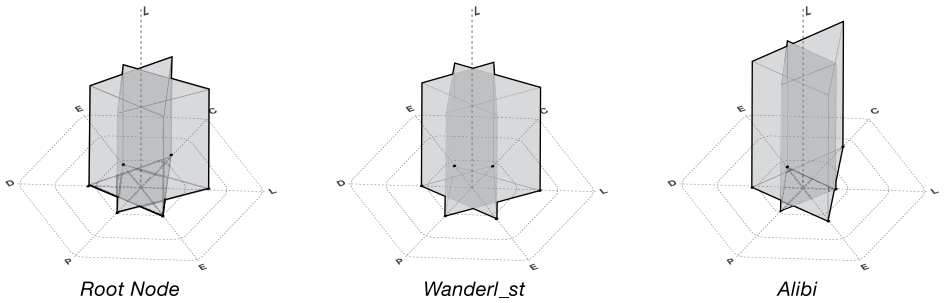


Fig 52. The rhetoric model of my own projects.

As a result, each interactive artwork could have a three dimensional model in order to characterize its rhetoric feature. The model partially represent what we have discussed in previous chapters. By averaging three proofs, rhetoric figures and level, a rhetorical index could be exported to indicate overall rhetoric value embedded in the artworks. The index called *Media Art Rhetoric Index*(abbr. MARI) can be found in the (Appendix 3.) . As the practice, 24 golden nica winner projects are visualized (Appendix 1.).

Last but not the least, since we were dealing with large amount of analogies and mapping functions in the thesis, a large mindmap is given to explicitly present the structure (Appendix 4.).

Chapter 7
Conclusion

This thesis has outlined and bridged classical rhetoric and interactive art, mapped between them in theory and practice, drawn models representing the rhetoric value in each artwork and as a result proposed a paradigm of *Media Art Rhetoric*. Analogous discussion, examination, comparison, and argument were made in order to discover and analyze the critical attributes, characteristics, and essences, which are shared by classical rhetoric and interactive art. This framework of media art rhetoric is meaningful in two aspects: analysis, to analyze the rhetorical value in media art in scheme of rhetoric invention, arrangement, style, memory, and delivery and genesis, to propose a paradigm guiding artists create new pieces with assistance of the rhetorical picture. They both lead to these questions:

- How does it establish the credibility, improve the interaction and appeal to the audience?
- How can it be installed and plotted in terms of spatiality and temporality?
- How does it stylize its concept, expression, and description?
- Which figures does it employ?
- How does it ensure the conveyed message is more memorable?
- How does it deliver the interactive action?

Besides, classical rhetoric, there are certainly plenty of resources of general rhetoric that could be referred to. And other genres of media art also contains various factors, attribution and qualifications. As a relatively brief analogy research, this thesis can hardly cover all the categories of rhetoric and all fields of media arts. Further directions for this research concern broader reference to modern rhetoric and other categories of media arts.

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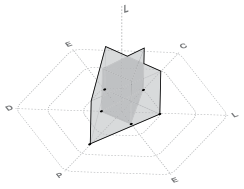
Appendix 1.



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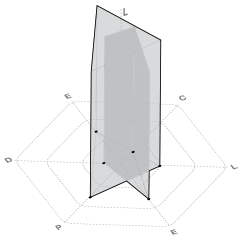

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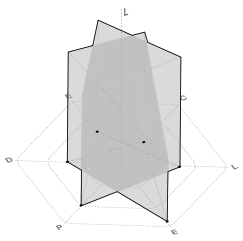
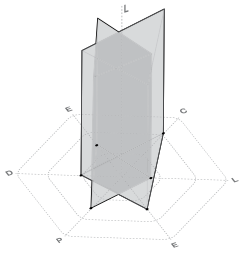
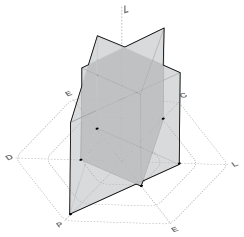


Memopol-2



Newstweek



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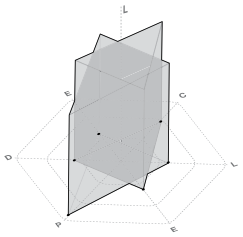


Nemo Observatorium

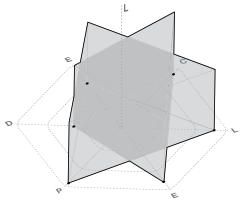
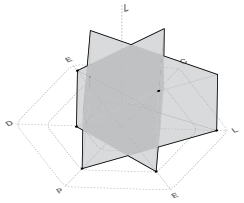
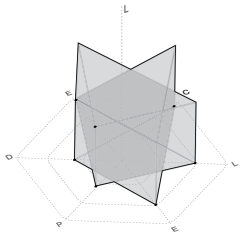


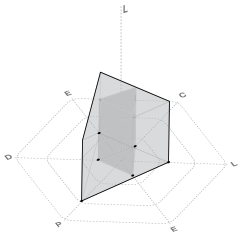
Image fulgurator



Park view hotel



The messenger



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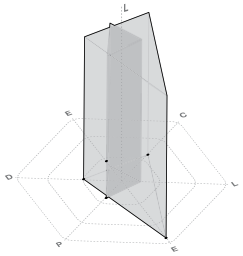

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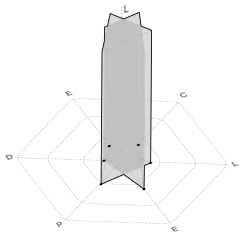
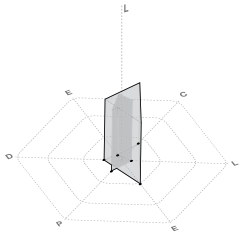
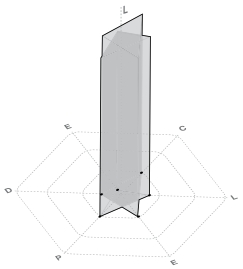


Can you see me now?



n-cha {n} t



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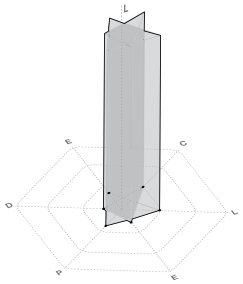

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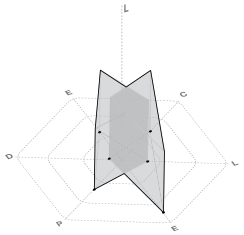
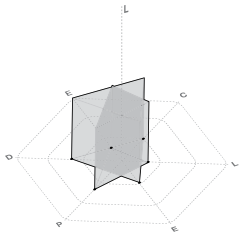
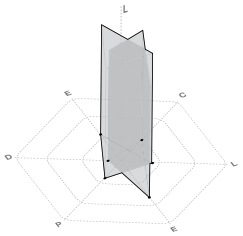
Relational Architecture #4



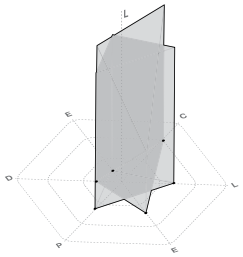
The Difference Engine #3



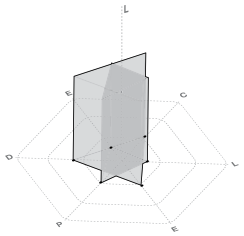
World Skin



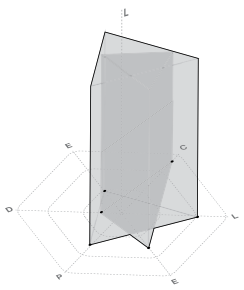
Music Plays Images x
Images Play Music



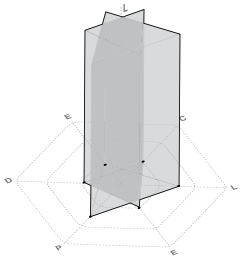
Global Interior Project



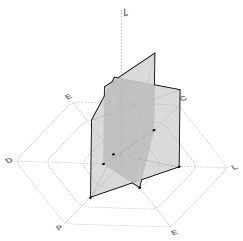
A-Volve



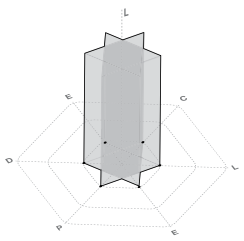
Simulationsraum
Mosaik mobiler Datenklänge



Home of the Brain



Think about the people now



Videoplace

Appendix 2.

CANON 1. INVENTION				GENERATION	
THE THREE PROOFS		Explanation		Relationship	
		Ethos	Credibility	artist	Interaction/interdisciplinary/component exposure/serie/assistant material
		Logos	Reasoning	artwork	introduciton/deduction
		Pathos	Emotion	audience	sensorium/daily objects/output/id/enable/gamification
Topics	Common Topic	Explanation		Interaction	
		Definition	Genus/Division	type	
		Comparison	Similarity/Difference/Degree	algorithm	
		Relationship	Cause/Effect/Antecedent/Consequence/Contraries/Contradictions	reaction	
		Circumstance	Possible/Impossible/Past/Future Fact	status	
	Special Topic	Forensic	Politic	politic, law, religion, economy society, biology, network sci-tech, privacy …	
		Judical	Law		
		Ceremonial	Testimonial		

CANON II. ARRANGEMENT		CONFIGURATION	
Steps	**Explanation**	Spatiality	Temporality
Exordium	Introduction, Statement of goal	Site specificity, exhibit theme	Entrance attraction
Narration	Background facts, context	Traffic flow, how audience approach	Observation and expectation
Division	Divided points	Allocation based on the floor plan	Understanding of procedure
Proof	Argument supoort the case	Test run and evaluation	Attemptation and exploration
Refutation	Weakness of opponent's arguments	Counter fraud, maintainence, debugging	Guessing and criticize
Peroration	Conclusion	Installation	Exit and conclude

CANON III.STYLE	EFFECTUATION				
THE 3 LEVELS	INTERACTIVE ART MEASURE				
	scale	complexity	intensity	pace	advance
Low	micro	minimal	light	piano	low tech
Middle	neutral	medium	mild	mezzo	intermediate
High	macro	complex	strong	forte	high tech

4 VIRTUALS	INTERACTIVE ART QUALITY
Purity	preciseness of data procesing
Clarity	clearness and honesty of the concept
Propriety	interface design and user experience
Ornament	application of figures

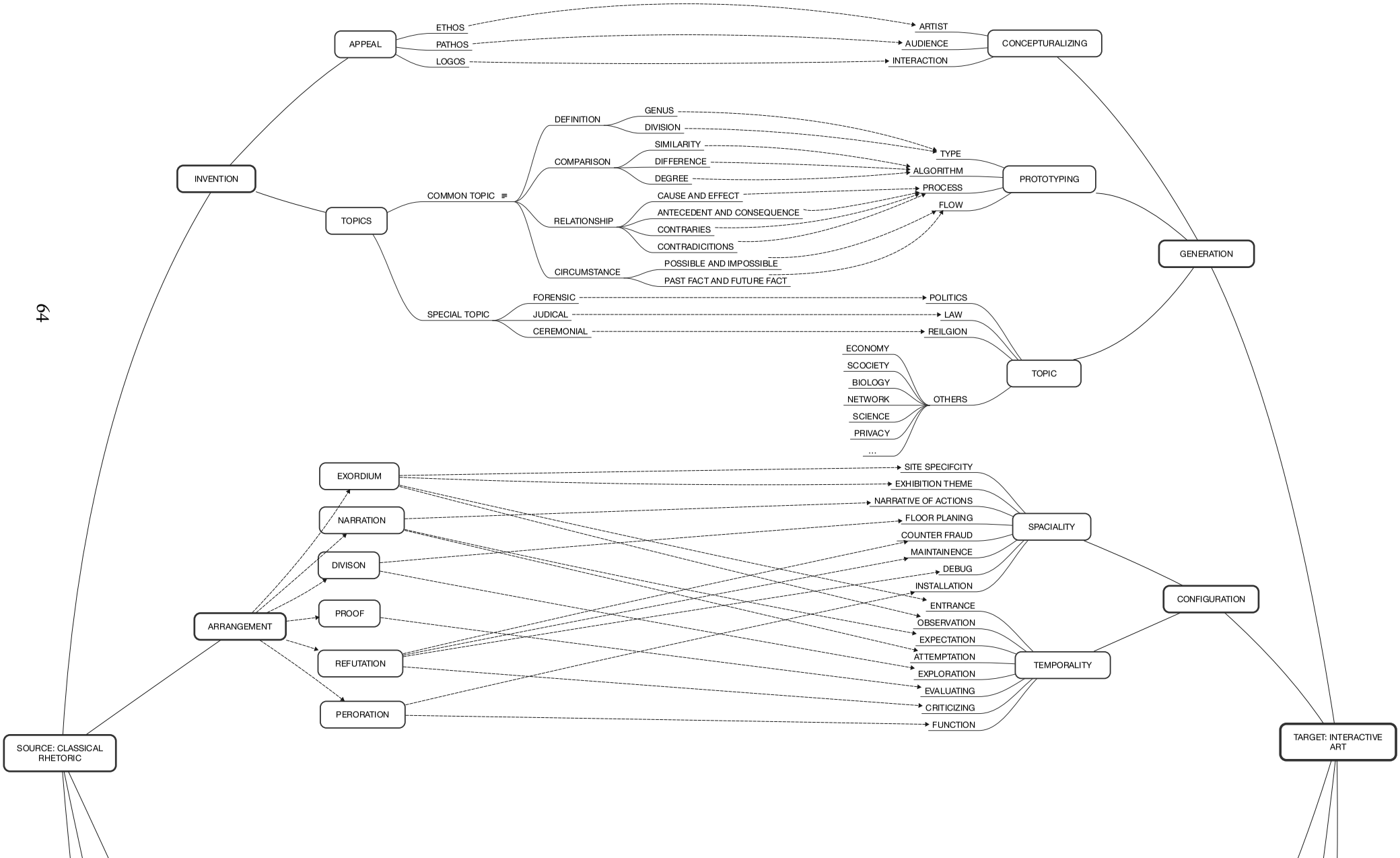
FIGURES	INTERACTIVE ART STRATEGY
Conceptual Figures	Antithesis, archaism, animalification, irony, personification, metaphor, simile, synaesthesia, ellipsis, paradox, symbolism, malapropism, verisimilitude, Innuendo, zeugma, kairos
Descriptive Figures	Epigraph, idiom, allusion, euphemism, pun, portmanteau, hyperbole, meiosis, climax, ellipsis, parallelism, vernacular, tone, metaphor, asyndeton
Expressive Figures	Parallelism, matrix, repetition, synecdoche, asyndeton, climax, metastasis, parody, onomatopoeia, vernacular, hyperbole, meiosis, anastrophe, cacophony, rhyme, Palindrome

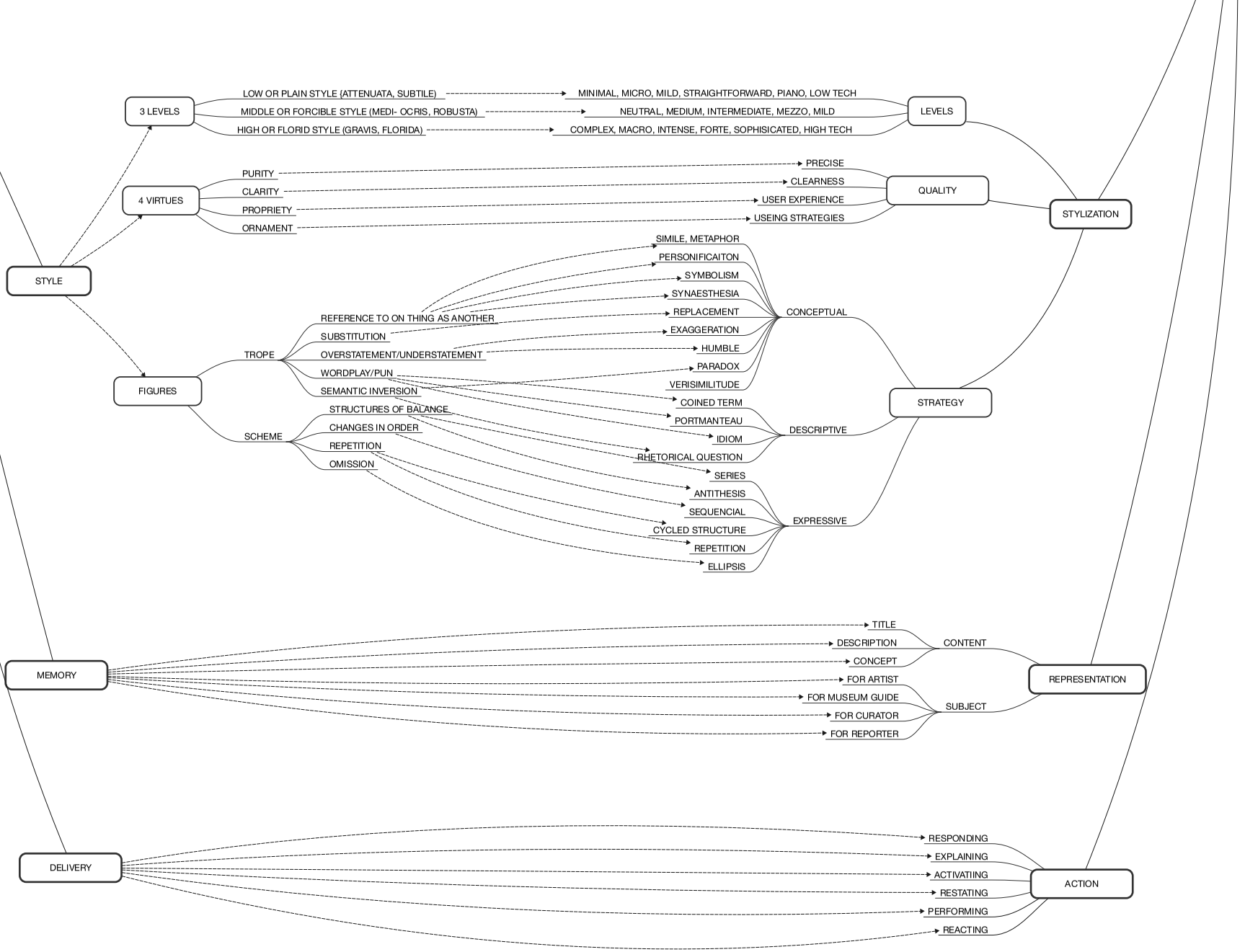
Appendix 3.

Year	Prix	Work	Artist	Ethos	Logos	Pathos	Concept	Expression	Description	Delivery	Scale	Complexi	Intensity	Pace	Advance	Ethos	Logos	Patho	Concept	Express	Descrip	Level	Index
14	GN	Loophole For All	Paolo Cirio	assitance, interdisciplinary,	hacking strategy,	emotion, export,	irony, malapropism	repetition	irony	investigate	5	8	2	2	4	4	4	6	4	2	2	4.2	3.93
13	GN	Pendulum Choir	Michel Décosterd, André Décosterd	exposure, interdisciplnary,	antigravity,	exposure, serie,	paradox	repetition, climax, tone	tone	move	7	6	7	5	5	6	4	6	2	6	2	6	5.17
12	GN	Memopol-2	Timo Toots	past portrait, data,	affordance, monitor,	daily object, portamantea, irony,	irony, symbolism	climax, hyperbole, asyndeton, vernacular,	portmantea, pun,	swipe	7	6	5	4	6	6	6	8	4	10	6	5.6	6.13
11	GN	Newstweek	Julian Oliver, Danja Vasilliev	assitance, device, test,	plug, device,	daily object, irony, pun	malapropism, irony, zeugma, versimilitude	repetition, parody, hyperbole	meiosis, tone	distribute	7	5	7	4	6	6	6	6	8	6	4	5.8	5.90
10	GN	The EyeWriter	Zach Lieberman, James P, Tony Q, Evan R, Chris S, Theo W	exposure, assistance,	eyewear, capture,	emotion, sensorium, empower, tool,	hyperbole, zeugma, synaesthesia, omission	hyperbole	portmantea, epitach	eye move	3	6	5	7	5	6	6	10	8	2	4	5.2	5.60
09	GN	Nemo Observatorium	Lawrence Malslaf	opaque,	button,	metaphor, affection, sensorium,	simile, hyperbole,	hyperbole,	idiom,	experience	8	3	8	6	2	4	4	8	6	4	4	5.4	5.20
08	GN	image fulgurator	julius von Bismarck	assistance, making-of,	play, performance, repetition,	curiocity, effection, irony,	parody, irony, symbolism, simile	anastrophe, parallelism, parody,	allusion,	shoot flash	3	4	5	5	5	6	8	8	8	8	4	4.4	5.70
07	GN	park view hotel	Ashok Sukumaran	lab collaboration, terms,	scope, feedback, privacy,	daily object, public space,	anastrophe, zeugma,	hyperbole, meiosis,	allusion,	shoot	4	4	4	4	6	6	8	6	6	6	4	4.4	5.20
06	GN	The messenger	Paul DeMarinis	interdisciplianry, serie, exposure,	email, communication,	effections,	archaim, zeugma, metaphor, synaesthesia	parallelism, vernacular,	allusion,	type	6	7	5	5	5	8	6	4	8	6	4	5.6	5.80
05	GN	MILKproject	Riga Center for New Media Culture	interdisci, assistance	gps,	affection, daily object,	-	-	-	track	6	6	2	1	4	4	4	6	2	2	2	3.8	3.57
04	GN	Listening Post	Mark Hansen, Ben Rubin	natrual sounds, information, interdisciplinary,	internet sound feedback,	daily object, affection, sensorium	synaesthesia, sensorium, metaphor, symbolism,	repetition, asyndeton, metastasis, parody, vernacular, hyperbole, cacophony, rhyme	asyndeton, climax,	look & listen	8	7	6	6	5	6	4	6	10	16	6	6.4	7.20
03	GN	can you see me now?	Blast Theory	interdisciplinary, assistance,	cell phone, gamification,	gamification, daily scenario, affection,	simile, verisimilitude,	parody, metastasis, synecdoche, hyperbole,	rhetorical question,	track	6	6	6	6	7	6	6	8	6	10	4	6.2	6.43
02	GN	n - cha {n} t	David Rokeby	grammar	listsen	sensorium, daily object	metaphor, symbolism,	parallesim, repetition, vernacular,	pun,	look & listen	5	5	4	4	4	2	2	4	6	8	4	4.4	4.37
01	GN	Polar	Carsten Nicolai / Marko Peljhan	serie,	cubical room, light sounds,	curiosity, sensorium, immersive,	versimilitude, symbolism, innuendo,	juxtaposition, hyperbole, rhyme, tone	allusion,	look & listen	8	7	7	7	5	2	6	8	8	8	4	6.8	6.40

Year	Prix	Work	Artist	Ethos	Logos	Pathos	Concept	Expression	Description	Delivery	Scale	Complexi	Intensity	Pace	Advance	Ethos	Logos	Patho	Concept	Express	Descrip	Level	Index
00	GN	Vectorial Elevation, Relational Architecture #4	Rafael Lozano-Hemmer	website, streaming video,	internet, control, beam of light,	city scape, sensorium,	zeugma, symbolism, metaphor,	parallelism,	allusion,	control	9	6	6	7	7	6	8	6	8	4	4	7	6.50
99	GN	The Difference Engine #3	Lynn Hershman	avatar, website, interdisciplinary,	button, exposition in virtual space	gamification, exportation, affection,	versimilitude, metaphor, simile,	parallelism, exposition, parody, metastasis, hyperbole, meiosis,	allusion	navigate	3	6	5	4	5	8	4	8	8	14	2	4.6	5.97
98	GN	World Skin	Jean-Baptiste Barrière, Maurice Benayoun	shaddow icon,	virtual scene, immerse,	war, affection, sensorium,	metaphor, versimilitude,	hyperbole, cacophony,	idom, allusion, metaphor, symbolism	immerse	4	5	3	4	6	4	4	8	6	6	8	4.4	5.20
97	GN	Music Plays Images x Images Play Music	Toshio Iwai, Ryuichi Sakamoto	performance, interdisciplianry,	the match,	affection, sensorium,	simile, synaesthesic,	climax, rhyme, anastrophe, juxtaposition,	anastrophe	look & listen	4	5	6	7	6	6	4	6	6	10	2	5.6	5.63
96	GN	Global Interior Project	Masaki Fujihata	assitance,	opening door, video, feedback,	curiosity, affection, daily object,	metaphor, simile, symbolism, zeugma, versimilitude,	repetition, metastasis, hyperbole,	allusion,	meet	7	7	6	5	6	4	8	8	12	8	4	6.2	6.77
94	GN	A-Volve	Laurent Mignonneau, Christa Sommerer	technical,	display, moving	creation, affection,	animalification, verisimilitude,	repetition, meiosis,	rhetorical question, metaphor, simile,	draw	6	5	4	3	7	4	4	6	6	6	8	5	5.33
93	GN	Simulationsraum-Mosaik mobiler Datenklänge	Knowbotic Research	equipment, interdiscip	room explore, wearable, sound feedback,	emotion, sensorium,	animalification, metaphor, synaesthesia, verisimilitude,	repetition, synecdoche,	explain dash	experience	7	7	6	6	8	4	8	6	10	6	2	6.8	6.40
92	GN	Home of the Brain	Monika Fleischmann, Wolfgang Strauss	assitance,	material presence, abstraction,	sensorium, emotion,	versimilitude, metaphor	hyperbole,	allusion,	experience	7	7	6	6	8	4	6	6	4	4	4	6.8	5.73
91	GN	Think about the people now	Paul Sermon	scenario	hypermedia, affordance,	joystick, storytelling,	metaphor, symbolism,	metastasis,	epitaph,	play	3	5	5	5	7	2	6	6	6	4	2	5	4.67
90	GN	Videoplace	Myron Krueger	performace,	shadow indication,	gamification,	symbolism,	parody,	allusion,	reflect	4	3	7	7	7	4	4	4	4	4	4	5.6	4.80
15	-	Root Node	Nathan Guo	exposed,	reverse, water trigger, instruction pictures,	daily objects, sensorium,	metaphor, symbolism, irony,	repetition,	pun, parallelism,	water	5	6	4	4	3	4	8	6	6	4	6	4.4	5.03
14	-	Wanderl_st	Nathan Guo	assitance,	footprint, path recorder, feedback,	daily object, gamification,	simile,	matrix, cacophony,	omission, wordplay,	throw	4	3	5	6	4	4	8	6	4	6	6	4.4	5.03
16	-	Alibi	Nathan G, Muchen Z.	assitance,	robotic arm,	affection,	zeugma, verisimilitude, symbolism,	irony, paradox,	climax, parallelism,	move	4	3	7	7	7	4	4	4	8	6	6	5.6	5.47

Appendix 4.


SOURCE: CLASSICAL RHETORIC
INVENTION
APPEAL
ETHOS
PATHOS
LOGOS
ARTIST
AUDIENCE
INTERACTION
CONCEPTURALIZING
TOPICS
COMMON TOPIC
DEFINITION
GENUS
DIVISION
COMPARISON
SIMILARITY
DIFFERENCE
DEGREE
RELATIONSHIP
CAUSE AND EFFECT
ANTECEDENT AND CONSEQUENCE
CONTRARIES
CONTRADICITIONS
CIRCUMSTANCE
POSSIBLE AND IMPOSSIBLE
PAST FACT AND FUTURE FACT
TYPE
ALGORITHM
PROCESS
FLOW
PROTOTYPING
SPECIAL TOPIC
FORENSIC
JUDICAL
CEREMONIAL
POLITICS
LAW
REILGION
ECONOMY
SCOCIETY
BIOLOGY
NETWORK
SCIENCE
PRIVACY
...
OTHERS
TOPIC
GENERATION
ARRANGEMENT
EXORDIUM
NARRATION
DIVISON
PROOF
REFUTATION
PERORATION
SITE SPECIFCITY
EXHIBITION THEME
NARRATIVE OF ACTIONS
FLOOR PLANING
COUNTER FRAUD
MAINTAINENCE
DEBUG
INSTALLATION
SPACIALITY
ENTRANCE
OBSERVATION
EXPECTATION
ATTEMPTATION
EXPLORATION
EVALUATING
CRITICIZING
FUNCTION
TEMPORALITY
CONFIGURATION
TARGET: INTERACTIVE ART


STYLE
3 LEVELS
LOW OR PLAIN STYLE (ATTENUATA, SUBTILE)
MINIMAL, MICRO, MILD, STRAIGHTFORWARD, PIANO, LOW TECH
MIDDLE OR FORCIBLE STYLE (MEDI- OCRIS, ROBUSTA)
NEUTRAL, MEDIUM, INTERMEDIATE, MEZZO, MILD
HIGH OR FLORID STYLE (GRAVIS, FLORIDA)
COMPLEX, MACRO, INTENSE, FORTE, SOPHISICATED, HIGH TECH
LEVELS
4 VIRTUES
PURITY
PRECISE
CLARITY
CLEARNESS
PROPRIETY
USER EXPERIENCE
ORNAMENT
USEING STRATEGIES
QUALITY
STYLIZATION
FIGURES
TROPE
REFERENCE TO ON THING AS ANOTHER
SUBSTITUTION
OVERSTATEMENT/UNDERSTATEMENT
WORDPLAY/PUN
SEMANTIC INVERSION
SIMILE, METAPHOR
PERSONIFICAITON
SYMBOLISM
SYNAESTHESIA
REPLACEMENT
EXAGGERATION
HUMBLE
PARADOX
VERISIMILITUDE
CONCEPTUAL
SCHEME
STRUCTURES OF BALANCE
CHANGES IN ORDER
REPETITION
OMISSION
COINED TERM
PORTMANTEAU
IDIOM
RHETORICAL QUESTION
DESCRIPTIVE
SERIES
ANTITHESIS
SEQUENCIAL
CYCLED STRUCTURE
REPETITION
ELLIPSIS
EXPRESSIVE
STRATEGY
MEMORY
TITLE
DESCRIPTION
CONCEPT
CONTENT
FOR ARTIST
FOR MUSEUM GUIDE
FOR CURATOR
FOR REPORTER
SUBJECT
REPRESENTATION
DELIVERY
RESPONDING
EXPLAINING
ACTIVATIING
RESTATING
PERFORMING
REACTING
ACTION