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A VISUAL ANALYSIS OF

# FACIAL EXPRESSIONS IN CROSS-CULTURAL CHARACTER DESIGN

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## INTRODUCTION

Facial expressions have always been an important component of human visual language, serving as a means to express and comprehend emotions. Among the various facial features, the eyes account for 70% of expressed and perceived emotional information, playing a vital role in understanding and communicating facial expressions (Wang et al., 2015). According to Darwin (2009), there are 21 definite facial expressions that humans use to express emotion. These expressions may vary from person to person but share distinct similarities. However, understanding emotions varies depending on the cultural context and location. The two geographical regions with distinct observed variations are the East (East Asia) and the West (North America). These variations depend on various factors like cultural perceptions, religion, individualism versus collectivism and social philosophy (Herdin et al., 2020).

These differences have also been observed in visual representations of characters in popular media. Accordingly, this study aims to conduct a cross-cultural analysis of facial expressions in character design from popular sources in both the Eastern and Western regions of the world. The paper aims to focus on 3 of the 21 expressions, specifically happiness, sadness and anger. The analysis of visual representations in characters seeks to provide a better understanding of visual language across the world. The research is aimed towards a more cross-cultural, universal, and inclusive approach to design.

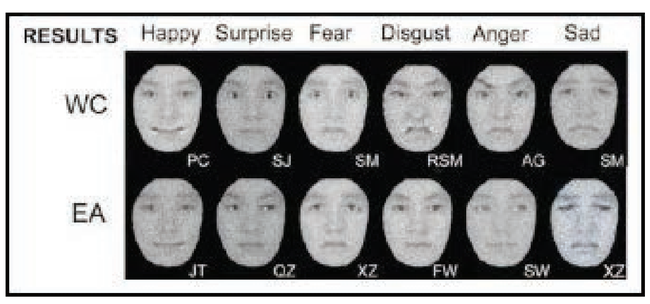


*Figure 3 -Illustration revealing differences between perceptions of expressions among Western Caucasians (WC) and East Asians (EA) (Jack et al., 2011)*

## PROBLEM STATEMENT


*Figure 1 - 8 of the 21 most common facial expressions. (Wang et al., 2015)*

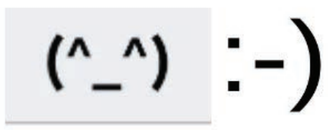


*Figure 2 - Pictograms of the smile Kaomoji (Left) and the smile emoticon (Right)*

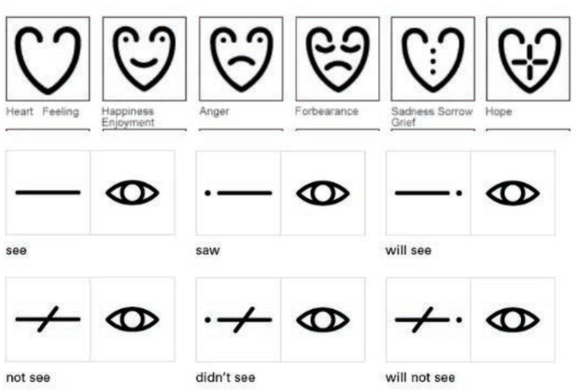


*Figure 4- Eyes portrayed in Yukio Ota's LoCoS*

Western philosophies and perspectives predominantly shape design education; thus, translating Western principles to an Eastern audience requires an in-depth understanding of the specific cultural contexts (Herdin et al., 2020). For example, pictograms hold great significance in visual communication; they are meant to serve as a universal pictorial representation of general information that transcends language and location (Bühler et al., 2022). However, the translation of basic emotions across diverse cultures proves to be more challenging than commonly perceived.

Humans display emotions in various ways, and one of the most distinct methods of doing this is through facial expressions. A study by the American Psychological Association (Jack et al., 2011) demonstrated the differences in the perception of human emotions through facial expressions. Facial expressions themselves are intricately dependent on the coordinated interaction of various facial features, namely the eyes, ears, brows, nose and mouth. Other features like the forehead and the cheek also play a role in facial communication (Wang et al., 2015). Nonetheless, in analyzing the differences between Eastern and Western depictions of facial expressions, the eyes emerge as a focal point. A notable case study highlighting the significance of eye representation in communicating emotions is the development of pictorial languages like Yukio Ota's LoCos (see fig. 4 below), which employs lines and dots to depict the human eye graphically. Even a simplified language like LoCos relies on the shape of the eye to communicate a particular emotion. Understanding these differences will allow us to develop a cross-cultural approach to design education.

## METHOD

Visual depictions of characters in popular media are crucial to understanding how the masses perceive emotions. Two major entertainment studios have been selected for this pilot cross-cultural analysis. Walt Disney Studios and Studio Ghibli. Walt Disney Studios is one of the largest media entities in the West and influenced pop culture through animated films like, The Little Mermaid and Frozen (Guttmann, 2023). Studio Ghibli is a successful representation of the Japanese animation industry with films like Spirited Away, which was one of the highest-grossing films in Japan for 19 years (Statista Research Department, 2016). The characters represented in these films are memorable, relatable and familiar to a mass audience. By analyzing the emotions depicted by the popular characters from these films, we can begin to gain a comprehensive understanding of the visual language disparities across cultures.

## RESULTS

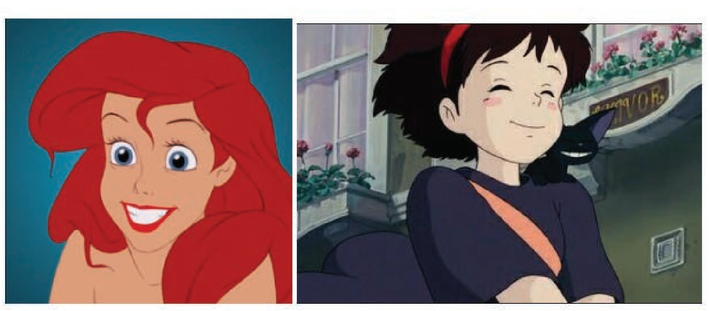

*Figure 5- Ariel, The Little Mermaid,1989 (Left) and Kiki, Kiki's Delivery Service,1989 (Right)*

The images above (Fig. 5) provide an example of facial expressions depicting happiness. The first image depicts Ariel from The Little Mermaid (1989), and the second image portrays Kiki from the film Kiki's Delivery Service (1989). Studies have shown that the eyes differ greatly when it comes to understanding emotions in the West as compared to the East. The images above concur with this hypothesis; Ariel's eyes are wide, whereas Kiki is squinting in order to portray the same emotion.

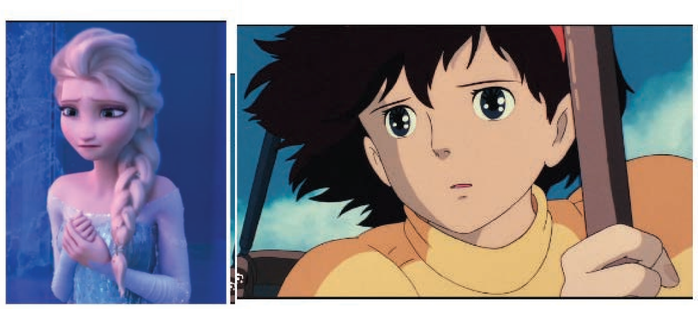

*Figure 6- Elsa, Frozen,2013 (Left) and Sheeta, Castle in the Sky, 1986 (Right)*

The images in Fig 6. above depict sadness in the two characters, firstly, Elsa from Frozen (2013) and Sheeta from Castle in the Sky (1986). The mouth expressions shown are somewhat similar, yet the difference in their eye expressions is evident. Elsa shows sadness by squinting a little, whereas Sheeta's eyes are wide open, Similar to Ariel's eyes in Fig 4., which were drawn to show happiness.

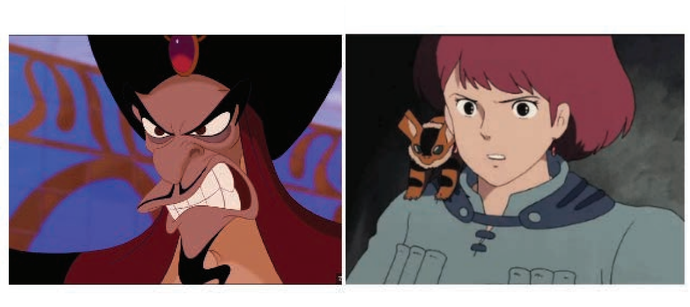

*Figure 7- Jafar, Aladdin,1992 (Left) and Nausicaä, Nausicaä of the Valley of the Wind,1984 (Right)*

The image in Fig. 7. portrays Jafar from the Disney film Aladdin (1992) and Nausicaa from Nausica and the Valley of the Wind (1984). The characters portrayed here are depicting anger. However, the facial language is completely different. Jafar is squinting and grinding his teeth. The mouth is more pronounced and aggressive. Nausicaa contrastingly is depicted with wide eyes. The distinction of the eyes, along with the slanted eyebrows, depict anger with more of a focus on the eyes as opposed to Jafar.

## CONCLUSION

This preliminary analysis of three of the five expressions has revealed discernible differences in how characters are portrayed across these two regions. The differences emphasize how the eyes play an important role in communicating facial emotions. However, further research is required to understand the variations comprehensively, and two more common expressions are currently being studied. The differences in facial language will be observed and analyzed in order to understand the subtle variations in these visual depictions. The results will aid towards a more inclusive approach towards developing universal pictorial representation across various cultures around the world.

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