Visual Codes for Beijing Opera Masks

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Abstract: Non-verbal communication begins from Darwin's study of the facial expressions of humans and animals, facial mask of ancient Shang dynasty period to network emoticons. Is the evolution of the shape changes in the structure of visual icons more explicit and clear? However, are combinations of visual codes more complex or simpler? In terms of visual communication, are there other directions of development and possible space? This study attempts to identify the basic fundamental elements of visual communication, and to strengthen the general ideas based on the design of communication. This study will utilize the literature analysis to explore the relationship between Beijing Opera masks and network emoticons. Firstly, the study will look at a compilation of numerous samples of Beijing opera masks and remove all repetitive. Secondly, we identify and code Beijing opera masks according to the facial expressions' features. Then, the results show eyebrow29 categories, 263 items; eye type 11 categories, 254 items; lips 8 categories, 128 items. Furthermore, the study explores Paul Ekman's (1972) proposed six faces feature definitions. They are classified into the following six emotions: happiness, sadness, disgust, fear, anger, and surprise. Finally, the study will look at the basic elements of the Beijing Opera Masks and all possible combinations of visual coding.

Key words: Beijing Opera Mask, Visual Code, Emotcion

1. Introduction

1.1 Backgrounds and Objective

Surveys conducted on Taiwanese users of instant messaging software, found an instant messaging uaer rate of 92.7%. In addition, the lower the age group, the higher the usage percentage (15-16 years old: 99%, 35-39 years old: 81.3%) (Intercity Market Research, 2006). Industries hope to increase the effects of branding, increasing theme pack, animation, flash and background and other functions. In collaboration with icons design, offering a series of personalized emoticons, and opening up to the future opportunities. Therefore, the release of emoticons seems to have become an "alternative visual language of communication " and "sub-culture phenomenon."

Emoticons are designed mostly to exaggerate facial expressions and body actions for network communication. Through an analysis of Beijing Opera Masks in this study, it will be determined if different combinations of visual codes can have different degrees of impact in emotional communication.

Given these considerations, the aim of this paper is to sum up set of coding mode of Beijing opera mask combination of emoticons. By analyzing characteristics of Beijing Opera mask that we can encode logical

combinations. The applications and limitations of the set are discussed in the general discussion, and some future research steps are proposed.

1.2 Limitations

Mask pattern is mostly based on physiological patterns and outlining. Some subtle grains are just as decorated role; this study excludes them, and only considers the eyebrows, eyes, and mouth. As there are far many too kinds of network emoticons, we cannot gather and discuss all emoticons in this study. We are only able to conduct a case study to for purposes of analysis and discussion in this study. By employing Paul Ekman's (1972) 6 basic classification of facial expression (happiness, sadness, fear, disgust, surprise, anger) for the scope of this study, all other emotions are excluded.

2. Methods

2.1 Stage 1: Dismantling Beijing Opera Mask character roles - eyebrows, eyes, mouth

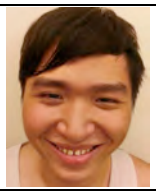
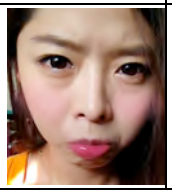
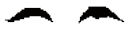
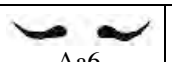
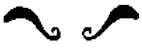
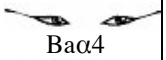
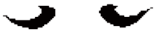
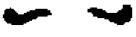
Figure.1 Dismantling Beijing Opera Mask

2.2 Stage 2: Decomposing and encoding Beijing Opera Mask - eyebrows, eyes, mouth

Figure.2 Encoding Beijing Opera Mask

2.3 Stage 3: Comparing Beijing Opera Mask and Paul Ekman's (1972) 6 facial expressions

Table 1. 6 facial expressions on Beijing Opera Mask

Emoticon	Happiness	Sadness	Surprise	Fear	Anger	Disgust
Facial expressions						
Eyebrows	 Aa1	 Aa4	 Aa2	 Aa6	 Aa7	 Aa10
Eyes	 Baβ3	 Baα1	 Bjα1	 Baα4	 Baδ7	 Baδ4
Mouth	 Ca2	 Ca1	 Ca5	 Cc5	 Ca3	 Cd12
Eyebrows	 Af3	 Aa11	 Ab3	 Ac5	 Ah5	 Ac9
Eyes	 Bk42	 Baγ1	 Bj10	 Baε2	 Baβ1	 Bjβ5
Mouth	 Ca4	 Cb3	 Cc4	 Cf14	Cg7	Cd23

3. Results and Discussions

3.1 Facial Expression: Happiness

From analyzing the differences in happiness expression between Beijing Opera Mask and ASCISS, we can see that ASCISS uses the symbols " : " or " ; " to represent the eyes and mouth, " ! " represent winking, "—" or "～" represent nose, but no symbol is allocated to the eyebrows. (Table 2)

There are no changes to the outer shape of Beijing Opera Masks. Eye Type **Bkβ1** shows the facial expression of giggling and chuckling, for example **Aaμ15+ Bkβ1+ Ch7.** Eye type **Bk42** shows the facial expression of smiling**, for example Aa1+ Bk42+ Cb7**. Eye type **Baβ3** shows the facial expression of sinister smiling, for example **Af4+ Baβ3+ Cf6**. This shows us that different kinds of eye types have different levels of smiling. The corners of the tiger mouth **Cb** are similar to an upward smile expression; even a closed mouth smile also has the emotion of smiling. Take **Af4+ Baβ3+ Cb7** for example, there are obvious changes on the smiling face, such as pulling up of the lip corner and an arc-shaped mouth, but the teeth are not exposed. The brazier mouth **Cf** and Chinese gold ingot mouth **Cc** have a big mouth, these express the feeling of laughing, their features include a wide mouth, an arc-shaped and exposed teeth. For examples **Af4+ Baβ3+ Ch8** and **Aaμ15+Bkβ1+ Cc2**. A hollow laugh displays a reluctant laugh and smile, shown in **An7+ Baβ3+ Cf1**. The elephant mouths Ch are mainly used in the shape of wizard and gods' mouth. They often have a mischievous laugh, for example **Af4+ Bk42+ Ch7**. Although dementia laugh does not show a malicious and bad heart, it also has no meaning, for example **Aaμ15+Bkβ1+ Cc2**. From the above mentioned examples, any stronger emotional elements combined with the weaker ones will diminish the strength of the expression, such as

a transfer from a laugh (**Aa1+ Baβ3+ Cc2**) to a smile or a smirk (**Aa1+ Baβ3+ Cb7**). Different intensities of elements produce many possible combinations and create different laughing expressions**.** Table 3 shows the detailed description of different levels of smiling.

Table 2. Comparison between Happy face and Beijing Opera mask

Eyebrow	*no changes in outer shape; Outer brow raiser*
Eye	*wrinkles on lower eyelid; the narrowing and fine lines of the eyelids; crowfeet wrinkling at the corners of the eyes*
Mouth	*lip corner puller; the mouth is open or not*
Others	*upper area of the cheeks*

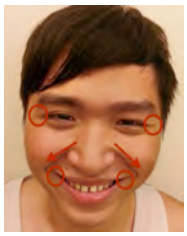
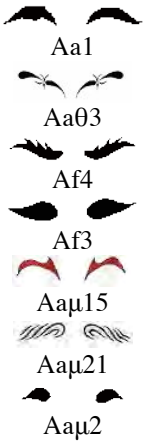
 **Happiness**	 Aa1 Aaθ3 Af4 Af3 Aaμ15 Aaμ21 Aaμ2	 Bk42 Bkβ1 Baβ3	 Ca2 Cb7 Cc2 Cf6 Ch7	  	
ASCISS	/ ""	: ;	**D J) P 3 B } >] I l) i**	**G:-)** **!-)**	**@/:^)** ***;-~I**

Table 3. Different Kinds of Smile

Smile*: a facial expression characterized by turning up the corners of the mouth; usually shows good feelings, pleasure or amusement.*				
 Aa1	 Baβ3	 Ca2	Aa1+ Baβ3+ Ca2	
Laugh: *a louder sound of amusement, made with the mouth open, the teeth showing and often written as the word ha-ha.*				
 Aa1	 Baβ5 (Anger)	 Ch8	Aa1+ Baβ5+ Ch8	
Sinister Smile: *the evil smiley face; note the use of pupil-less eyes to bring forth a scary look, akin to the flashlight beneath a face trick*				
 Aaμ15	 Baβ3	 Cf6	Aaμ15+ Baβ3+ Cf6	

Smirk: *a smile of triumph, conceit, or stupidity; a smile expressing smugness or scorn instead of pleasure*				
 Af3	 Baβ3	 Cc6	Af3+ Baβ3+ Cc6	

3.2 Facial Expression: Disgust

Table 4 indicates the differences in disgust expression between Beijing Opera Mask and ASCISS. Looking at the eyebrows of Beijing Opera mask, we can find that the eyebrows are squeezed inwards, but no wrinkles appear. Especially, the tails of eyebrow type **Ac9** and **At7** are up not horizontal. However, combinations **At7+ Bk41+ Cd5** and **Ac9+ Bk41+ Cf5** show mood of disdain. Type **Baδ4** shows a treacherous eye, the lower eyelid is pushed upward and curve-shaped, this gives the feeling of disdain and askance. The same eyebrow type **Aaμ** and mouth type **Ch** with different eye type show two kinds of feeling. **Aaμ34+ Baδ4+ Ch16** shows the feeling of impatience, but **Aaμ7+ Bk41+ Ch11** shows the feeling of disdain. A crooked mouth **Cd** is most common and has a large change on shapes. A crooked mouth has a lot of different characteristics from a normal one. Expressions with treacherous eyes, a crooked mouth and tongue sticking out naughtily usually appear on expressions of distain and disgust. The elephant mouth type **Ch** and the twitched-mouth type **Cg** are usually depicted on the mouth of wizards and animals. Table 5 shows the detailed description of different levels of disgust.

Table 4. Comparison between Disgust face and Beijing Opera mask

Eyebrow	*lower and slightly narrow their eyebrows*
Eye	*the lower eyelid is tensed; the eye opening narrowed; the raising of the upper eyelids are relevant to an anger expression*
Mouth	*curl their upper lips; the pressing of the lips; the mouth would be open ;the lip corners are drawn down and back*
Others	*a wrinkled nose with the eyebrows pulled down; raise their cheeks; protrude or move forward their tongues and make guttural sounds of "ach" or "ugh"*

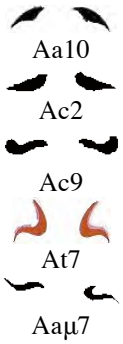
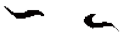
 **Disgust**	 Aa10 Ac2 Ac9 At7 Aaμ7	 Baδ4 Bjβ5 Bk41	 Cd23 Cd9 Cd6 Ch11	
ASCISS	/	**= G G .] .] ; : ¬ ¬**	**S - ? (r _**	**:S):- (:-r (¬_¬")**

Table 5. Different Kinds of Disgust

Nausea: *a feeling that one is going to vomit; sick to one's stomach*				
 Aaμ34	 Bg36 (Sad)	 Ch16	Aaμ34+ Bg36+Ch16	
Loathing: *hearted; detestation*				
 Aa10	 Baδ4	 Cd23	Aa10+ Baδ4+ Cd23	
Disdain: *lack of respect; the feeling that someone or something is low or worthless*				
 Aa10	 Baδ4	 Cd12	Aa10+ Baδ4+ Cd12	 Aa10 Baδ4 Cd12
Jealousy: *fear that another person will take away a loved one; the feeling of envy, of wanting what another person has*				
 Aaμ7	 Bg36	 Ch11	Aaμ7+ Bg36+ Ch11	
Arrogance: *self-importance, offensive to others*				
 Aaμ34	 Bdε3 (Anger)	 Cd10	Aaμ34+ Bdε3+ Cd10	

4. Conclusions

In this study, decomposing Beijing Opera mask, refer to Paul Ekman's (1972) proposed six faces feature definitions, and the results show eyebrow29 categories, 263 items; eye type 11 categories, 254 items; lips 8 categories, 128 items. Besides, we can find more detailed emotions, for example, Aa1+ Baβ3+ Ca2 represents a smile and Aa1+ Baβ5+ Ch8 represents a laugh. It is one kind of smile, but the degree of intensity smile is different. Comparing to comic and keyboard symbols, we hope to propose a visual emoticon of Chinese Culture.

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