



Contemporary design practice on meta-interpretation through experimental converging practices of sounds, images and data

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Abstract

The digital representation becomes the dominant form in the modern era, because of its appealing characteristics, such as variability, transcoding, and interaction in relation to multiple professions and disciplines. The invention of digital devices and contents has revolutionized the quality of sound, image, and data, the way in which they are contemplated, and the forms of art that produce activities and aesthetics concepts. The reproduction leads to the hyperreal scenes at the exhibition spaces of *Sun Yun-Suan Memorial Museum* in Taipei where sounds and images are produced, copied and stimulated in a way that mimetic cannot be told apart from the original data. Through bringing together its curators, historians, scholars, engineers, and design experts in data transcoding, the museum plays a role of the integration of expertise in creating new exhibition experiences and aesthetics, which do help visitors to realize the significance of diverse elements of converging sounds, images and data in relation to its cultural-heritage representation.

Keywords

Meta-interpretation, new media arts, exhibition design, simulation

Introduction

Digital Information communication and new media technology have the immense impact on the development of modern society. The new media revolution, the shift of cultural texts to computer-mediated forms of production, distribution and communication, which makes people start thinking about how to combine arts and design with technology. With the times of the 21st century, the day of emphasizing on logical and effective information replace by the one concerning with innovation, empathy and feeling. High concept and high touch are the main factors of having the creative thinking mode and lifestyle (Pink 2006). For the pulse of the times and trends, the researcher discusses how *Sun Yun-Suan Memorial Museum* in Taipei (Fig. 1) has employed integrated innovation in exhibition design, since 2014, and delving further into the new media as the carrier. New shapes of exhibition objects have served as communication media so that the images and sounds can be mixed used on the creations, and formed by projecting, framing, inlaying, attaching, hanging, and erecting (Fig. 2).

In addition, the researcher analyzes the role of the integration of expertise in creating new exhibition experiences and aesthetics in the 21st century. The museum helps visitors to engage in the experience of meta-interpretation by mixing a series of innovative technologies and devices, such as the *Flexpeaker™* (Fig. 3), invented by Flexible Electronics Pilot Lab of the Industrial Technology Research Institute (ITRI), Taiwan. Therefore, the social-context data are visualized and transcoded into specific images and life photography printed upon both sides of the surface of *Flexpeaker™*, as well as with sound effects to stimulate visitors' imagination of the events, the time and the underlying environment. As the result, the exhibition devices and artworks do help visitors to realize the significance of diverse elements of sounds, images and data in relation to its cultural-heritage representation.

Research methodology

The study aims to depict those experimental practices of sounds, images and historical data applied in *Sun Yun-Suan Memorial Museum* in Taipei, which bring together its curators, historians, scholars, sound engineers, and image-design experts in data visualization. In specific, the author employs case study method to discuss the follow-

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Fig. 1: Sign design at the entrance of **Sun Yun-Suan Memorial Museum, Taipei**



Fig. 2: Diversity of exhibition objects

ing questions:

How do we exhibit the intertextual texts, including sounds, images and archive data?

Could we create artistic practices in combining sounds, images and data in terms of the Aesthetics of the meta-interpretation approach?

Do the experimental practices of integrating sounds, images and archive data in Sun Yun-Suan Memorial Museum converge to be a hyper-real art practice?

Within this essay, the author acknowledges that the use of **semiotic analysis** as a research method refers to establish a **meta-language** that is open to criticism. This kind of semiotic study emphasizes connections among viewers, content, and cultural context. A *triadic relation* or so-called *ternary relation* is an important special case in the semiotics. That is, the semiotics treats of a 3-place relation among *signs*, their *objects*, and their *interpreters* (Su, 2013).

“A sign is composed of the *signifier*, a sound, written word, or image, in addition to the two levels of meaning of denotation and connotation (that is *signified*)”, said Roland Barthes (1915-1980). All the concepts of certain an expressive form are evoked underlying the process of signification (Barthes, 1967). Barthes's model is useful in examining how historical or cultural objects and images construct meanings: first, the sign is divided into a *signifier*; next, a *signified* later can show us that a variety of images can convey many different levels of meaning by their different interpreters. In other words, a sign would represent the content of any cultural heritage turns to be a meaningful form or expression that produces multiple layers of **meta-interpretation** for different types of visitors, such as local participants, historian and scholars, or foreign tourists.

In addition, there are main characteristics in conducting digital representation of data visualization and transformation, such as variability, transcoding, intertextuality, and interaction with the museum's visitors (Manovich, 2001; Su, 2013/2015). Further, the author addresses to the research questions by focusing on the characteristics of new media and applications of flexible electronic technology within this case-study research as follows.

The case study of Sun Yun-Suan Memorial Museum

Brief review of Sun's biographical text

Sun Yun-Suan (11th Nov., 1913 – 15th Feb., 2006) was a Chinese engineer and politician. As Minister of Economic Affairs from 1969 to 1978 and Premier of the Republic of China from 1978 to 1984, he was credited for overseeing the transformation of Taiwan from being a mainly agricultural economy to an export powerhouse (Yang, 1989).

During the period of the World War II (Fig. 4), Sun was a college student studied the Engineering in Harbin Institute of Technology (Fig. 5); followed by the GMT government and army, Sun later moved to Taiwan. In fact, he was sent to Taiwan In 1946 to work at the Taiwan Power Company, a public utility.

Managing a staff of several hundred, Sun was able to get 80% of the power network in Taiwan (destroyed during the war) restored in five months. His great achievement contributed to Taiwan Modernization and inscribe in the monument (Fig. 6), erected in 1951.

Curation exhibition of converging sound, image and data

According to Semiotic communication theory of *decoding* and *encoding* (Hall, 1997), the curators had followed the procedures to arrange the exhibits:

- The steps of *decoding* process include, first, to depict the original text written in print and transfer into a renewal collaboration; second, to divide the text into groups of relevant visual symbols as signifiers applied in the exhibition.
- The *encoding* process includes controlling of visual effects, lighting, color, sound and the speed of motion to imply the connotation of the text; and, arranging those sign of literary scripts and visual symbols as *signifiers* to facilitate the expression of underlying contextual connotation as the *signified*.



Fig. 3: Using Flexpeaker™ as exhibition objects



Fig. 4: A bird-eye view representing the WWII in the Northeastern China in an exhibited cardboard, which addresses to Sun had experienced the Japanese invasion in 1931 of northeastern China, known as Manchuria Incident



Fig. 5: Documentary exhibits displayed in the Sun Yun-Suan Memorial Museum

For instance, the biographical data of *Sun Yun-Suan* may be visualized and transcribed into specific images and films, and graphics to introduce the significances of those embedded cultural context, as well as with sound effects to stimulate viewers' imagination of the events, the time and the underlying environment between the past time and the present (Fig. 7-8).

A specific creative practice applied technology in exhibition design

Taking Sun-Yun Suan Memorial Museum as example in details, the author considered how to integrate creative technology and design practice, and focusing on the achievement of technique research: flexible electronic speaker (i.e. **Flexpeaker™**, invented by Flexible Electronics Pilot Lab of the Industrial Technology Research Institute – ITRI, Taiwan).

About Flexpeaker™, it developed by Flexible Electronics Pilot Lab of ITRI, Taiwan; Flexpeaker™ is one of flexible electronics applications, which helps ITRI received the Wall Street Journal's 2009 Technology Innovation Award. There are numerous technologies and products related to flexible electronics; flexible electronics is general term for using organic material, printing manufacturing process, Electronic Circuit, Optoelectronic Components, or the technology of setting on Flexible Substrate with low cost and the characteristics of being flexible. The technology utilizes paper and metal layers as the material with a thickness of less than 0.1 cm and uses standard printing for large-size paper-thin flexible speaker mass production. The great sound quality covers a range of 20 to 200 kHz. It is especially good for high-frequency sounds such as the chirps of birds and insects, where fidelity equals or exceeds that of conventional speakers (ITRI, 2012).

In addition, the Flexpeaker™ uses only 10% as much power of conventional speakers, making it environmentally friendly. The new technology will bring the acoustic speaker industry into a brand-new era, and help create revolutionary consumer products such as memory cards with voice capabilities and ultra-thin MP3 players. It could even be incorporated into other products that are integrated into green buildings, electric vehicles, entertainment and medical devices. The technology of Flexpeaker™ will help create new lifestyles and cater to the pursuit of personalized, humanized applications (ITRI, 2012/ 2015).

To introduce the social-economic- industrial contribution of the ex-Premier of R.O.C., *Sun, Yun-Suan*, his biographical social-contextual data are visualized and transcribed into specific images and life photography printed upon both sides of the surface of paper-thin Flexpeaker™ (Fig. 9) as well as with sound effects to stimulate visitors' imagination of the events, the time and the underlying environment. Therefore, Sun Yun-Suan Memorial Museum came out the integration of arts-design- expertise in creating new exhibition experiences with technology. The museum helps its visitors to take part in the experience of converging sound, images and documentary data by mixing a series of contemporary innovative technologies and devices (Fig. 10). The reproduction of contemporary sounds and images leads to the hyperreal scenes at the exhibition spaces in the museum where sounds and images are produced, copied and stimulated in a way that mimetic cannot be told apart from the original data. Just as "Simulations" of Jean Baudrillard, the digital visual communication media and digital interface changed into various ways and forms. However, it shows the hybrid of contemporary images and sounds. The creations are within the range of the Post-modernism, which stress on the interdisciplinary and inter-textual of semiotic translations.

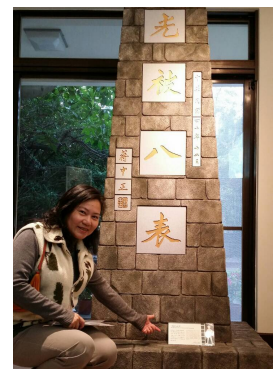


Fig. 6: The duplication of the monument displayed in the museum, inscribed "光被八表" four characters



Fig. 7: The representation of Sun's biographical data through the convergence of sound, image and data

New digital media aesthetics

As we have known, digital devices had a revolutionary impact on the development of image producing and viewing of exhibitions in Sun Yun-Suan Memorial Museum. All objects, whether they are created from scratch on computers or converted from analog media sources, are composed of digital codes. And, there are principles in conducting digital representation, such as digital representation, variability and transcoding etc., which enhance three aesthetics revolution (Su, 2016) as follows:

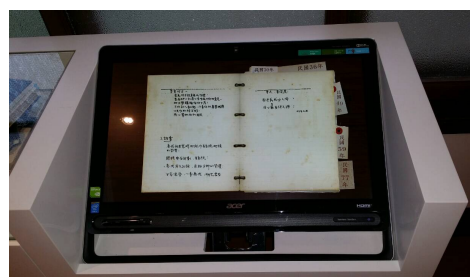


Fig. 8: Sun Yun-suan's Diary displayed on a touch panel

Embracing variability of hybrid

Digital trends changed everything and made things possible. Through the image producing, digital coding, fast-and-amount outputting and representation easily of computerization, the digital images took on the crossing type hybrid. They created a new thinking and watching mode of images. Moreover, they became a new method of communication of the contemporary arts creations. As Tsao (2007) mentioned in *Taiwan Digital Arts History*, the structures of hybrid could show out different levels. Hence, Image media could divide into digital photography, digital recording and computer graphics. Through the digital retouching,

the creations could edit with misplacement, collage and combination. The creations showed the regions, sources, types and visual hybrid.

Cross-over interaction through hypertext

Hypertext is a particular case of media, which uses media types — text of words, images and sounds. We can conceive of all possible paths through a media document as being different versions of it from now and then. The shift of all of our culture to digitalization, the sense mode, image concepts, social cultures have the great impact. The altera-



Fig. 9: Life photography printed upon both sides of the surface of paper-thin Flexpeaker™

tive readings will take up the differences between a computer screen and preceding its representational conventions and technologies. This is consistent with a general trend in modern society towards presenting more and more information in the form of time-based audio-visual moving image sequences, rather than as text. As new generations of both computer users are growing up in a media-rich environment dominated by e-devices rather than by printed texts, it is not surprising that they favor cinematic language over the language of print. Cinematic ways of seeing the world, of structuring time, of narrating a story, of linking one experience to the next, are being extended to

become the basic ways in which digital users access and interact with all cultural data.

The hypertext became the crucial media in the new media arts. Each sound and image like a node is an independent existence with intertextuality. For the forms and viewing experiences of contemporary new media arts, the timing and interactive space of new media arts turned into the center of viewing images. Through the tension of multi-media and peculiar space, the contemporary media arts assembled experiences and forms and created interaction between exhibits and visitors for the museum.



Fig.10: Mixing of innovative technologies and devices in the exhibition room

Hyperreal derived from semiotic transcoding

In general, digital media had a revolutionary impact on the contemporary sound-images producing, social structure and senses of human. The theory of simulations of Jean Baudrillard also influenced contemporary new media arts and design (Baudrillard, 1994; original work

published in 1981). According to the progressing of digital media, we had the different aspects and thoughts on creating and curating. Through the digital devices and the cross platform of images and sounds, the reproduction of contemporary images and sounds leads to hyperreal scenes for their viewers and audience through the deconstruction, collage, appropriation of the original historical or documentary data. The curator transforms the raw data later into the synthesis of design objects. In semiotic terms, the digital interface acts as a code that carries not texts, music and visual senses but simulations. Under this concern, the visitors' interpretations are all enchanted with the hyper-real scenes and experiencing whole new senses.

As D.N. Rodowick has mentioned, the trends of contemporary "new media" are fashioned upon a cinematic metaphor, and helping us see how digital technologies are serving (Rodowick, 2007). The innovation of media has perpetuated the cinematic as the mature audiovisual culture, lasting till the twentieth-first century. And, how we are preparing to embrace the new audiovisual culture whose broad outlines we are only just beginning to distinguish in this era (Rodowick, 2007; Gong, 2008).

Conclusion

The characteristics and principles of new media have revolutionized visual communication meanings, aesthetics concepts, and design creation modes in the exhibitions. In the case study of the Sun Yun-Suan Memorial Museum, the author has observed that its curator Interpreted and decoded the main signifier of exhibiting creations for probing into the cross-over and integrated innovation in design with visual communication media. There are also digital sound creations in progress. The exhibition creations are based on archiving, digital editing, photomontage and mixed.

In specific, there are steps for enhancing the innovation and sustainability in providing long-term digitalized access to those substantial data of cultural heritage as follows: meeting variability, semiotic transcoding, and developing interaction through the meta-interpretation of visitors. In the performed semiotic analysis, it is encouraged that visitors of museums can be introduced to several kinds of expression of the digital images design or synesthesia design. And, they can be led to deepening their knowledge of social-cultural context, which also bring the result of improving their recognition as well as imagination of aesthetic connotation. The digital exhibition devices and artworks allow visitors to realize the significance of diverse elements of sounds, images and data in relation to its embedded cultural heritage. Dealing with the different viewed aspects, diverse interactions, polysemous decoding of creations, the exhibition stands for a hope to find new angles of different layers of visitors' meta-interpretation.

Tradition and modern world hold not the relationship of opposition. As we look back to the past, we find what has passed over is the accumulation of the best. Retrieved from the documentary data of a conventional world whose Sun dedicated to, this case study of the Sun-Yun Suan Memorial Museum might additionally bring the merit of deepening understanding of the economic take-off era in Taiwan, especially toward the period of the late 1960-1980s. As the result, in the progress of digitalization underlying new global scale of the cultural-creative design (Lin, 2011), the contemporary images processing, curating thinking, exhibition creations, and aesthetic concepts all changed dramatically. Through the data access, the texts of Sun Yun-Suan worked in different media interface with ease. The curators who employ the digital devices and the cross platform of images and sounds, the structural difference of digital media, and the rise of innovative digital interface, create new state.

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