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# Effects of Colour and Emotion in Illustration

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## ABSTRACT

Colour and illustration have intimate and indiscrete influence to our experience. Understanding the associations, symbolic meanings and emotional impact of colour is important for creating successful illustration. To create a resonance illustration, in particular, colour plays an important role in emphasising the atmosphere and enabling the story to be coherent. More often, colour is used to enhance the expression of emotional feelings such as excitement, happiness and calmness. This enhancement can help the illustration elements to be more memorable or impressive and, hence, effectively increase the readers' engagements to the story. This study aimed to create a story using illustration book to reflect the loneliness phenomenon in modern urban cities. The story comprised of a main character who lives in a city with rapid changes for urbanisation. The challenge of this study was to demonstrate the behaviours and emotional expressions through illustrations with limited text. Changes of the character's colour were made with the intention to emphasise the emotion of the characters in illustration from being passionate to be discouraged.

## 1. INTRODUCTION

"The visual image is supreme in its capacity for arousal" (Gombrich 1972 cited in Nodelman 1988 p.4). Nowadays, as the huge amount of images from mass media increases the acceptance and the needs of images for people, illustration becomes not only an accessory to texts, but also a common way to present social issues in our daily lives. Many mature readers are in favour of the concept of illustration books. The requirement of mature readers is not only to obtain one-way information from books; it is also necessary to enable resonance for the readers. Illustrated book is a suitable communication tool for the illustrator to reflect current issues of the society. Colours evoke meanings and emotions. Various colours have a psychological effect and culturally we can associate emotions and properties to objects simply by virtue of their colour (Gage 2000). Lusher identified blue as the most widely preferred colour among Europeans in which it is seen to be concentric, passive, sensitive, perceptive and unifying, and thus to express tranquility and tenderness (Lusher 1940 cited in Gage 2000). However, the colour emotions of orange-red, for example, is opposite to blue; it can be associated with eccentric, active, offensive, aggressive, autonomous and competitive, and hence expressive of desire and domination.

The final outcome of this study is an illustration book that is to describe the status quo of the metropolis issue and depict the external behaviour of the innermost depths of humans. Therefore, the study was undertaken in order to understand the alienation and loneliness to analyse this phenomenon from the perspective of psychology-psychological projection. In this study, the overall goal is to clarify the relationship between association, symbolic meanings and emotion impact applied in illustration. Changes of the character's colour were made with the intention to emphasise the emotion of the character in illustration from being passionate to be discouraged.

## 2. METHOD

### 2.1 Collection of emotion descriptors for urbanites

A review of 15 published illustration stories in the area of lifestyles was carried out with particular attention to the use of colour associations, symbolisms and emotion expressions. Twenty participants – who live in urban cities alone, are single and aged 23-35 – were formed to each provide 3 emotion descriptors for urbanites.

### 2.2 Connections between emotion descriptors and colours

The same group of 20 participants were further asked to assign a Natural Color System (NCS) colour, as shown in Figure 1, to best represent each of the descriptors they have given.

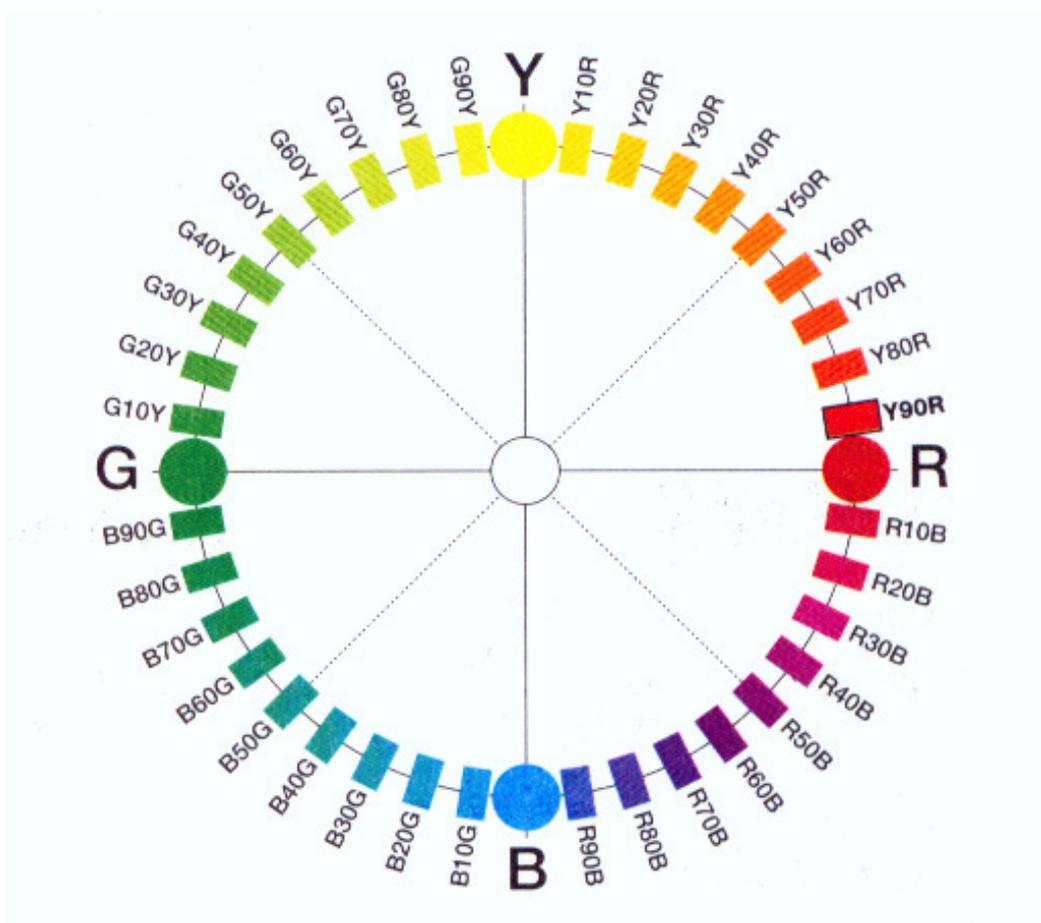


Figure 1: Schematic diagram of the Natural Color System (NCS) colours (reproduced from NCS, 2013).

## 3. RESULTS AND DISCUSSION

The most 12 popular emotion descriptors collected from the 20 participants are listed in Table 1. Furthermore, Table 2 reveals that the result of colour matching with emotion descriptors based on NCS.

Table 1: Top 12 emotion descriptors collected from the 20 participants.

Touchy	Aggressive	Excitable	Active	Outgoing	Leadership
Calm	Reliable	Thoughtful	Passive	Quiet	Anxious

Table 2: Emotion descriptors and their corresponding NCS colours selected from the 20 participants (number of responses is printed in bracket).

Emotion descriptors	NCS colours				
Touchy	Y (8)	Y40R (8)	Y80R (4)		
Aggressive	Y80R (8)	R (4)	R10B (8)		
Excitable	Y60R (12)	Y70R (4)	Y80R (4)		
Active	Y90R (15)	R (5)			
Outgoing	Y60R (7)	Y80R (3)	R10B (10)		
Leadership	R10B (10)	R90B (10)			
Calm	R80B (5)	R90B (7)	B (5)	B20G (2)	B30G (1)
Reliable	R70B (5)	R80B (7)	B50G (8)		
Thoughtful	Y10R (3)	Y40R (5)	B70G (7)	G (5)	
Passive	B (7)	B70G (5)	B90G (8)		
Quiet	R70B (3)	R90B (7)	B50G (2)	G10Y (8)	
Anxious	Y30R (2)	Y60R (8)	R (8)	G80Y (2)	



Figure 2: Example pages of applying colour to express emotions in the illustration work.

Through the study of social psychology, personality theory, the method to emphasised the atmosphere is based on colour emotions as mentioned above. The colours of character are changing with the main character's emotion from warm colour (red) to cool colour (blue and black). Even though all of the colours might includes both positive and negative meanings, based on the result obtained from the focus group's responses, the colour yellow and red attained a number of positive emotions such as active, passion and excitable which can associated happiness and hopefulness. During the alienation atmosphere in urban area, the feeling of isolation makes the main character stressful and disappointed. The final outcome of this study was a story book with 20 pages of illustrations. Figure 2 shows some example pages of the storyboard. The use of yellow and orange of the main character intended to illustrate the positive and optimistic personality. The proportion of vivid colours decreased with the story developed and gradually turned into dark when the character's emotions influenced by the surrounding loneliness phenomenon. The correlation with colours and emotions can emphasise a stronger image impression to allow a coherent story without narratives.

#### 4. CONCLUSIONS

This study is concerned with alienation issues and illustration expressions. The final outcome is a 20-page illustrated book with hand drawings. The characters are designed to have an urbanite look with untouchable appearance without facial features. The main character is designed to appear in vivid colour at the beginning of the story; however, whilst experiencing changes in the city, the colours on main character becomes duller and darker with the story developed. The story shows how the atmosphere in an environment affects people. Hence, colour emotion can be apparent in how people associate colours with feelings, personalities or environment.

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# Colours of Luminescent Glasses for Artworks

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## ABSTRACT

Lanthanide ions display intense photoluminescence under UV light. When incorporated in glass they are used not only in technological applications, but in artworks as well. Luminescent glasses with compositions similar to those used in utilitarian, decorative and architectural applications, doped with small amounts of several lanthanide oxides, namely europium, terbium, cerium, dysprosium, samarium and thulium, have been prepared in our laboratories. A few examples of their application in artworks will be presented.

## 1. INTRODUCTION

Special optical properties are constantly being explored by contemporary artists. Light has an exceptional effect in the art field. Several artists made neon installations in museums, cloisters and other public places (Shiess 1994) or artistic installations using fluorescent light tubes (Reis 1999) and fluorescent materials (Ritter 2009). Photoluminescent glass has also a very interesting effect for artists to explore, since luminescent colour only appears under UV-light (Almeida 2011, Almeida et al. 2008). Luminescent glasses can be understood as “smart materials”, a relatively new term for materials which have changeable properties and that are able to reversibly change their shape or colour in response to physical and/or chemical influences (Ritter 2009). Photoluminescent glass can be obtained by the addition of lanthanide elements. These glasses display interesting luminescent colours which can be tuned by changing the lanthanide and the composition of the glass matrix (Gorller-Walrand 1998). The light effects thus obtained improve the visual value of the artworks and seem to have extraordinary potential. The research unit *Vicarte “Glass and Ceramic for the Arts”* where scientists and artists are working together, is developing new materials with luminescent properties in collaboration with *Requimte* and *Uninova*.

## 2. METHOD

Different lanthanide oxides were added to different glass batch compositions in order to obtain luminescent glasses and apply them in artworks.

### 2.1 Sample Preparation

Two different types of soda-lime luminescent glasses were produced. One composition is similar to those used in utilitarian and decorative applications; the other one is the float glass composition, usually used in architectural applications. It was added 2% wt of  $\text{Eu}_2\text{O}_3$ ,  $\text{Tb}_4\text{O}_7$ ,