Strategies of colour and lighting design in the cinematography of Christopher Doyle

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**NANYANG
TECHNOLOGICAL
UNIVERSITY**

SINGAPORE

**Strategies of Colour and Lighting Design in the Cinematography of
Christopher Doyle**

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School of Art, Design and Media

Statement of Originality

I hereby certify that the work embodied in this thesis is the result of original research, is free of plagiarised materials, and has not been submitted for a higher degree to any other University or Institution.

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Professor Ben Alvin Shedd

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Preface

This thesis will be studying the visual aspects of cinema through the detail case study of Cinematographer Christopher Doyle's visual works. The thesis will be studying specifically the following feature length films photographed by Christopher Doyle *Chungking Express* (1994), *In The Mood For Love* (2000), *Hero* (2002), *Rabbit-Proof Fence* (2002), *2046* (2004) and *Fundamentally Happy* (2015) in depth to analyse and determine Doyle's methodology in cinematography and lighting techniques in narrative filmmaking over the years. Drawing from the author's experiences as a lighting designer as well as on contemporary theory, the thesis will explore on the role of colour, lighting and camera in film narratives and storytelling. Brief surveys of other films lensed by Christopher Doyle such as *Psycho* and *Last Life in the Universe* will also be included to support the findings in the author's research.

Acknowledgements

I would first begin by thanking my Master's Degree research supervisors, Professor Ben Alvin Shedd for the guidance and patience during my learning. I would like to thank my lighting mentor, John Lim. I would like to thank research assistant Chu Hao Pei for the fantastic visual compilation alongside with the support that he provided and his dedicated work during the research process. They have given me the strength to continue when things seem at their bleakest, in both my journeys through academia and the professional film practice. For that, I am eternally grateful to be able to have them as mentors.

I would like to thank Christopher Doyle for his unwavering support and giving me the opportunities to work on several feature films together. It is my honor to be able to work on a feature film as a lighting designer for Christopher Doyle and I hope to share the vision of the renowned cinematographer's techniques to other lighting designers and filmmakers, both experienced and learning.

I would like to thank ADM Research Chair Associate Professor Andrea Nanetti and Graduate Office Chia Hsiao Ching, and Song Jia Hao Jess along with Hong Bee Kuen, whose infinite patience I sincerely appreciate. The team was always approachable and great advisor to my life as a researcher.

Finally, I would like to express my deepest gratitude to my wife, Pamela and my parents, Nam Seng and Alice, without whom this research wouldn't be possible. Thank you for the support and encouragement in my lighting designer career and making this dissertation possible.

Abstract

Cinema visual design is a fundamental element of film form and the aesthetics and storytelling aspects of cinematography need thoughtful examination in cinema. This thesis investigates a detailed format aspect of modern cinematography that has been neglected relatively in cinema study. The research aims to highlight the importance of cinematography in narrative storytelling through the case study of Director of Photography Christopher Doyle's aesthetic practices through the major high-budget feature film *Hero* (2002), the mid-range-budget feature film *In the Mood for Love* (2000), *Rabbit-Proof Fence* (2002) to the independent low-budget feature films *Chungking Express* (1994) and *Fundamentally Happy* (2015). In particular, the merit of this research is its scholarly attention on an individual artist, Christopher Doyle, by examining his role and aesthetics on the role of colour, lighting, and camera in film narratives in determining the overall look of the film. The main findings will show the relationships between colour and space, colour and character motion, colour and mood throughout Christopher Doyle's consistent visual style and his wide variety of works over the past twenty-five years. The study of these 5 feature films by renowned Directors Wong Kar Wai, Zhang Yi Mou, Tan Bee Thiam and Phillip Noyce will also showcase a detailed visual analysis of various narrative styles. Through ethnographic study, the thesis will include visual analysis of Christopher Doyle's lighting design and cinematography techniques. The research aims to discover the role of colour, lighting and camera in construction of film narrative and the influence of digital colour grading through both visual analysis and ethnographic study. This study is important research to tell the aesthetic practices throughout Christopher Doyle's work and how technological and artistic factors have defined this unique visual cinematic style.

Christopher Doyle is a member of Hong Kong Society of Cinematographers (HKSC). Doyle has won 47 awards for Best Cinematography in various international festivals¹. In 2000, Christopher Doyle was awarded Technical Grand Prize for *Faa yeung nin wa (In the Mood For Love)* (2000) in Cannes Film Festival. In 2017, Cinematographer Christopher Doyle was honoured during the 70th Cannes Film Festival with the “Pierre Angenieux ExcelLens in Cinematography” award, in tribute to his successful and influential career.

¹ "Christopher Doyle," IMDb, accessed April 12, 2019, <https://www.imdb.com/name/nm0236313/awards>.

² "'Pierre Angénieux ExcelLens in Cinematography' Goes To Christopher Doyle." British Cinematographer. July 26, 2017. Accessed February 12, 2019. <https://britishcinematographer.co.uk/pierre-angenieux-excellens-cinematography-goes-christopher-doyle/>.

Introduction

Cinematography has assumed an important and integral part in the art of motion picture making. It is both an art and a science. An imaginative, creative Director of Photography (also called the Cinematographer or DP), through proper use and manipulation of lighting design and camera work, can create mood, depth, romance, tragedy, perspective, tension, memories, and realism to an extent as to make the audience a part of the story. The cinematographer is responsible to work in consultation with the director and supervises the camera and lighting crews to realize the desired images to the narrative visual of the film. Cinematography requires knowledge of several kinds of technology: Cameras, lenses, filters, lights and colour grading. It requires craftsmanship and creativity in designing camera setups; in composing the frame as a painter composes a picture; in using the process to achieve maximum consistency and beauty to the narrative of the film.

There is a need of research on modern cinematography and visual design techniques in the current day contexts as the first publication of the art of cinematography is dated from 1949 book, *Painting With Light* by John Alton³. It is essential to explore on the potentials of the various visual construction of the image in relationship to the narrative in film and to understand the various modern day cinematography techniques with the changes of technology in the production of film.

The visual in film presents a compelling illusion of three-dimensional space. The use of lighting, camera movement and visual design through brilliant cinematography techniques by the cinematographer is essential to accentuate depth to maximize that illusion of two-dimensional space. Rudolf Arnheim's *Film as Art*⁴ confronts the importance of lighting in resembles reality in film.

³ Alton, John, John Bailey, and Todd McCarthy. *Painting with Light*. Berkeley: University of California Press, 2013.

⁴ Arnheim, Rudolf. *Film as Art*. London: Faber and Faber, 1983.

In Arnheim's observation, lighting is essential in the art of cinema to create depth in the visual and triumph over the two-dimensional nature of the image.

"...Lighting, for instance, helps greatly in making the shape of an object clearly recognizable. The background must be of a brightness value that allows the object to stand out from it sufficiently; it must not be patterned by the light in such a way that it prevents a clear survey of the object by making it appear as though certain portions of the background were part of the object or vice versa. How these problems are solved determines whether the film shot turns out anything like the real object or whether it looks like something totally different."⁵ (Arnheim 1957, 15)

Arnheim's observation is relevant to current day cinema design as film cinematographer always have to overcome the challenge of using various lighting techniques in narrative storytelling. Through the observation of his text, narrative has a set of principles and techniques to guide the visual design of the film.

There is a need to research on modern day cinematography with reference to C.S. Tashiro's book *Pretty Pictures* as Tashiro foregrounds the important aspect of visual design in cinema drawing how production design and cinematography can support narrative structure and exist in an entirely parallel realm of meaning.⁵ With reference to Howard S. Becker *Art Worlds* and collective activity, Becker conveys that "All artistic work, like all human activity, involves the joint activity of a number, often a large number, of people. Through their cooperation, the art work we eventually see or hear comes to be and continues to be. The work always shows signs of that cooperation. The forms of cooperation may be ephemeral, producing patterns of collective activity we can call an art world."⁶ (Becker 2012, 1)

⁵ Tashiro, Charles Shiro. *Pretty Pictures: Production Design and the History Film*. Austin: University of Texas Press, 1998.

⁶ Becker, Howard Saul. *Art Worlds*. Berkeley, Calif: University of California Press, 2012.

From the research, this thesis paper will include the author's production ethnographic study through compilation of scene analysis with diagrams and setups which he hopes will be used in a number of ways. For film scholars and students, this material will supply a means to study the visual style and to understand the role of colour, lighting and camera in the construction of film narrative, especially the techniques and aesthetics of cinematography which are discussed in the thesis.

This research paper aims to capture the undeniable leading role of Christopher Doyle's visual design in cinema, focusing on the importance of cinematography in narrative storytelling through a case study this cinematographer's creative work. The research will raise the important roles of colour, lighting and camera design in narratives by uncovering the different techniques that Christopher Doyle adopts in shaping our experience of the feature films by detailing aesthetic elements used in the films. The research aims to capture the different colour strategies and lighting techniques. It will research on how technological and stylistic norms constraints shape Doyle's visual strategies in designing colour in his scenes. How does colour strategy work along with the narrative of the film? Readers will be able to understand the importance of cinematography techniques in narrative storytelling and how the techniques have a sustained influence on screen aesthetic. As we move further into the digital age, there will be tools created to automate this color logging. It may be helpful for such tools to use some of the color analysis outlined in this thesis to provide aesthetic possibilities and understanding. The author goal is not to increase the validity of the thesis, but to broaden the study to encompass a broader range of purposes for future research.

The first chapter of this thesis discusses the technology influence on cinema and importance of cinematography as an essential element in motion picture production.

Chapters 2 and 3 will cover the literature review of Christopher Doyle's influences and research methodology, while acknowledging the importance of narrative, focuses on the cinematography techniques in relationship to the narrative structure of a film. This is a reference literature review on the narrative terms in film through the use of colour and lighting in formal dimensions of cinema design. By focusing on the narrative and technical aspects of film design, the author hopes to contribute to the narrative motivation of cinema. The research will be a complementary reference to previous discussions left by other film scholars.

The research design for the thesis will be using a mixed-methods research approach of both qualitative and quantitative methods in the studies. Mixed method is a research design for data collection and analysis. In order to understand the relationship of cinematography in narrative storytelling, this research focuses on Christopher Doyle's visual style and colour strategy. Christopher Doyle's influences and range of work will be studied from the five feature films made over a twenty-five year period. With the support of literature review, film analysis and visual scene analysis, this research will be able to identify the role of colour, lighting and camera in the construction of film narrative through the case studies of Christopher Doyle's films.

Chapters 4 through 6 map out a scene analysis of Christopher Doyle and apply these observations to five films in detail. These films were selected to provide a wide range of approaches to the cinematography techniques. From the study of visual elements, lighting and colour in the five films, the reader will be able to understand the relationship of colour and mood, lighting and character emotion and camera movement in narrative through the visual analysis and ethnographic case study.

After examining all the reactions and techniques in these films and their visual design, Chapter 7 will summarise the research and take the discussion into the modern context of research. This final section is an effort to understand the interrelationships between Christopher Doyle's influence to the next generation of filmmakers and the trend of techniques in the modern cinema.

How colour and lighting have a sustained influence on screen aesthetics?

The connection between filmmaking and painting has been a discussion for over a century. In *FilmCraft Cinematography*, Goodridge and Grierson write “The historical imagery of painting has provided major reference points for how film practitioners have perceived their work.”⁷ Misek in *Chromatic Cinema* follows with “Rouben Mamoulian (the director of *Becky Sharp* (1935), the first full-colour Technicolor feature film) boldly asserted that “we, the makers of colour films, are actually painters. We are painting with light...” (1960:71). *Painting with Light* was also the title of Cinematographer John Alton’s influential 1940s textbook on lighting.⁸”

There are many distinct similarities between the process of painting and cinematography. Painters use colours and application of layers of pigments and strokes to create the painting. Likewise, cinematographers use cameras, lenses and lights; they are able to derive their works from the passage of light through the use of a simple and yet intricately complex lens. There is a long history behind the use and choice of colour. Besides defining an artwork’s original and natural properties, an artist must also consider the origins of a particular colour.

The quality that usually attracts this author to a scene in a film is the lighting design, and something that is particularly of interests is how the light creates a distinctive ambience and mood throughout a scene. As the impact and subtleties of light can only be interpreted through tones of colour, always the greatest challenge is to find those colour harmonies that will conjure up the right atmosphere and sense of place. The essential quality to be captured is the feeling of a particular kind of light at a certain time of day.

⁷ Goodridge, Mike, and Tim Grierson. “Cinematography.” *Cinematography*, vol. 2, Elsevier, Focal Press, 2012, 9–10.

⁸ Richard Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 145.

The visual style, the light, colours, the way the actors and camera move all depend upon the space and mood of light in which a scene takes place. To create a scene in particular mood and atmosphere uses skills that depend to a great extent on a knowledge of colour and confidence with the lighting design. A well-crafted colour lighting could showcase a film's production artistic motivation and story develop.

In the early cinema for example, the use of lighting colour design was especially important because it was considered a conspicuous instrument in a world of black and white filmmaking. Over the century, usage of colour lighting in film has been proven as a powerful visual device in storytelling in film.

To understand the importance of colour in cinema is to see its significance in shaping the norms of visual design in cinema. Colour in cinema started to come alive in the 1930s after some hand-colored movies in the decades before. Although the first colour film *Cupid Angling* was shot in 1918, colour representation in film started in the 1930s with *The Wizard of Oz* (1939) where filmmakers took notice of using wardrobe and set design to work on complementary colour combinations to create more dynamics in screen images.

Notable musicals in the 1930s include *The Goldwyn Follies* and *The Adventures of Robin Hood*. These musicals formed an important strain of production. Three-strip Technicolour is a process of colour cinematography using synchronized monochrome films, each of a different colour to produce a colour print. The sequence was also tested in the then contemporary drama *A Star Is Born*. This decade-long experiment formed the beginning days of the usage of colour as a form of narrative and character in the early cinema of Hollywood.

Christopher Doyle is known for his use of strong colour visual aesthetics in his film works, be it from the coloured lighting design, camera movement or set design. In this research, the aim is to discuss the importance of cinematography in narrative storytelling through a case study of Christopher Doyle works. The key finding will be the relationship of colour, lighting and camera strategy with the narrative storytelling through Christopher Doyle works and how Doyle has used to accentuate his visual storytelling; of which the different design and colour components of (value, saturation and hue) to produce specific visual effects as well as serving as a visual device, function, and a motivation in the storytelling of a film.

2. Literature Review

This literature review will provide a contextual examination of the themes within the research.

Background of Research

The particular alchemy that makes up a great film is rarely achieved – little wonder, considering the demands on the team of people who must come together to support a common vision. It starts with the screenplay and over time crystallizes into another form through the efforts of the production and director, cinematographer, acting talent, production crews, editors, composer and scores of others in each department. And, film being a very expensive art form to realize, the team is working under pressures of time and finance that can often stress and many times enhance a finished work. Like a building, a film is constructed from the ground up each time, using the basic blueprint of script and director. Knowledge and experience are key, but beyond that a film requires that special, indefinable vision that all great artists possess. The cinematographer is in charge for lighting and photographing a film. Working in collaboration with the director and lighting crew, he or she supervises the lighting and camera crews to realize the desired images. The cinematographer is responsible of the key visual and the look of the film to further the story in both obvious and subtle ways. In the early days of cinema, the director also operated the camera; the lighting was provided by direct sunlight or sunlight diffused by the glass ceiling of early studios. But by the turn of the 20th century, as filmmaking became more sophisticated and films began to consist of multiple shots and locations, it opens a new area of research in the field of cinematography. Artificial lighting on sound stages was added to the mix, beginning an era of creative lighting that could change the mood and look of a film entirely. This is the period in which colour was defined as a cinematic device and assimilated into the classical system. The use of different lenses, the introduction of colour, and ongoing technical innovations throughout the twentieth century gave rise to an explosion of creative solutions and interpretations on the part of filmmakers who repeatedly defied convention to establish particular visual styles and moods.

The cinematographer is not merely the camera operator, but leads a team of people that often includes an operator, a focus puller, a grip for camera movement and a gaffer who does the lighting, all with teams of people. Working with the director, the cinematographer establishes the composition of a scene, the way it is lit, the movement of the camera in relation to the actors or location, and can often have a say, alongside the director and designers, on which colours should be used.

Cinematographer Christopher Doyle has largely worked on non-USA films, mostly not in English, with budgets that are often a fraction of what would be devoted to a Hollywood studio blockbuster. Doyle says that part of his art consists of working out the most creative solution within the confines of budget and location.⁸ A goal of this research is to analyze Christopher Doyle's visual style and his consistency of cinematic visual style over his range of work.

Good cinematography will influence, guide and move the audience on a direct and subconscious level in a film.

Mike Goodridge, author of the book *Cinematography*⁹, did 35 interviews with many notable cinematographers including Vilmos Zsigmond, Michael Ballhaus and Christopher Doyle. From the examples in those interviews, no two cinematographers are alike and all are fascinating, sometimes eccentric personalities with strong opinions and ideas⁹.

In this thesis, a cinematographer to highlight is the late Gregg Toland, one of the living legends in the field. He is known for his lighting techniques in the feature films *Citizen Kane* (1941), *The Best Years of Our Lives* (1946) and *The Long Voyage Home* (1940). Lighting design had specific meanings in work of Toland. Toland's theories and practical work in film visual style will be used as reference to studying Christopher Doyle's cinematography in films.

⁸ Goodridge, Mike, and Tim Grierson. "Cinematography." *Cinematography*, vol. 2, Elsevier, Focal Press, 2012, 9–10.

One of the first consequences of incorporating of film theory into popular criticism was the attribution of visual style to the director. Who is responsible of the aesthetic and the look of the film? If you accept the idea that the director is the most important person in the creation of a film's form, it is logical to assume that the director is as responsible for the look as he or she is for the actor's performances. In the discussion of literature review of Lucy Fischer, *Art Direction & Production Design*¹⁰, Fischer expect the contributions of visual technicians like cinematographers and designers to rise to prominence. Some prominent cinematographers, such as Vittorio Storaro, Vilmos Zsmond and others did become almost as famous as the directors (Stanley Kubrick, Francis Ford Coppola, and Robert Altman, respectively) with whom they worked. And yet the aesthetic and visual design contribution to the look of the film is rarely received as much attention despite the fact that the cinematographers and visual designers often contributed as much to the looks of the projects on which they worked as the director. Just as the qualities of a still photograph or a painting result from the interaction between subject and artist, the look of a film's physical world arises from the collaboration among director, Cinematographer, and designer. The cinematographer can be attributed in part to the realistic image and cinematic expression and the medium's power to persuade and manipulate viewers in the narrative illusion¹¹.

The recognized importance of lighting in cinematography started since film noir where the visual is filled with hard lighting and dark shadow. The cinematographer uses lighting, colour and camera movement to bring out the narrative illusion to the viewer. In order to succeed, the cinematic illusion must occur in a physically consistent universe.

¹⁰ Fischer, Lucy. "Art, Set, and Production Design." *Oxford Bibliographies Online Datasets*, 2012.

¹¹ Tashiro, Charles Shiro. *Pretty Pictures: Production Design and the History Film*. Austin: University

The studies of colour as an important aspect in film and aesthetic which tend to be overlooked. The author hope to discuss on colour, lighting and camera in construction of film narrative.

In 1916, Psychologist Hugo Münsterberg suggested in his book of *The Photoplay: A Psychological Study* that films can have the ability to transform interiors and landscape in accordance with the character's inner state.

“...The feeling of the soul emanates into the surroundings and the impression which we get of our neighbor's emotional attitude may be derived from this external frame of the personality as much as from the gestures and the face. But just this additional expression of the feeling through the medium of the surrounding scene, through background and setting, through colour and forms and movements, is very much more at the disposal of the photo artist. He alone can change the background and all the surroundings of the acting person from instant to instant. He is not bound to one setting, he has no technical difficulty in altering the whole scene with every smile and every frown.”¹³ (Münsterberg 1916, 119)

With reference to the recent 2013 publication, *Colour and the Moving Image* edited by Simon Brown, Sara Street and Liz Watkins, the book is a good reference on the various emerged colour strategies and the immediate connection to viewer's reactions with narrative and the alignment of viewers with the characters. The author is taking references from this book with regards to the quantitative method of analysing colour in film in this research approach.

¹² Brown, Simon, Sarah Street, and Liz Watkins. *Color and the Moving Image History, Theory, Aesthetics, Archive*. New York, NY: Routledge, 2013.

¹³ Münsterberg, Hugo. *The Photoplay a Psychological Study*. Hamburg: Tredition, 2011.

The research will also concentrate on colour as sensory experience through detail analysis of the colour choices with reference to the narrative. Like music or lighting, colour offers a supplementary register to establish set mood and highlight narrative development.

Christopher Doyle's uses colour as an expressive function in *Chungking Express* where he uses chromatic shifts with the narrative sequence of the film. Colour Director Natalie M. Kalmus highlighted in *Color Consciousness* that colour constitutes another step in the advancement of film toward realism, the same principal of colour, tone and composition applying to the motion picture as to the art of painting.¹⁴

*"We have found that by the understanding the use of colour we can subtly convey dramatic moods and impressions to the audience, making them more receptive to whatever emotional effect the scenes, action, and dialog may convey. Just as every scene has some definite dramatic mood-some definite emotional response which it seeks to arouse within the minds of the audience-so, too, has each scene, each type of action, its definitely indicated colour which harmonizes with that emotion"*¹⁵

(Natalie Kalmus)

¹⁴ Gunning, T. (1994) "Colorful Metaphors: The Attraction of Color in Early Silent Cinema", *Fotogenia*, 1: 249-255.

¹⁵ Kalmus, Natalie. *Color Consciousness*. 1st ed. Vol. 1. UK.1935.
doi:http://www.zauberklang.ch/Kalmus_ColorConsciousness_SMPE_1935_print.pdf.

Kalmus's perspective is towards the representation of an indicated colour which harmonises with an emotion. The choice of colour is not limited to its effects in the visual field, but also induces a shift in the interplay of the other sensory perceptions in the narrative of the film.¹² Christopher Doyle has established a strong personal colour vision and lighting style with the employment of such colour strategies as *chiaroscuro* lighting technique. The films *Vertigo* (1958) and *Suspiria* (1977) have had a huge influence and contributed greatly to the development of Doyle's personal cinematography style. He has managed to adopt these elements from the earlier films to make his mark in the film industry, especially in Asian cinema.

Cinema Studies Scholar Professor Tom Gunning opens his paper *Colorful Metaphors: the Attraction of Color in Early Silent Cinema* by describing: "Two Roles for Color in Film. Color in cinema generally plays a contradictory role, On the one hand there is the claim, made most explicitly by Bazin's essay "The Myth of Total Cinema," that colour plays an essential part in the fulfilling of the ideal of cinema's first inventors: "the reconstruction of a perfect illusion of the outside world in sound, color and relief." (Andre Bazin *What is Cinema?* Vol.1 Berkeley: University of California Press, 1967) On the other hand, color can also appear in cinema with little reference to reality, as purely sensuous presence, an element which can even indicate a divergence from reality."

It is these two realities which this Thesis explores through case studies of the creative work of Cinematographer Christopher Doyle.

The research will focus on colour and space, colour and character emotion and colour and mood in narrative through the case study analysis of Christopher Doyle's film. The colour research in the thesis will extend the current literature by working with the most updated colour technology in digital colour grading, visual style, theory, the practices of Christopher Doyle adding colour lighting in film and leading to the next generation of filmmakers through the analysis of their visual works, bringing a range of new perspectives. The question of where colour should be placed in the realm of cinematic visual experience remains largely unanswered, perhaps unanswerable.

Given filmic colour's inherently speculative and transient nature, then, in the following essay the author want to put forward my preliminary thoughts on how colour operates in Christopher Doyle's works to explore the possibility of thinking about colour, lighting and camera in the cinema.

The analysis of the case studies in this research will cover four sub-sections in: Colour Strategies and Narrative Storytelling, Colour and Character with Production Ethnography studies, Colour and Digital Grading. These key sections will serve as a summary to explore the use of colour in narrative.

The author wanted to highlight David Batchelor's assertion, in *Colour: Documents in Contemporary Art*, which suggests the "complexity of the study of colour in relation to the moving image will be useful with the analysis of technical details or process histories. Ultimately colour" and lighting "is a matter of perception, never more so than in the field of cinematography"¹⁶. By analysing the craft of cinematography techniques which will be discussed in the case studies, we will be able to embrace this limitation and challenge. The chapters will cover detailed study of visual analysis of colour and lighting through the case studies of Christopher Doyle's films.

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- ¹⁶ Batchelor, D. (2006) *Colour: Documents in Contemporary Art*, London: Whitechapel Art Gallery.
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3. Research on Aesthetics

Christopher Doyle is an award-winning cinematographer best known for his work for Director Wong Kar Wai's feature films *2046*, *Days of Being Wild*, *Ashes of Time*, *Chungking Express* for Director Chen Kaige's *Temptress Moon*, and for Director Zhang Yi Mou's *Hero*. His works have won him five Chinese Cinematography awards as well as the highest awards from film festivals in Cannes, Venice, Berlin and Tokyo and have influenced film around the world. In 2017, Cinematographer Christopher Doyle was honoured during the 70th Cannes Film Festival with the "Pierre Angenieux Excellens in Cinematography" award, in tribute to his successful and influential career as Cinematographer.

Doyle is known for his strong visual aesthetic resulting from Hong Kong's unpredictable, often cramped and mostly difficult environments in which he developed his style⁵. His usage of striking vibrant, lush and complementary colours, fluid handheld movements, innovative uses of urban lighting such as neon lighting, and intentional over-exposure to create artful blur are Doyle's signature style in the visual work.

Lighting is a major component of cinematographer's art, since the arrangement of light and dark affects the aesthetic beauty of a scene and its emotional impact. Three-point lighting is conventional used in photography, film and theatre. In three-point lighting, there is a key light usually to the front of the subject; fill lights, which fill in shadows and minimize contrast; and back lights, which add depth to the subject by highlighting the outline of the subject.

Figure 4a. Comparison of high-key lighting between *Vertigo* (1958) & low-key lighting
In The Mood For Love (2000). (Chu 2018)

In the research observations, Doyle uses a combination of strong complementary colour technique and low-key lighting in most of his works. He uses the technique of gradations and brilliancies of achromatic colours, those colours within each chromatic hue, in his visual narratives. He references his style with the painting technique of *chiaroscuro*, which uses strong contrasts between light and dark within the same chromatic hue.

By simultaneous contrasts, a neighbouring hue may induce an achromatic grey to look like its complementary hue²⁰. Instead of using the different shades of grey in black and white in film to tell the story, Doyle develops a monochrome lighting technique of using the lighting to shaping the colour in the film.

¹⁷ Doyle, Christopher, and Roger Trilling. "1." *In A Cloud in Trousers*, 5-15. 1st ed. Vol. 1. Series 1. Los Angeles: LACPS, 1998.

¹⁸ Mascelli, Joseph V. *The Five Cs of Cinematography: Motion Picture Filming Techniques*. Los Angeles: Silman-James Press, 1998

¹⁹ Itten, Johannes, and Faber Birren. "The Seven Color Contrast." In *The Elements of Color; a Treatise on the Color System of Johannes Itten, Based on His Book The Art of Color*, 37-44. New York: Van Nostrand Reinhold, 1970.

²⁰ Kalmus, Natalie. *Color Consciousness*. 1st ed. Vol. 1. UK.1935.
http://www.zauberklang.ch/Kalmus_ColorConsciousness_SMPE_1935_print.pdf.

Christopher Doyle is one of the pioneers in the use of neon practical lighting techniques. It is prevalent in his early works in *ChungKing Express* (1994) and *In Mood for Love* (2000) (See Figure 1a). It is one of Doyle's signature technique in his early works to create colour contrast within the frame.

Figure 1a. Visual compilation of Christopher Doyle work from *Chungking Express*, *'In Mood for Love'* (2000) and *'Psycho'* (1998). (Peh 2018)

Figure 1b. Use of neon lights in *Psycho*. (Chu 2018)

The bold usage of neon practical lighting techniques is especially prominent in Doyle's early works (See figure 1a) and *Psycho* (See figure 1b). It is one of Doyle's signature technique in his early works to create colour contrast within the frame. Due to the low budget and the use of neon practical lighting to set colours in his early film productions, he was needed to work with limited resources¹⁷.

On productions with larger budgets in the latter years, Christopher Doyle's reliance on neon colours lighting creation shifted from lighting to set design, wardrobe and post-production as seen in *In The Mood For Love*, *Hero*, *Rabbit-Proof Fence* & *2046*. Therefore, we see that his style of lighting and cinematography techniques in his films gradually changed from the dominance and extensive use of neon practical lighting in the 1990s to putting more details in the wardrobe, set design and post-production in the 2000s to determine the colours and composition.

Christopher Doyle's most notable manipulations of colour involved coloured lighting technique to simulate the stylistic environment of the scene such as neon street light, lamp and moonlight. His film work makes colour temperature a more pronounced than conventional lighting technique in film. By introducing coloured lighting into the scene, Doyle created a new variable to shadow and highlight for crafting the visual.

Doyle's coloured lighting designs forced colour forward to serve broad expressive goals. With reference to Figure 1a, he usually tempers the light by using motivated lighting for source such as street lamp and practical lighting source. The lighting technique reduces the range of hue to an opposition of warm and cool light. Warm and cool components intermingle within the frame and amplifying the tonal contrast valued in monochrome. Doyle effectively incorporate colour zoning and modelling effects via colour lighting to highlight performance and action. It creates a great impact between light and colour at the level of cinematography. In Selznick's terms, Doyle's film work indulges in "artistry" while striving to maintain "clarity."²¹

In The Mood for Love (2005) is an experimental film filled with stylistically adventurous moments. The film was praised for the level of controlling colour and blending it with the narrative.

²¹Goodridge, Mike, and Tim Grierson. *FilmCraft: Cinematography*. Massachusetts: Focal Press, 2011, 28.

One of Christopher Doyle's signature cinematography technique is his use of hand-held, slow shutter and long exposure shots while capturing the most eye-catching neon signs and dynamic coloured lighting in his work. He is a fan of a hand-held camera with wide-angle lenses as it is able to express the space and performances of the scene. The thesis author has worked as Lighting Designer with Director of Photography of Christopher Doyle on the feature film *Fundamentally Happy* (2015). One of the reasons for hand-held cinematography is partly because Doyle likes to work fast where he is able to compose and cover two to three shots in a single handheld movement. He used Agfacolour negative stocks which is the series of colour film product made by Agfa Germany in *Chungking Express* (1994) and *In the Mood for Love* (2000) as he often push-processed the film stocks for lower light levels as he does with his still photography. Push processing refers to a film developing technique that increases the effective sensitivity of film processed¹. The push-processing helped accentuate the colour differences when he used mixed lighting sources, creating dynamic colour handheld shot in his composition. Film writer Richard Misek describes Christopher Doyle's cinematography style in *ChungKing Express* (1994), as such:

*"The dynamic colours of this shot are also writ large over the entirety of Wong's films. The films are full of movements between the different colours, different combinations of lighting, film stock, and filtration, and even between different formats ... Wong and Doyle create chromatic cacophony."*²¹

Figure 1c. Handheld, Slow Shutter techniques from *Chungking Express* (1994). (Peh 2018)

Doyle uses lens filtration on the 1990's movies to create dreamy images where lights look so bright and soft. The ProMist filter will soften the image and create a strong halation around light sources. He uses ProMist filtration and Classic Soft diffusion filtration on movies such as *Psycho* (1994) *In the Mood for Love* (2000), *Hero*

(2002) and *Lady in the Water* (2006). The usage of Classic Soft diffusion filtration developed by Schneider for high-quality softening allows precise controlled soft image to be overlaid on a sharp, in-focus image, creating a softening effect to the image. He uses this effect to create a very subtle glow to the highlights in the compositions. In some of his outdoor sequence where large amounts of the scene is over-exposed, Doyle uses Classic Soft diffusion to keeps the scene's contrast under control.

Figure 1d. Classic Soft diffusion filtration techniques from *Psycho* (1998). (Peh 2018)

Christopher Doyle's most iconic style is his uses of dynamic colours, constant movement and striking camera angles. At times, the shots go up close to the characters' facial expressions while other times, the shot survey the obscure spaces which the characters occupied. His camera movement and unusual camera angles inevitably require him to explore different colour localities as the camera and characters are constantly on the move. This encourages him to explore different colour combinations to match the dynamism of the scenes he wants to create. Another of Christopher Doyle's signature lighting styles is his use of low key lighting techniques with the play of shadows to create the mood and bringing the audience attention to the lighted area which is the main performance of the scene. Doyle uses Chiaroscuro lighting technique to isolate and direct audience attention to the performance (See Figure 1e-1i). This lighting technique is similar to Gregg Toland's style of lighting in *Citizen Kane* (1941) and Doyle pushes the envelope of the contrast ratio of the image to a greater height.

²³ Richard Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 145.

Figure 1e. Remarkable Low-key lighting in *In The Mood For Love*. (Chu 2018)

Figure 1f. Single source lighting & *chiaroscuro* effect in *Rabbit-Proof Fence*. (Chu 2018)

Figure 1g. Maggie Cheung moves into and out of light in rhythm in the scene of *2046*. (Chu 2018)

Figure 1h. Dark environments in *Last Life in the Universe*. (Chu 2018)

Figure 1i. A Network of shadows cast across Adibah's face in *Fundamentally Happy*. (Peh 2018)

The latter technique creates hard lighting in an extremely dark setting, concealing most parts and revealing only certain parts of the scene which he wants the audience to see. To understand this technique better, this thesis will be using the H&D curve devised by Hurter and Driffield in 1890 to study the contrast ratio of Doyle's image. Contrast refers to the separation of lightness and darkness in a film. Referring to Figure 1h, the steeper the slope of the characteristic curve, the higher the contrast. In both diagrams in Figures 1h and 1i, the histogram displays both the shadows and the highlights of the signal which is stronger than the mid tones displaying a high contrast ratio in the imaging.

Figure 1h. Play of low key lighting in *Fundamentally Happy* (2015). (Peh 2018)

Figure 1i. Single source lighting: High Contrast ratio in *2046*. (Peh 2018)

In Figures (1c,1d,1e), Doyle uses small single source hard lighting to emulate the practical lighting source from the environment such as a street lamp and candle to set the ambience and environment of the scene. With this single source lighting technique, it allows Christopher Doyle to control the dark environment and allows him to play more with lighting and let the lighting controls the mood of the scene. The similarity among all the dark scenes in the films is a clear tonal contrast on the different bodies and surfaces due to the single or limited light source in the scene. This effect is also known as *Chiaroscuro*, which is an old master painting style that uses the contrast of light to achieve a sense of volume and modelling of subjects and figures.

The back-lighting technique is more distinct by eliminating the fill light. In Figure 1c, Doyle generates a bright backlight along the edge of actor Tony Leung's faces from the practical street lamp. The limited lighting creates shadows that indicate the depth of field in the scene while the range of bright and dark spots generate a spectrum of gradual colour tones on the skin and different surfaces in the environment.

A comparison is made between a scene from *2046* and Gerrit van Honthorst's painting, *The Matchmaker*, where both images have elements of *chiaroscuro* (See Figure 2). Similarities in terms of the lighting contrast on the skin tone as well as the costume and also the complete darkness where there is no light can be seen. Christopher Doyle has successfully applied *chiaroscuro* on the moving images through the employment of lighting and visual composition.

Figure 2. Comparison of *chiaroscuro* effect between *2046* & Gerrit van Honthorst's *The Matchmaker*.
(Chu 2018)

For dramatic visual result, Doyle's deployment of shadow and highlight is equally, perhaps even more, important than colour. In the scene in *2046* in Fig 2, Though it establishes the mood for Su Li-zhen hiding a secret from Chow Mo-wan, the lighting carries a double function. Light and colour work together for dramatic emphasis. Doyle using lighting technique from single light source to emulate mood and dramatic lighting in the scene. In contrast to most cinematographers, Christopher Doyle uses Low key lighting techniques to create high contrast images by using hard light source to enhance the shadows in the scene to reveal less and focus on the performance of the lilted actor. It is similar techniques use in theatre and stage play where audience will focus on the lilted performance.

Christopher Doyle's influences

With a strong background in the theatre scene, Christopher Doyle co-founded Lanling Theatre Workshop in the late 1970s when he moved to Taiwan²¹. Christopher Doyle drew great inspiration from theatrical lighting and the usage of hard direct lighting from theatre lighting- without using filters and diffusion to soften the quality of the light. He used his knowledge of theatrical performance to craft the lighting design in films in his early works. The result of hard direct lighting creates a strong highlights and hard shadow on the characters.

In one of the interviews with Christopher Doyle on the influences on his work and usage of colour, he referred to 1930s-1940s renowned cinematographer Gregg Toland, whose works had a huge influence on Doyle's style. He was influenced by Toland's use of high key lighting alongside the usage of light-dark contrast²² in the film '*Citizen Kane*' (1941). Toland used a wide spectrum of greys for the black and white film, by developing a composition of seven shades of grey from the black and white spectrum in the film²³ (Figure 3a). The domain of greys extends from black and white, just as the world of colours burns between light and darkness. In *Fundamentally Happy* (2005), Doyle adopted a similar visual device to Gregg Toland's *Ministry of Fear* (1944) to construct his scenes (See Figure 3b).

Figure 3a. Visual compilation of Gregg Toland's work from '*Citizen Kane*' (1941). (Peh 2018)

²¹"Christopher Doyle: Breaking Down His Unique Cinematography – IFH." Indie Film Hustle. October 21, 2017. Accessed June 15, 2018. <https://indiefilmhustle.com/christopher-doyle-cinematographer/>.

²²Kalmus, Natalie. *Color Consciousness*. 1st ed. Vol. 1. UK.1935

Cinematographer Gregg Toland, A.S.C (American Society of Cinematographer's honorific designation) was an American cinematographer known for his innovation lighting and cinematography techniques. Gregg Toland has worked in the film industry for over five decades, and collaborated with numerous acclaimed and well-known filmmakers including Orson Welles' *Citizen Kane* (1941), William Wyler's *The Best Years of Our Lives* (1946), and John Ford's *The Long Voyage Home* (1940). He is most remembered for his work on *Citizen Kane* and his collaboration with Orson Welles.

Figure 3b. Comparison of play of shadows between Gregg Toland's *Ministry of Fear* (1944) & Christopher Doyle's *Fundamentally Happy* (2015). (Chu 2018)

Christopher Doyle uses hard lighting to create dramatic shadow in the scene of *Fundamentally Happy* (2015) to create tension and argument. This low-key and chiaroscuro cinematography is the same approach and technique that Cinematographer Gregg Toland's used. Although the film *Ministry of Fear* (1944) was shot in 1944 in black and white while *Fundamentally Happy* (2015) was shot in 2015 as digital colour film, the lighting techniques and usage of good dramatic lighting to emulate low key effects is effective in drawing audience attention to the scenes. Doyle's visual technique mimics black & white cinematography, expunging hue in favour of light and shadow. The key light is tied to the drama of the scene bringing mood to the high contrast visual for dramatic effect.

Given the faith by Orson Welles to utilise the film as a kind of experimental playground²⁵, Toland's cinematography style is to create seamless lighting design and smooth transition from one scene to the next. The sensual and sensory materiality of *Citizen Kane* seems to be nested in the project's visual strategies. Toland's work of art not only lies in his skill in creating a sensory feeling visually but also in his unwavering dedication to practical effects: "*Welles had a full realization of the great power of the camera in conveying dramatic ideas without words.*"²⁶

Toland's signature cinematography techniques involve the usage of direct hard lighting to create texture through shadow, to create depth and drama. Toland shot most of the sequence between apertures f/8 and f/16 to enable a deep focus. This technique allows the distinct separation of the background and foreground in the image, creating a great sense of space within the frame while keeping the entire image in focus.

²⁵ Heller-Nicholas, Alexandra. "The Poetry of Light and Dark: Citizen Kane (1977)." *Senses of Cinema*. December 16, 2015.

²⁶ Lebo, Harlan. *Citizen Kane: A Filmmakers Journey*. New York: Thomas Dunne Books, 2016.

Figure 3d. Comparison of play of shadows between Gregg Toland's *Ministry of Fear* (1944) & Christopher Doyle's *Fundamentally Happy* (2015). (Peh 2018)

Doyle uses hard lighting to cast a hard shadow of the window grilles on the main character's face to dramatize the tension of the performance. In Figure 3b, the depth of field in both films is shot at aperture f/8 to allow the audience to focus on the entire performance in the frame.

Cinematographers Christopher Doyle and Gregg Toland each developed their sequences in *Citizen Kane* (1941) and *Fundamentally Happy* (2015) by using deep chiaroscuro lighting method. Both filmmakers engage in bold lighting techniques by reducing illumination well below the latitude of the film threshold²⁷. The effect shrouds the image in darkness and obliterates highlights. In both Figure 3c and Figure 3d, the frames are lit entirely from behind the windows.

Christopher Doyle's visual strategy in *Fundamentally Happy* (2015) is very similar to Toland's film *Ministry of Fear* (1944). Doyle uses hard lighting to cast a hard shadow of the window grilles on Eric's face to dramatize the tension of the performance. In Figure 3b, the depth of field in both films is shot at aperture f/8 to allow the audience to focus on the entire performance in the frame.

²⁷ The American Society of Cinematographers." The ASC- American Cinematographer: Hail, Caesar, The Society of Cinematographers, 2014, theasc.com/ac_magazine/May2016/Citizenkane/page1.html. Accessed 21 Aug. 2018.

Cinematographers Christopher Doyle and Gregg Toland developed their sequences in *Citizen Kane* (1941) and *Fundamentally Happy* (2015) by using deep chiaroscuro lighting method. In both Figure 3c and Figure 3d, the frames are lit entirely from behind the windows by a hard lighting sources that throws strong highlights on the characters.

Figure 3e. An example of *Deep Chiaroscuro* in *Citizen Kane* (1941). (Peh 2018)

Figure 3f. *Deep Chiaroscuro* in *Fundamentally Happy* (2015). (Peh 2018)

Doyle's visual direction is to capture viewers' attention through the arrangement of highlights and shadows in *Fundamentally Happy* (2015) with the familiar backlighting technique resulting in this supplier control over monochromatic tonal variation.

In 1958, Alfred Hitchcock also used a complementary on-screen colour by usage of set design with the wardrobe design to create a dynamic on screen colour composition in the film *Vertigo* (1958)²⁸. Although there is a similarity in the representation of complementary colour, the execution and colour representation between Christopher Doyle and Alfred Hitchcock is different. The high key lighting of *Vertigo* uses colour as a thematic association between the costumes and set design to create a range of dynamic hues across the frame. Alfred Hitchcock uses single source of green colour lighting (Figure 4d) in the film to bring complementary colour texture and variation to the set design and costumes design.

With the advance of technology, Christopher Doyle uses colour lighting to create depth and variation of tonality in the image to bring out the mood of the film through usage of complementary colour lighting composition. The repression of colour contrast serves as practical goals. In *Vertigo*, with the complementary colour from the actress's green dress against the red background textured wall, the performance stands out as the colour of the compositions is creating a high-contrast ratio.

²⁸Richard Misk, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 142.

Hitchcock used primary and secondary colours such as red and green lighting for the background with a gentle back lighting for the character. Contrast among the costumes with the background colour is quite evident in Figure 4. This dynamic palette of colour foregrounding motivates the audience's visual development, resulting in guiding the audience's attention to a more assertive colour imagery in the film. Wardrobe accounts for the majority of assertive colours in *Vertigo*. The actress's outfit coordinates with other costumes and props that brings out the contrast in hues in the entire palette. This is the representation of colour strategy in the 1958 film by Alfred Hitchcock.

Figure 4. Comparison of complimentary colours between *Vertigo* (1958) & *In The Mood For Love* (2000). (Chu 2018)

Doyle's visual composition has a strong correlation between narrative and colour. With reference in Figure 5 through Figure 7, it is a great showcase of how colour lighting is able to draw audience attention to the mood of the scene. In Figure 4c, Christopher Doyle uses red to represent romance and love. Although the first colour film *Cupid Angling* was shot in 1918, Colour representation in film started in the 1939 with *The Wizard of Oz* (1939) where filmmakers took notices of using wardrobe and set design to work on complementary colour combination to create more dynamics in screen images.²⁹ Christopher Doyle extended the usage of on screen colour by using strong bright complementary colours alongside with set design and cinematography techniques to bring a dynamic visual experience to the audience.

Figure 5. Comparison between *Vertigo* (1958) & *In The Mood For Love* (2000) in use of a mirror as a composition tool. (Chu 2018)

Figure 6. Comparison between *Vertigo* (1958) & *In The Mood For Love* (2000) in use of lighting. (Chu 2018)

Figure 7. Comparison between *Vertigo* (1958) & *In The Mood For Love* (2000) in art direction and wardrobe. (Chu 2018)

Christopher Doyle was influenced by Alfred Hitchcock's usage of colour lighting techniques alongside cinematography techniques. With reference to *Chungking Express* (See Figure 8). Doyle uses similar lighting techniques and composition where he placed the actor in the silhouette against the cool greenish environment light. With the strong usage of single colour lighting in the scene, it also acts as a guide for emotions and a support for the drama. In most of Christopher Doyle's work, he uses at least two alternative colours to create a tonal contrast and to create a dynamic visual for the audience. This is one of his signature cinematography styles in evoking audience emotion through dramatic colour lighting.

Figure 8. Comparison between *Vertigo* (1958) & *Chungking Express* (1994) in the use of silhouette & colour schemes. (Chu 2018)

Doyle has successfully used the colour combinations which were previously used in predominantly supernatural or horror genre films and cleverly transformed them in an art house film to achieve the mood he wants in a film, thereby crafting his own style. He has pushed boundaries and revolutionised colour strategies in his own way through the use of dramatic lighting techniques and colour lighting in his films. In *Chungking Express*, he uses strong the complementary colour contrast of green, blue and red in coloured neon lighting to incorporate chromatic play as a storytelling device tying hue to the narrative.³⁰

In contrast to most cinematographers, Christopher Doyle uses Low-key lighting techniques to create high contrast images by using hard light sources to enhance the shadows in the scenes to reveal less and focus on the performance of the lighted actor. It is similar techniques used in theatre and stage plays where audience will focus on the lilted performance.

Filmmaking is a team effort. The visual and aesthetic texture of a film is highly dependent on various key department and different variables such as location and weather. This thesis will be covering key factor in lighting design, set design, cinematography technique and art direction in relationship to the narrative in the thesis. These are some of the key factors the author would like to highlight in the research the importance of cinematography in narrative storytelling through the case study of Christopher Doyle.

²⁹ Richard Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 144.

³⁰ Brown, Blain. *Cinematography: Theory and Practice: Imagemaking for Cinematographers and Directors*. New York: Focal Press, 2012, 26

Unlike painting where most artists create the artwork themselves, filmmaking is a team effort. There are many external factors that can affect the aesthetic of a film such as story, budget, director's vision, production team, post editor and evolution of technology in camera system, post production workflow and many more. It is essentially important to study modern day films and understand the narrative relationship of cinematography visual techniques. In the works of Cinematographer Christopher Doyle there is a distinct visual style that the author will discuss and research to seek how he is able to work with these many variables and create strong visual stunning films.

Through the visual research and scene analysis of the films, the author's goal is to answer the following key questions through the research:

- 1) What is the role of colour, lighting and camera in the construction of film narratives?
- 2) What are Christopher Doyle's visual strategies on set and lighting design in shaping our visual experience of the films he photographs?
- 3) How is the influence of digital colour grading in today film narratives?
- 4) What is the relationships between colour and space, colour and character emotion, colour and mood in Christopher Doyle aesthetic practices?

The author has selected these five case studies of Christopher Doyle award-winning film, *In the Mood for Love* (2000), *Hero* (2002), *Chungking Express* (1994), *Rabbit-proof Fence* (2002) and *Fundamentally Happy* (2015) for the case studies. The five case studies film is carefully selected based on the award recognition and the relevant of the cinematography discussion. All the selected films are awarded Best Cinematography Awards in various established festivals. The author wanted to study Christopher Doyle's range of work over the 15 years to determine if there is a consistent cinematography strategy to the narratives in his work throughout the films. The author will research on cinematography techniques and theory of camera and lighting through the breakdown of 15-20 selected scenes of the films, covering the technological, aesthetic, theoretical symbiosis and the narrative relation of the five film.

Being able to work as Lighting Designer on the feature film *Fundamentally Happy* (2015), the author is able to conclude his practical experience in this research to further explain the different stages and thought process on Doyle's cinematography behind the colour, camera and lighting design using the relevant lighting setup and diagrams. It will highlight in detail how the production team were able to shape colour and lighting design in a film.

The research methodology includes mix-method research processes and documentations of feature films, scene analysis and understanding of Christopher Doyle's visual strategies in the films *Chungking Express* (1994), *In the Mood for Love* (2000), *Hero* (2002), *Rabbit-proof Fence* (2002) and *Fundamentally Happy* (2015). The research includes detailed qualitative research in the field of cinematography and lighting design. The selected five films for the research are from four different directors, each from a different country and time-period. Through the variables in filmmaking, it is hoped to identify if there is any consistency in Christopher Doyle's cinematography visual style through practical quantitative data analysis of 15-20 scenes of 120 images from the five chosen films. With the quantitative results of the data analysis, a goal is to identify key visual styles in Christopher Doyle's cinematography through the research work.

The methodology for the research will be applied in the following five phases:

- 1) Scene Analysis of *Chungking Express* (1994), *In the Mood for Love* (2000), *Hero* (2002), *Rabbit-proof Fence* (2002) and *Fundamentally Happy* (2015).
- 2) Christopher Doyle Aesthetic in 21st Century Practice and influence. Study of lighting design, art direction, wardrobe, locations & post-production in Christopher Doyle's films.
- 3) Practical analysis of Christopher Doyle's Colour Strategies and functions
- 4) Practical analysis of Christopher Doyle's Visual Aesthetics
- 5) Survey of Christopher Doyle's influence on next generation (Ethnographic Study)

Practical Quantitative Research

Given the importance of colour to cinema, the research seeks to meaningfully analyse colour strategies and the functions of Christopher Doyle's visual work. Although there are many academic articles on *Colour and Culture* and *Colour and Meaning* from art historian John Gage on painting analysis, still lacking is the study of colour in the cinema partly because there hasn't been adequate quantitative practical research and the necessary tools for capturing the complexities of moving images. This thesis research will be using similar frameworks established by John Gage to study in Christopher Doyle's work in greater details.

Data and facts encourage us to uncover more accurate methods to work on colour research in cinema. Scott Higgins, writing in *Harnessing The Technicolour Rainbow*, set out the history of describing colour in movies: "Essential tools are needed to help us to describe and accurately communicate some complex and challenging material. Colour names tend to be vague and they fail to draw clear distinctions between closely related colours. Visual analysis will require precise terms and language to describe colours used in narratives."³¹

Albert Munsell first published *A Colour Notation* in 1905 to combat the lack of vocabulary for colour language³². Others systems, similar to Munsell's, specify colours by alphanumeric codes. The Pantone Matching System is chosen for this research analysis as it is widely used by professional from various industry to identify colours. Amongst the many different types of colour systems, it consists of the most precise colour terminology in describing visual in film.

³¹ Higgins, Scott. *Harnessing the Technicolor Rainbow: Color Design in the 1930s*. Austin, TX: University of Texas Press, 2008, 104

³² Munsell, A. H. *A Colour Notation: An Illustrated System Defining All Colors and Their Relations by Measured Scales of Hue, Value, and Chroma*. Munsell Color, 1961.

The Pantone Matching System³³ was developed in 1963 as a way to specify the different coloured gradations of printer inks. The Pantone Matching System has served many industrial such as interior, set design, and fashion. The company developed the Pantone Professional Colour System, consisting of 1255 colour standards³³. Each of colour is clearly identified with its respective Pantone numbers and unique colour name that draws on common everyday descriptive language.

Although video has a wider range of hues as compare to printed inks, the Pantone Matching System has significantly increased the descriptive vocabulary when it comes to describing colours. The system enables distinctions between similar colours, and it provides users an alternative way to compare colours as they appear across a film. Pantone standards offer a higher level of precision in the identification of a film's original colours. In order to identify the colour palette of a film, the author will be identifying the colour Pantones in these respective scenes.

Christopher Doyle's visual strategy by dissecting the shots in a scene. The investigation will determine how each colour in the selected scene has any contributing functions with respect to the narrative. Area of focus will be in the breakdown of individual scenes with an analysis while associating it with the different colour representations. The investigation findings will show the narrative relationships between Colour and Space, Colour and Character Emotion, Colour and Mood. A further in depth study will be conducted on the different contributing elements of cinematography methods of Christopher Doyle's works. The research will focus on the role of colour strategies, lighting, post-production and camera framing techniques in film narratives.

³³ Pantone. "About Us - About Pantone." Pantone. Accessed July 04, 2018.

Practical Quantitative Research

In the following quantitative practical data analysis, research assistant Chu Hao Pei worked with the author in developing assets in the visual compilations, Pantone data analysis, and visual compilation on the sequences into individual colour schemes. Key scenes from the five films were identified and analysed with colour Pantones using the Pantone software. Scenes with similar colour composites are gathered together with a strip of similarly identified colour Pantones underneath the collage of scenes from the five films (See sample Figure 9). In this research, the Pantone Matching System³³ is used to find out the underlying colour Pantone colour and patterns from the scenes in Christopher Doyle's films. Further analysis will be conducted on the respective scene collages and individual scenes. The Pantone colours will greatly aid in understanding the relationships between various components of colours and to find out if there are any consistent colour palettes which links to Christopher Doyle's colour strategies in his work.

Figure 9. Collage of scenes with identified similar colour Pantones. (Chu 2018)

With the quantitative results, the researchers are able to study the similarities and differences in the various sequence and to identify the mood boards according to the similar colour palette and lighting styles. It helps the author in the study of the visual techniques and colour strategies by using a systematic method. From the quantitative data, the findings are dissected by discussing the colour thematic in using art and wardrobe design that works alongside with the lighting design. A triangulation strategy is chosen using two different practical methods and testing to look for a convergence of the research findings to enhance its credibility, using the quantitative data by placing it into a qualitative context, creating a hybrid analysis.

With all the practical research findings, this research is able to identify in-depth colour strategies in specific terms using the Pantone Colour System³³. As we move further into the digital age, there will be tools created to automate this color logging. It may be helpful for such tools to use some of the color analysis outlined in this thesis to provide aesthetic possibilities and understanding. It allows the author to bring this research to the final chapter where the author will be using an ethnographic study of his personal practical lighting references of other cinematographer works to further discuss the influence of Christopher Doyle cinematography techniques to the next generation of filmmakers.

³³Pantone. "About Us - About Pantone." Pantone. Accessed July 04, 2018.
<https://www.pantone.com/about-pantone>

Cinematography Terminology and Definitions³⁴:

Angle, Camera

The relative height or direction from which a subject is photographed. Each kind of angle yields a different aesthetic effect.

Composition

The arrangement of elements in a frame and, more generally, in a scene. The elements include shapes, lines, light and dark, and movement. Part of DP's task, in consultation with the director, is to produce pleasing and meaningful composition.

Chromatic zoning

It is a cinematography technique to isolate colour and lighting in the frame long boundaries that separate the dark and bright parts of the image.

Director of Photography (DP)

The person responsible for lighting a set and photographing a film under the director's supervision; supervises the camera crew and the gaffer, who heads the electrical crew. Also called a Cinematographer or Lighting Cameraman.

Dutch Angle

Filmed at a pronounced diagonal tilt, to convey a sense of disorder or uneasiness.

Deep Focus

A style of cinematography in which all objects in the frame are sharply defined, including those in the foreground, middle ground, and background. It contrasts with shallow focus, where only the plane of action is sharply focused, with everything else appearing blurred. Deep focus requires specific lenses and lighting techniques.

Diffuser

Translucent material placed in front of a light source or lens to diffuse or soften light.

Dolly

A wheeled platform on which a camera is mounted. It permits the camera to make moving shots.

Fall-off

Loss of luminance in the corners of an image as projected by a lens in or loss of light towards the edges of a scene that is illuminated by a light source whose angle of illumination is too small to cover the required view.

Filter

A sheet of glass or gelatine that selectively absorbs part of the light spectrum and is placed in front of a lens or light source to modify a film image's tone, focus, or colour balance.

Frame

One of the successive, individual image that compose a motion picture.

Gaffer

The chief electrician, responsible for lighting a set under the direction of the Director of Photography. Supervises the electrical crew, including the best boy (assistant Gaffer)

High-Key Lighting

Bright, low-contrast illumination that results from putting the key light or principal light, high and using fill lights or minimize shadows.

Hong Kong Society of Cinematographers (HSKC)

Professional association of directors of photography, with associate members from allied crafts. Membership is by invitation only.

Intensity

The power of light source, measured in candelas, or the degree of illumination in an image.

Key light

The main source of light for a scene or subject, usually in front, higher than, and to the side of the subject. It is supplemented by other sources of illumination, such as fill lights and back light.

Lighting

The illumination of a scene. Lighting is a major component of the cinematographer's art, since the arrangement of light and dark affects the aesthetic beauty of a scene and its emotional impact. Low-key (dark, high-contrast) lighting communicates sadness or menace; high key (bright, even) lighting communicates glamour. Stars are made more gorgeous or imposing by artful lighting with small spotlights called oboes to minimize lines in their faces; kicker or eye lights to highlights their eyes; and rim to highlights their outlines.

Low Angle shot

A low angle shot filmed from below the character, tends to make the character look larger and more formidable.

Low-key lighting

A lighting arrangement in which areas of darkness predominate, contrasting sharply with the key light and other sources of illumination. Frequently found in dramas, mysteries and other movies with a somber or fearful tone.

Monochrome

Exhibiting a single colour.

Ramping

The use of in-camera speed shifts within a single shot, so that the action suddenly slows down or speeds up.

Saturation

The degree of purity of vividness in a colour.

Shot

A single continuous action that is filmed or appears to be filmed in one take, from one camera setup. The shot is considered the basic unit of film grammar. Shots can be categorized in several distances from the subject. (e.g. close-up versus long shots); by narrative or continuity function.

Tone

The mood and atmosphere of a scene. The specific shade of a colour. The range of contrast or brightness in a film image.

³⁴Eastwood, Clint, and Jean Picker Firstenberg. *The American Film Institute Desk Reference*. New York: DK, 2002.

4. Colour and Narrative Storytelling

Plot of *Chungking Express* (1994)

Figure 10. Compilation of *Chungking Express* film stills. (Chu 2018)

Chungking Express (1994) is a drama film written and directed by Wong Kar Wai and shot by Cinematographer Christopher Doyle, starring Faye Wong, Tony Leung, Takeshi Kaneshiro and Brigitte Lin. The film consists of two stories told in a concurrent sequence, each about a lovesick Hong Kong policeman mulling over his relationship with a woman and his fateful encounter with another woman in their lives respectively³⁵. There is a transition in both narratives whereby the stories take place within similar locations in the film.

The signature style of this film is the abundant use of dynamic neon-coloured lighting throughout the film despite the limited spatial constraints. Given the limitation in resources, Doyle managed to craft carefully balanced and yet dynamic shots with the use of fluorescent coloured lighting and unique framing techniques.

³⁵ "Chungking Express (1994)." IMDb. Accessed June 17, 2018.
https://m.imdb.com/title/tt0109424/?ref_=m_nmfmnd_cin_79.

Scenes Analysis

In *ChungKing Express* (1994), Christopher Doyle explores different colour combinations through the use of neon and fluorescent lighting which activates the film by expressing different emotions of the characters in different sequences.

The main colour palette of the *ChungKing Express* is cool bluish-greenish tones. Film critic Jake Cole wrote “By only slightly altering the setting between the two-story arcs, moving the action out of the Chungking Mansions by the way of one of its snack stands and then into another part of the city. Director Wong Kar Wai generates two entirely different moods and feels in the film. Christopher Doyle uses cool bluish tone in the first half by softly lit fluorescent lights that adorn the interior of East Asian housing, creating a mood between alienation and comfort.”³⁶ Christopher Doyle used neon and fluorescent practical lighting to create the cool and loneliness environment for both of the male protagonists (actors Takeshi Kaneshiro and Tony Leung) in their scene of breakup with usage of a blue-green tone, as both blue and green tones have the coolest colour spectrum.³⁷ Colours can be studied according to variations in these qualities of hue, value and chroma. Blue becomes the most saturated at low values. In Figure 11, there is a consistent bluish colour palette throughout the film. The saturation and value of the blue hue are consistent at a low value. Most often the scenes where cool bluish neon light is used are when the characters are alone, further emphasising loneliness and aloneness.

The tinge of green is caused by the discontinuous spectra of fluorescent lighting. Fluorescent lighting is commonly used on location shoots as it is affordable, easily available and its ability to quickly light up the environment. The problem with fluorescents is that they are not part of a colour spectrum from the source and are not accurate as they have a heavy green tint causing the light to render colour very poorly.

³⁶“Chungking Express.” Chungking Express. Accessed April 19, 2019. <http://armchairc.blogspot.com/2010/03/chungking-express.html>.

³⁷Itten, Johannes, Faber Birren, and Ernst Van Hagen. *The Elements of Colour*. Chichester: Wiley, 1970, 45.

Figure 11. Compilation of Blue Pantones in *Chungking Express*. (Chu 2018)

Many cinematographers will avoid using fluorescent lighting and will usually replace them with existing fluorescent lightings with correct and more accurate colour temperatures. However, Christopher Doyle sees the imperfections of this technique and uses the characteristic of fluorescent lighting to create a strong visual style of mood in the film *Chungking Express* as he directs the colours towards the coldest end of the spectrum as depicted on the left in Figure 12 aligns with the narrative of the film. Doyle uses a mixed-lighting technique with contrasts of warm and cool lighting to strengthen the visual dynamics of the aesthetics of the film. In most of the sequences, he uses a cool bluish or greenish hue with complementary bright-coloured wardrobe and set design to create two separate colour zonings of the aesthetics of the film.

Green and blue has the most saturation at a low value. It is likely this is one of the key reasons why Doyle would use a low-key lighting with high contrast to push the deep blue and green tonal values up to maximise contrasts of saturation in the film sequences.

Figure 12. Compilation of Green, Yellow & Orange Pantones in *Chungking Express*. (Chu 2018)

Figure 13. Compilation of Violet and White Pantones of *Chungking Express*. (Chu 2018)

Christopher Doyle uses high key lighting with low contrast ratios where the character is well lit in these sequences. Cool white fluorescent lighting helps to bring the audience to the reality of the scenes. Christopher Doyle uses three main secondary colours; green, orange, and purple in the film. He also mixes the primaries and secondaries to render tertiary colours; yellow-orange, yellow-green, green-blue.

Complementary colours are colours set directly opposite each other on the wheel. By putting two complementary colour hues together within an image, they will present a maximal contrast of hue. In *Chungking Express*, Christopher Doyle uses a warm side lighting technique on the actors and places the main performance against a cool fluorescent lighting in the backgrounds. This technique concept of colour harmony is used to create a high contrast of colour aesthetics where complementary colours reinforce each other.

In The Mood For Love

Plot of *In the Mood for Love* (2000)

Figure 14. *In The Mood For Love* film stills. (Chu/Peh 2018)

In the Mood for Love (2000) is a film written, produced and directed by well-known renowned Director Wong Kar Wai and shot by cinematographer Christopher Doyle, starring notable actors Tony Leung and Maggie Cheung. Christopher Doyle was awarded a Technical Grand Prize at the Cannes Film Festival and this film earned a nomination of Palm de'Or, the highest prize awarded in the 2000 Cannes Film Festival³⁸. It tells a story about two neighbours, a man and a woman, who formed a strong relationship after both of them found out that their spouses are having extramarital affairs. However, they agree to keep their relationship platonic so as not to commit to similar wrongs.

The cinematography of the film evokes a sense of voyeurism for the audience. It brings a sense of intrusion into the character's lives. Fitting the narrative of the film as the plot is about hiding a secretive and illicit affair. The style of framing the characters were usually done in a narrow dark hallway along the corridor using mostly long shots with pillars in the foreground showing as though the camera and audience is hiding from a distance watching secretly from the distant. There is a lot of back lighting and top lighting in various scenes to create strong silhouettes that highlight the characters' inner torment.

³⁸ "In the Mood for Love (2000)." IMDb. Accessed June 17, 2018.
https://m.imdb.com/title/tt0118694/?ref_=m_nmfmnd_cin_59.

Scenes Analysis

Christopher Doyle uses a consistent colour palette of deep reds and blacks throughout *In The Mood For Love* (2000). The film signifying their heightened emotions with their colour palette. Christopher Doyle uses rich primary colours such as red, blue and yellow to create a strong dynamic colour scheme for the film to heighten the emotions of the romantic melodrama. By using cool lighting as the background and environment ambience, the film is able to create a sense of isolation of the characters from the set design. Throughout the film, the lighting is mainly from one source. In Figure 15, you will notice that in every screenshot of the scene, the main source of lighting is from either a warm and practical overhead lamp along the corridor or a cool white overhead fluorescent in an office that serves as the main motivation of lighting for the performance.

Doyle uses a small practical overhead lighting to isolate the pocket of lights to control lighting and shadows resulting in a high contrast visual aesthetic. The use of a *chiaroscuro* lighting technique where Doyle uses a pronounced shadow work plays a great role in creating a dramatic underscoring of the narrative. *Chiaroscuro* and an even mid-key shadow effect also interact with a warm and cool lighting of the scene. Though it establishes the dark and secretive mood of the plot, the lighting carries a double function. It helps to suppress the warm orange colour lighting in the house scene and brings a much needed contrast to the cool bluish lighting thus creating a wider range of tonal qualities in the scene.

Figure 15. Compilation of Yellow and Violet Pantones of *In The Mood For Love*. (Chu 2018)

Figure 17. Compilation of Red, Violet and Blue Pantones of *In The Mood For Love*. (Chu 2018)

In The Mood For Love uses cinematography with art direction in set and wardrobe design to bring out the green tint in the film. In the scenes where there are green elements in the set and wardrobe, the story is often filled with a sense of guilt and revelation. There is a strong play of complementary colours in most of the scenes in the film. Doyle uses violet and yellow complementary colour combinations (see Figure 15) to create a harmonious balance. In the movie sequence, Doyle lit the characters with warm tungsten lighting so that the characters will have consistent skin tone against the cool violet environment.

In Figure 18, Christopher Doyle uses two colours of opposite polarity to heighten the colour contrast of the image. In most of the sequences, Doyle uses a mixture of low-key lighting and projected complementary colours to heighten the moments. Doyle uses cold-warm contrast³⁹ and complementary colours in the planning of the lighting design. There is a colour harmony in his colour palette and strong selection of primary colours in his visual style.

³⁹Itten, Johannes, Faber Birren, and Ernst Van Hagen. *The Elements of Colour*. Chichester: Wiley, 1970, 45.

The lighting strategy in the movie is done with a low-key lighting which emphasises a strongly shadowed profile. There is a juxtaposition of colour temperatures between the vivid warm accents in the foreground and rear (Figure 17). The colour temperatures reinforce each other in contrast to using colder colours⁴⁰. Contrast makes both the coloured illumination image forceful and visually translates character conflicts. Christopher Doyle uses colour psychology in which emotions are most present with red and orange which is the most emotive colour in the film. It represents passion, love, energy and danger. By using red as the main colour palette as an energising colour to help to intensify the environment and mood of the scenes. Christopher Doyle uses the strong primary colours along with the complementary colour combination of the costumes and sets design in *In the Mood for Love* (2000), making the film a visual masterpiece.

Figure 18. Compilation of Brown, Pink & Green Pantones of *In The Mood For Love*. (Chu 2018)

⁴⁰ Itten, Johannes, Faber Birren, and Ernst Van Hagen. *The Elements of Colour*. Chichester: Wiley, 1970, 42.

Rabbit-Proof Fence

Plot of Rabbit-proof Fence (2002)

Figure 19. *Rabbit-Proof Fence* film stills. (Chu 2018)

Rabbit-Proof Fence is a 2002 Australian drama film directed by Phillip Noyce and shot by Cinematographer Christopher Doyle, starring Everlyn Sampi, Kenneth Branagh, and David Gulpilil. The film is based on a true-life event in 1931 where three mixed-race Aboriginal girls, who ran away from the Moore River Native Settlement, walked for nine weeks along the Australian rabbit-proof fence to return to their Aboriginal families, while being pursued by white law enforcement authorities and an Aboriginal tracker.

Due to the limitation in outdoor filming in the desert setting, Doyle makes use of post-production grading to bring colours back to the film. The beauty of this film is the usage of post-production digital tools in layering the colours to evoke emotions and feelings of the characters in the different environments. This film is based on the book *Follow the Rabbit-Proof Fence* by Doris Pilkington Garimara⁴¹.

⁴¹"Rabbit-Proof Fence (2002)." IMDb. Accessed July 05, 2018. <https://www.imdb.com/title/tt0252444/>.

Scenes Analysis

Rabbit-Proof Fence's colours are dominated by yellow-brown, blue-green for the outdoor scenes while violet and orange-red colour palettes are used in the indoor sequences. Most of the outdoor sequences are graded to the brown with a muted colour scheme of the naturalistic high-key lighting in the outdoor environment.

Due to the limitation in lighting control of the outdoor shooting environment, Christopher Doyle uses wardrobe to match the desert browns and light white-yellow palette colour tones. He used analogous colour schemes which employ single colour hue with variations of value and saturation (broken up by neutral colours and browns). Analogous schemes are hues next to each other on the colour wheel. It remains a useful way to have slight colour variations in the visual design using low contrast harmony. Christopher Doyle has done well to present the colour tones and emotions in the film. During the time in which the three girls were with their parents the setting was often colourful and had a lively feel of warm orange and dynamic colour for the interior scenes. When Constable Riggs took the girls into captivity, the lighting turned to dark and gloomy violet tones in which the sound of rain was also added to the scene to make it more intensely dramatic.

As the girls were in the encampment, Figure 21 shows the cool violet colour tones remained bold with little colour around and continued a gloomy look throughout their stay at Moore. But toward the end of the film where the girls finally decided to escape, the scenes dramatically shifted in to vibrant colours as they running into the woods.

Christopher Doyle uses the function of these colour elements to display the contrast between being in a state of imprisonment and the transition to gaining freedom. Doyle uses colour representation as transition to heighten and intensify the moods of the scenes.

Figure 20. Compilation of Yellow & White Pantones of *Rabbit-Proof Fence*. (Chu 2018)

Figure 21. Cool violet lighting on characters in *Rabbit-Proof Fence*. (Chu 2018)

Figure 22. Violet & Blue Pantones of *Rabbit-Proof Fence*. (Chu 2018)

In Figure 22, Christopher Doyle uses silhouette shots in the film to create a sense of disorientation for the character Riggs amidst the vast landscape. The lighting at the end of *Rabbit-Proof Fence*, when Riggs goes to find out what the noise is about, is extremely dim. Christopher Doyle cleverly uses the light-dark contrast in the scene to show the character is stumbling in the dark and making the audience feel vulnerable in the dark environment.

Figure 24. Blue & Brown Pantones of *Rabbit-Proof Fence*. (Chu 2018)

In *Rabbit-Proof Fence*, Christopher Doyle approaches the treatment of the film with naturalistic lighting in the day scenes due to the constraints of crafting the lighting conditions in the desert. The advent of digital post production grading in manipulating colour has brought the solution of matching the colour design in post-production to create a uniform visual experience in *Rabbit-Proof Fence*.

Doyle increased the contrast of the scenes during the grading process to match the different shooting situations during the principal filming of production. When the film transits to evening and indoor sequences, notice the prevalent visual style of using shadows and a motivated single source lighting to create the right mood for the narrative.

Hero

Plot of *Hero* (2002)

Figure 25. Compilation of *Hero* film stills. (Chu 2018)

Hero (2002) is a film that is recognizable as a traditional Chinese genre, first from literature then to cinema. *HERO* (2002), directed by Zhang Yimou and shot by Cinematographer Christopher Doyle, starring Jet Li, Tony Leung, Maggie Cheung and Zhang Zhi Yi³⁹. It tells of a fearless warrior who rose up to defy an empire and unite a nation, and embarked on a mission of revenge against the fearsome Qin army who massacred his people.

The beauty of the film lies in the expansive usage of colours to represent the different and many perceptions of the characters. One of distinctions that clearly separates Zhang Yimou from the other Chinese directors is his use of dynamic colour combination palettes in his films. It was the influence of his early career as a painter and a photographer in which he applied his understanding of colours that drives his motivation of narrative in his films.

³⁹HERO. Directed by Yi Mou Zhang. Performed by actor Jet Li, Tony Leung, Maggie Cheung, Zhang Zhi Yi. China: Miramax Film, 2002. DVD

Colour and Space

Christopher Doyle uses primary colours red, blue, green, yellow, black and white in representation of the narrative sequences in *Hero* (2002). Each major sequence has a single primary colour palette with a wide range of tonality in the scenes. It is uncommon for the entire frame to be filled with the same colour palette. It is a bold and stylistic decision by Director Zhang Yi Mou and Cinematographer Christopher Doyle to insist that the coloration will become the movie's theme. Christopher Doyle believes that every story is coloured by personal perception. Christopher Doyle synchronised the same colour thematic with lighting design, location, wardrobe and art direction throughout the film. Some of the outdoor sequences were enhanced in the post production and visual effects work. The film brings intense visual experience to the audience as there is a wide colour tonality within the single colour palette.

The colour timeline of the film starts with sequences with black tones, followed by red, yellow, blue, green sequences and it ends a white sequence. Just as black and white represents the extreme of light-dark contrast, so green/blue/red/yellow are the extreme instances of the contrasts of hue, as the effect primary colours are more distinct and create a strong visual experience for the audience.

White is the final colour in the film, dominating the deaths of the Flying Snow (played by actress Maggie Cheung) and Broken Sword (played by actor Tony Leung), and alternating with a black sequence back in the palace. As opposed to black, white has a positive connotation and associated with light, goodness and purity. In this sequence, white depicts faith and justice of the Flying Snow defeating the King.

Figure 26. Compilation of Red & Yellow Pantones of *Hero*. (Chu 2018)

In the second sequence of the film, Christopher Doyle used red to bring text and images to the foreground by using it as an accent colour to stimulate audience tension throughout the sequence in the film. Red dominates the first part of the story with a narration by Nameless about the hope to fight the evil king. The colour red is again used in *Hero* when there is a surge in the mood of lust – the scene where the character Broken Sword had a sexual encounter with his disciple Moon in the calligraphy school. Later on in the film, Broken Sword indicated to Flying Snow that he knew that she was watching behind the doors while he had his sexual encounter with his disciple Moon.

Red is an emotionally intense colour (see Figure.26) that can enhance human metabolism and raises blood pressure. Warm colours make forms appear larger. In this sequence, Doyle used cold red to represent sexuality and warm red for anger and vengeance.

Figure 27. Blue & Violet Pantones of *Hero*. (Chu 2018)

The major scenes of the blue sequence represent sorrow and isolation. The scenes are Broken Sword (Tony Leung) watching helplessly as Flying Snow (Maggie Cheung) injured him and leaves for duel with Nameless (Jet Li) and the mourning of the death of Flying Snow at the lake. Blue also represent tranquillity in the film. It is represented in the circular room where Nameless remained calm despite the crumbling of the bamboo stacks behind them. Likewise, there was a sense of tranquillity in the lake scene before the duel between Broken Sword & Nameless.

Christopher Doyle decided to stage the climax through using matching colour of the water to the wardrobe of Broken Sword. Doyle uses a monochromatic colour palette in *Hero* resulting in less contrast between the characters and the setting of the environment. The approach is an intentional decision. However, you will notice in every frame, he will add in a bright spot in some part of the frame to create a contrast in the image.

Figure 28. Grey, White & Green Pantones of *Hero*. (Chu 2018)

Director Zhang Yi Mou had a strong vision and control over the colour themes of the film in both the art direction and wardrobe design in *Hero*. In Figures 29a & 29b, observe that the art direction, location and the wardrobe design have the same colour palette. Christopher Doyle choose to use the existing location and wardrobe to bring out the colour theme of the film instead of using colour lighting. The main reason of using the consistent colour palette of existing location and art direction instead of lighting design is that most of the scenes are shot in outdoor environments and huge landscapes where it is challenging to light the entire location. Therefore, in order to achieve the consistency of the colour palette in the film, Christopher Doyle used post production exposure grading to enhance the graded the colour of the scene to match the single colour palette of the individual shots. Using contrasting harmony of all the primary and secondary colours in the film created a strong effect on the aesthetic and narrative of the film. Christopher Doyle combined four to five primary colours including complementary and triads on the colour wheel to generate harmonic equilibrium. The film relies on extraordinarily colour palette to create dramatic effects in mixing shadow with chromatic representations.

Figure 29a. Colour-Location analysis of *Hero* (Chu 2018)

Figure 29b. Colour-Location analysis of *Hero*. (Chu 2018)

Production ethnographic study

Plot of *Fundamentally Happy*, (2015)

Figure 30a. Scenes from the film, *Fundamentally Happy* (2015). (Peh 2018)

Fundamentally Happy (2015) is a film that explores condemnation as the critical issue in trust, memory, relationship and consent⁴⁰. *Fundamentally Happy*, directed by Tan Bee Thiam and shot by Cinematographer Christopher Doyle, stars actors Joshua Lim and Adibah Noor. The beauty of the film is the usage of low-key lighting and modulated value lighting to represent different perceptions of the characters. The feature film was shot in 10 days with a micro budget. The film is an adaptation of a theatre piece. One of the distinctions that separates this film from the rest of Doyle's work is his usage of a muted single colour palette tone in the film. He uses this monochromatic tonality with the combination of directional hard lighting technique to convey his artistic vision in the narrative. Being able to work as Lighting Designer on the production, the author is able to bring his experience in this research to further explain the different stages and thought process on Doyle's cinematography behind the colour, camera and lighting design. It will highlight how the production team were able to shape colour with lighting design in the film. [Note: This author was the Lighting Designer on this feature film production under Cinematographer Christopher Doyle's supervision.]

⁴⁰ IMDB. "Fundamentally Happy (2015 Film)." IMDB. March 2, 2015. Accessed May 08, 2015. doi: <http://www.imdb.com/title/tt3772836/>.

Production ethnographic study – Colour and Space

In *Fundamentally Happy*, there is a heavy use of the monochromatic cyan colour (mixture of blue green). By using chiaroscuro lighting technique to isolate the different tonality of the colour, it helps to create dramatic effect in the narrative. The emphasis on the different tonality of the colour is determined predominantly by lighting and art direction, costumes and set design – followed by locations and post-production effects.

Figure 30b. Set design and colour design, *Fundamentally Happy* (2015). (Peh 2018)

As the screenplay is from an adaptation of a theatre play where the entire performance is in the house, the art direction and lighting design is crucial in the film narrative in one location. Doyle requested using a single colour palette of Pantone 2464U/Cyan to paint the entire house wall with the selected Pantone colour. The reason for selecting single colour palette is that Pantone colour 2464U/Cyan is it is a mixture of blue green where it is the only contrasting colour that stands out from the dark furniture props and wardrobe. The entire film is based on shaping colour with lighting design to evoke the right mood and ambience for the narrative. There is a very clear strategy of shaping colour with lighting to create different tonality in the location at different periods of time of the film to create different moods.

Christopher Doyle used art direction in set and wardrobe design to bring out a contrasting cyan tint in the film. In the scenes where there is green element in the set and wardrobe, they are often filled with a sense of guilt and revelation.

Figure 30c. Lighting design and mood board, *Fundamentally Happy* (2015). (Chu/Peh 2018)

The production of the film had a micro budget and it had to be shot within 10 days. The challenges were to create an environment and circumstances that would create the tension needed for the narrative using the depth (value and saturation) of the colour with light. After discussing the lighting designer with Doyle, instead of using colour gel to simulate the contrast of cyan with the set design and wardrobe, the team proceeded with painting the cyan colour on the walls so that DP Doyle and the author could create and control the lighting intensity and the value and saturation of cyan in the background. In the *Fundamentally Happy* (2015) lighting design, team emphasised variety of values of monochromatic hue and carefully worked with the highlights and shadows of the scenes to emulated monochrome effects.

The aim was to use shadows and lighting to control the monochromatic colour effect to dramatise the changing circumstances of the characters. Christopher Doyle used subtle movement in lighting to create texture and modulation in the lighting in the frame. In Figure 30d, the light was placed on a dolly track to create the movement in the lighting to simulate rising sun and transition of time.

Figure 30d. Pre-lighting setup and rigging of overhead lighting. (Peh 2018)

Figure 30e. Lighting setup and movement of light. (Peh 2018)

With this method, the design cut down the time of setting up of lighting yet creating cues for the audience depending on the tension of the scenes designs. As the main scene was centered in the living space and kitchen area, the crew came up with solution to prelight and rig the entire lightings in the house to reduce the time of resetting of lighting. It also allowed the freedom of movement for the actors and Doyle's camera movement. This same lighting technique was followed in theatre as the story is driven by naturalistic performance. In order to give a general sense of how lighting design fluctuates with the plot, the lighting team experimented with emphatically stylised lighting effects.

Scott Higgins, writing in *Harnessing The Technicolour Rainbow*, set out describing lighting in movies: "Light moulds the film's palette, and highlighting, shadow and shape moulds the perception of action and performance."⁴¹ One of the key lighting technique in the film was using highlight and shadow with the single cyan palette to forge a new style in the narrative. The following analysis will focus on the processes of the production's lighting innovations: monochromatic lighting, low-key illumination and complex facial modelling in the film as a case study.

⁴¹ Higgins, Scott. *Harnessing the Technicolor Rainbow: Color Design in the 1930s*. Austin, TX: University of Texas Press, 2008, 182

Figure 30f. Low key lighting intensifies the dramatic effect of the scenes. (Chu/Peh 2018)

Figure 30g. Low key lighting intensifies the dramatic effect of the scenes. (Peh 2018)

With reference to Figure 30f, notice the common use of hard lighting through the window and the shadow of the window grill fall-off is cast on the actor in the film. It is an intended lighting technique of organizing shadow and highlight. The movement between hard and soft lighting modelling add variety and focuses emotions in scenes. This technique recurs in every scene of intense argument between characters Eric and Habiba and in the scene where Eric uncovers a shocking secret that has lain hidden in the house. This mode of lighting is not common as the hard lighting creates inky shadows with flat bright highlights on the actor's faces and background. It creates an uncomfortableness for audiences as it emphasizes tension and conflicts. A fine network of window of shadows cast by the window drift across Eric's face (Figure 30h). Shading moulds his face to suit the mood of the scene.

Figure 30h. A fine network of shadows cast across Eric's face. (Peh 2018)

Figure 30i. Low key hard lighting intensifies the dramatic effect of the scenes. (Peh 2018)

Figure 30j. Remarkable silhouette lighting creates shadow of Eric and Habiba. (Peh 2018)

Figure 30k. Low key lighting creates shadow in the facial modelling of Habiba. (Peh 2018)

Figure 30l. Low key lighting creates shadow in the facial modelling of Eric. (Peh 2018)

Christopher Doyle used complex facial modelling in most of the close-ups in the film. Christopher Doyle used close-up shadows as part of the composition that cover one of Habiba's most important monologues (Figure 30k). The team used low-key lighting effects offering substantial shadow details and midtone. In the shot in Figure 30j Doyle generates a bright light source through the frosted window and the diffused light softens and creates dim shadow areas on Habiba's facial details.

To maintain the low-key contrast ratio of the image, Doyle used a small focus lighting source to illuminate Habiba's face so that the viewer will be able to see her expression but yet create suspense in the mood of the lighting. The shot juxtaposes strong shadows against the bright window and allows sufficient light to illuminate Habiba's facial features.

The production was a great testing ground for low-key lighting technique combining with using this subtle control over tonal variation. It directs viewers' attention towards the highlights of the images. This technique makes the contrast between the cyan of the wall and violet of Habiba's head scarf shine in the darkness. Cyan and violet saturation was exaggerated by low-key setting.

In Figure 301, Eric confides to Habiba his yearning for love from Ismail. In this scene, the precision and control of softer and low-key facial modelling was essential to portray the dramatic and close performance to the audience. Eric's face was lit by a soft side light through a diffusion. The soft shadow falls across his face as he moved into tears. His emotional shift was signalled, in part, when he looks up with light that reflect near his pupils. The lighting on Eric's face was lit with slight contrast, and if he moved off that of position, he would be lost in the shadow. The intent was to create a stylized facial modelling to support this important moment in the film. This was an unusual choice in lighting but Doyle felt that it demonstrated great tonal manipulation of soft shadow and texture of highlight and shading.

Doyle expanded his style in facial modelling by using tonal range and integrated shifts in lighting more fully with the performance. In *Fundamentally Happy* (2015), Doyle explored the use of harder and more prominent modelling for low-key dramatic sequences. He used undifferentiated shadow against equally flat areas of light.

Figure 30m. Complex facial modelling with eye lighting in *Fundamentally Happy*. (Peh 2018)

Figure 30n. Usage of single colour palette with different saturation value. (Peh 2018)

Doyle placed the key light high to create a bright triangular highlight directly below the actor's eye to create dim eye lighting in the contrast with background. Christopher Doyle combined different lighting techniques to create unusually intense colour. The film layered brighter areas with cast shadows and broke apart dark area with highlights to create dynamic tonal manipulation in the frame. *Fundamentally Happy* was a milestone of using tonal control in creating precise lighting for facial modelling. It is a strong demonstration of how lighting could serve drama by using of tonal manipulation in narrative storytelling.

5. Lighting as Narrative Device

Christopher Doyle's Lighting Techniques

One of the most remarkable aspects of *Fundmentally Happy* (2015) is the amount of low-key and chiaroscuro cinematography that Christopher Doyle manages. In each of Christopher Doyle's films, there will be a particular scene with low-key chiaroscuro cinematography as it is Doyle's contention that good dramatic lighting could best convey moods and pictorialism. In *Fundamentally Happy* (2015) and *In the Mood for Love* (2004), the moods of the films are driven by high-contrast lighting for dramatic effect. *In the Mood for Love* caused some concern to some audiences as they find the first love scene sequence is very dark. Still, the film's dramatic look was praised by several film festivals earning Christopher Doyle a Technical Grand Prize in 2000 Cannes Film Festival.

Figure 31. Usage of low key chiaroscuro lighting technique. (Chu 2018)

In several dramatic sequences, *In the Mood for Love* (2004) and *Chungking Express* (1994) make the most of colour's recession to bring lighting forward. Christopher Doyle's has used the chromatic zoning techniques in separating the frame into different sections and by using low-key lighting, he is able to create the individual colour zones to bring drama and this highlights the audience attention to the performances. Doyle's commitment to chiaroscuro is powerfully displayed in Figure 31. Doyle treats the shot with good lighting modelling instead of using colour to dramatize the visual.

Figure 32a. Usage of specular lighting technique. (Peh 2018)

Christopher Doyle uses specular lighting techniques in *Fundamentally Happy* (2015). Specular lighting is a directional and focus lighting technique to concentrate and highlight the specific area or action in the scene. The lighting technique create strong highlights and shadows within the frame, thus bringing viewer's attention to the lit area. Often, in most of Christopher Doyle's narrative work, Doyle uses direct lighting techniques from a big lighting source for motivation for the interior scene. It is to emulate sunlight through the window to create a depth in the visual with shadow of window grill and highlights on the actors.

Figure 32b. Usage of low key chiaroscuro lighting technique. (Peh 2018)

Christopher Doyle's lighting is consistent in key scenes across *Fundamentally Happy* (2015). The low-key lighting functions to tone down the visual, however Doyle uses the dynamic tonality of the colour to bring the viewer's attention to the brighter illuminate area of the frame. Christopher Doyle only uses one small light source to backlit Habiba head and shoulder (Figure 32b). The key-light is aptly tied to the drama. In low-key lighting, the subject is usually left in dark, shadowy areas and has little or no fill light, which creates dramatic moments in the narrative.

Historically, low-key lighting is associated with mysteries, romance and stylish upscale commercials. Prior to Christopher Doyle's application of optical colours, they had always been confined to supernatural, stylized horror, sci-fi, avant-garde genre films, occasional art/mainstream crossovers, video art, pop promos, television commercials.⁴² In addition, the overall effects that optical colour creates often differs from realistic representations and because colour lighting draws itself attention and thus its source.

⁴² Richard Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 117.

One of Christopher Doyle iconic lighting techniques is the usage of chromatic zoning method⁴³.

Figure 33a. Motivated lighting in *Chungking Express*. (Chu 2018)

In Figure 33a, we observed that actor Tony Leung's face is key lit in warm reddish tone while the background of the convenient store is lit in another cool violet fluorescent lighting. Christopher Doyle uses the technique of chromatic zoning along with cool and warm lighting to isolate the audience attention within the frame. Although multiple colours share the frame, Christopher Doyle generally separates the colour into its individual zones to create vibrancy within the frame.

⁴³Richard, Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 143.

In the film *ChungKing Express*, Christopher Doyle often uses fluorescent lighting of violet, green and red to light the background while maintaining the white fluorescent or warm tungsten to light the character in the foreground because coloured light draws attention to the audience. The reason for using white fluorescent or warm tungsten for the character is to maintain the white balance of the skin tones so that he is able to manipulate the colour temperature of the colour grading in the post production. The colour in Doyle's films is very dynamic. (see Figures 33c).

Figure 33c. Motivated lighting in *In The Mood For Love*. (Chu/Peh 2018)

Figure 33d. Motivated lighting in *2046*. (Chu 2018)

Christopher Doyle's camera moves through different localities of colour. In his lighting design, the colours fall on the constant motion of the character and camera movement, resulting in seemingly arbitrary intersections of colour within the frame. The films are full of movement between different colours, giving his genre of work a wide range of chromatic diversity. This trend can particularly be seen in his work in *Chungking Express*, *In The Mood For Love*, *Rabbit-Proof Fence* and *2046*. Christopher Doyle uses red colour lighting in Figure 34c to visually create a sci-fi sequence in *2046*.

Figure 34a. Orange lighting vs white lighting on characters in *In The Mood For Love*. (Chu 2018)

Figure 34b. White lighting vs green lighting on characters in *Chungking Express*. (Chu 2018)

Figure 34c. Red lighting vs violet lighting on characters in *2046* stills. (Chu 2018)

In Doyle's visual strategy, it is crucial to set the tone and the mood of the scenes by using the right colour and lighting design in narrating a story with stunning visuals. Christopher Doyle created a three-dimensional shading⁴⁴ using contrasting techniques of reconciling colour, light, and space by usage of chromatic zoning similar to painting where painter will isolate individual colour space within the canvas. Due to Director Wong Kar-wai and Christopher Doyle's pioneering work in the 1990s, coloured lighting became popular in contemporary and mainstream cinema.

⁴⁴ Richard Misek, *Chromatic Cinema: A History of Screen Color* (Malden, MA: Wiley-Blackwell, 2010), 145.

Colour and Character: Art Direction, Wardrobe & Set Design

The most pronounced trait of *Hero* and *In the Mood of Love* colour design is the art direction and its persistent colour harmonies between sets and costumes. Costumes push colour forward within a relatively narrow colour palette. As the scale and budget of the production increases, Christopher Doyle works closely with the art director and costumes designer to set the colour vision of the film. Doyle has considered the lighting, set, location, costumes all together to create a world on screen. In order to ensure the strong colour contrast in the visual on screen, Christopher Doyle worked closely with Art Director William Chang set design and custom to create the romantic and nostalgic mood for the film. Chang creates the world and ambience of the beautiful nostalgic set, along with the design of the vintage costumes in the film. The use of analogous harmony of the red curtains and actress Maggie Cheung's dress strengthen the connection between the character and set. Maggie Cheung's dress provides the chromatic centre of the given scene's palette. The costumes design provides strong complementariness. Red and green contrast is especially prominent. The detail also helps to ensure balance and harmony in unifying the colour scheme across alternating shot toward a determined and coordinated look. (See Figures 35c – 35f, 33 & 34).

Figure 35a. Art direction & costume design in *In The Mood For Love*. (Chu 2018)

Figure 35b. Qipao designs in *In The Mood For Love*. (Chu 2018)

Figure 35b. *Qipao designs in In The Mood For Love.* (Chu 2018)

Figure 35c. *Art direction & costume design in Rabbit-Proof Fence.* (Chu 2018)

Figure 35d. *Faye Wong's costume design in 2046.* (Chu 2018)

Figure 35d. Faye Wong's costume design in *2046*. (Chu 2018)

Figure 35e. *Qipao* designs in *2046*. (Chu 2018)

Figure 35f. Futuristic costume designs in *2046*. (Chu 2018)

In *Hero*, the wardrobe design was carefully planned by Director Zhang Yi Mou and Cinematographer Christopher Doyle working with Production Designer Emi Wada in order to maintain the unity flow of colour throughout the entire film. In most of the Chinese martial art movie, the default colour designs have a narrow array of browns, greys, and earth tones in portrayal of the intense fights (Figure 35g).

Hero consistently build up palettes of colour in the individual scenes from red, blue, green primary colours to contrasting colours in black and white as the colour theme of the movie. The colour treatment has an underlining story conflicts as the progression of the film.

In Figure 36, see the specific wardrobe colours synchronizing with the set design and the environment in different scenes to evoke the mood of the film. The production and wardrobe design aspect is its insistence on generating dynamic colour variation. Production Designer Emi Wada provides a great contribution in the wardrobe design and flow of the colour design. Wada is known for her eye for detail and tireless work ethic. She sketches the drawings for each of her creations and hand-dyes the fabrics to achieve the precise shade of scarlet red for the heroine's costume in *Hero*. Every piece of wardrobe is hand-dyed to make sure the tonality of the precise shade of the colour is reflected on the screen. Cinematographer Christopher Doyle and Director Zhang Yi Mou carefully work on the wardrobe and set design adhering to the strict single colour palette in the individual scene (see Figure 36). The intent is clearly to harmonize the costumes with the set design, exploiting the colour as a means to stylize the images. The wardrobe design provides a sharper contrast with the surroundings and matching to the set design.

The wardrobe pieces are designed with more colour range to echo the matching colour with the set design to create a perceptibly harmonized look. It is the classical representation of using costume colours and their harmonies to link to the trait of the character in the narrative.

Figure 36. *Hero* Wardrobe & Art Direction Analysis. (Chu 2018)

Figure 37. *Hero* characters assigned wardrobe. (Chu 2018)

Art direction and set design is also equally important in the location. Christopher Doyle work alongside with the Art Director Qin Hong Bo to achieve the entire visual appearance of the film (figure 38). He pays attention to create the overall coordinated mood and look of the film by working closely with the art department, costume department and lighting department to set the artistic direction of every film. Therefore, location, wardrobe and lighting design are three elements that work hand in hand with cinematography to emulate the mood and environment of the narrative.

Figure 38. Locations and set design in *Hero*. (Chu 2018)

In Figure 36, the five scenes are represented in five different colour palettes through staging and camera movement. Christopher Doyle's visual strategy involves manipulating the colour palette on a big scale. Through the use of complementary wardrobe with the vast landscape cueing the continual variety of colour to the post production, Doyle has successfully drawn audience attention to the stunning visual. The composition of the visual is powerful in *Hero* as Christopher Doyle uses the intensity of the wide spectrum of the Chroma value and dynamic colour palette in the various sequence of the scenes.

Post-production: Colour and digital grading

Since the late 1990s, digital post-production has revolutionised and changed the workflow and colour design in filmmaking. A film's palette is increasingly determined during digital postproduction rather than during principal photography. Digital colour grading enables the cinematographer and post-production colourist to manipulate the lighting and the frame, changing the colour of selected objects and adjusting saturation and hue within the frame.

With the advance of digital technology in camera and post production system, more directors and cinematographers rely on the adding colour and adjusting in the post production stages. Cinesite Digital Imaging developed new software that allowed over 70 percent of the film to be scanned so that the filmmakers could remove and then selectively reintroduce colour in the post production stages⁴⁶. Christopher Doyle used the the advances in the technology to rely on the post production for controlling the hue and saturation of the colours to construct his scenes through post-production in *Rabbit-Proof Fence* (2002), *Hero* (2002) and *2046* (2004).

One of the key challenges that most cinematographers face is to control the lighting consistency of outdoor lighting. The angle and direction of the sun is shifting every minute and the shadows cast on the actors is ever changing along with the passing clouds. Cinematographers need to monitor the exposure constantly to avoid light level problems. It is weather dependent when shooting in outdoor environments. The main solution to maintain a consistent mood and look throughout film is by using post colour grading. In Figure 39, most of the images in *Rabbit-Proof Fence* are graded in the post-production. Christopher Doyle frames most of the wide shot against the vast desert where lighting in this environment is impossible. However, you will notice the image and colour of the story sequence is consistent throughout in each individual scene. The film uses a brown and muted colour palette to blend in the harsh environment of the desert and cool violet and blue colour tones in the rest of the story sequence to represent hope in line with the story.

⁴⁶ *Rainbow: Color Design in the 1930s*. Austin, TX: University of Texas Press, 2008, 215

Figure 39. Post-production effects in *Rabbit-Proof Fence*. (Chu 2018)

Figure 40. Post-production effects in desert in *Rabbit-Proof Fence*. (Chu 2018)

In *Hero*, the post production colour grading is done to build chromatic motifs. In Figure 41, see the treatment of the before and after of the visual effects grading in changing the colour of the scene as Flying Snow killed Moon in the sequence. The transition from yellow to red within the same sequence is a representation of revenge and anger. It is a good representation of using colour symbolic duties in film by building motifs throughout the film. Christopher Doyle enables colour design to serve and punctuation for *Hero*. Though the scenes to build up a thematic pattern of colour, the colour grading of the film is very consistent. As most of the scene is shot in forest, mountains, desert and palace exterior (figure 41) there is a consistency of the colour treatment with the wardrobe design. Christopher Doyle retain the balance in the skin tone of the characters while adding contrast to the primary colour to bring out the vibrancy of the colours in the sequences.

Figure 41. Locations' post-production effects in *Hero*. (Chu 2018)

Figure 42a. Comparison between before and after post-production effects in *Hero*. (Chu 2018)

Figure 42b. Comparison between before and after post-production effects in *Hero*. (Peh 2018)

The advances in digital grading has encouraged Christopher Doyle to experiment and have a greater control over colour design after principal of photography. In *Hero*, post-production film grading was essential in getting the consistent tonal contrast of the colour in the film. In Figure 42b, the image of the battle scene is transformed from yellow to red sequence. It is a great showcase of colour manipulation in post-production.

Colour Strategies

Introduction

All perception of colour is based on an interaction of colours, only when another colour is introduced to the scene is there an interaction of the colour to be seen. In order to understand Christopher Doyle's colour design and visual style, the harmony and combination of colour schemes that Doyle uses in his film are studied, including the interaction of colour, visual phenomena and understanding how colours interact and changes with the lighting control of the scene.

For this analysis, many film frames are studied and dissected many details, identifying the individual colour zones and colour design of Cinematographer Christopher Doyle. By doing this analysis, this thesis seeks to understand Christopher Doyle's visual style and colour strategies in the individual scenes. The analysis will be broken down into complementary colours, analogous colours, triadic, tetradic, square colour schemes and depth of colours.

A colour wheel with the identified colours is included in each scene to aid the visual analysis. There are colour boxes to mark out the individual colour schemes and weightage of the scenes. The coloured mark out boxes in every diagram in this section are a good showcase of how Christopher Doyle plans and accomplishes his visual composition and direction for audience attention. Under the depth of colours, the common Pantones Colours among Christopher Doyle's selected filmography can be identified and evaluated.

After evaluating the diagrams, we will discuss the usage of lighting and identifying the key lighting strategies used by Christopher Doyle is discussed. In the following diagrams, the colour wheel is included in the middle of visual compilation of Christopher Doyle works. Visualization is a medium between the data and the viewer. In order to fully understand Christopher Doyle range of work, an analysis of visual data was done by breaking down 258 films stills from 26 major scenes of the 5 films and categorising them into sections according to their common colour themes and palettes. By adding the colour wheel into the compiled visual representations along with Pantone codes, it makes the creative more visible to the viewer.

Colour Theme

Complementary colours

Figure 43a. Colour Wheel⁴⁷ (Foster, 2014)

In Figure 43a, Complementary colours are two colours that are on opposite sides of the colour wheel. One of Christopher Doyle's key techniques is to complementary colour schemes in most of the scenes in his films. Doyle uses yellow and purple, blue and orange, green and red colour combinations in film sequences. The result of using complementary colour schemes can strengthen the visual with one cool colour and one warm colour.

⁴⁷ Foster, Jerod. *Color: A Photographer's Guide to Directing the Eye, Creating Visual Depth, and Conveying Emotion*. United States of America: Peachpit, 2014.

Figure 43b. Types of complimentary colour schemes^{as} (Foster, 2014)

This helps to create simultaneous contrast which is the highest contrasts available on the colour wheel. For instance, complementary colours can make each other appear brighter and stand out as a visual cue. Doyle uses split-complementary colour schemes in most of the independent art house genre films such as *Chungking Express*, *Psycho*, *In The Mood For Love* & *2046* to create more dynamic colour contrasts in keying colour design to the narrative. Doyle's colour score exploits rudimentary narrative motivations by using striking colour design such as brilliant neon lighting.

^{as} "Types of Color Schemes." Siudy.net. February 18, 2018. Accessed June 17, 2018. <https://siudy.net/types-of-color-schemes/>

Figure 44. Complementary colours analysis in *Chungking Express*, *In The Mood For Love* & *2046*.
(Chu 2018)

Due to the nature of art house genre films, it can be seen that complementary harmonies (red with green, yellow with violet) are used in *Chungking Express*, *In The Mood For Love*, *2046* and early works of Christopher Doyle work (see Figure 44a). The result of the complementary harmonies can be strongly emotive and expressive. Two adjacent complementary colours will brighten each other making the individual colour more intense (See figures 44 & 45a – 45j). The effect is enhanced by low key chiaroscuro lighting to create strong tonal contrast in the mood of the scenes.

Figure 45a. Complementary colour scheme in *In The Mood For Love*. (Chu 2018)

Figure 45b. Complementary colour scheme in *In The Mood For Love*. (Chu 2018)

In Figure 45a, Christopher Doyle uses chromatic zoning strategy along with complementary harmony in the scene of *In the Mood for Love* to light the left 1/3 of the frame with green fluorescent lighting while the centre of the frame where main character played by Maggie Cheung is lit in red side lighting. Christopher Doyle creates layers of visual isolation by shifting the audience attention to the left half of the frame as this composition uses the foreground to block out the right half of the frame. Doyle's iconic use of these partial view techniques divide the frame into 3 sections enabling the audience to focus on the character performance. To elevate the visual cues of the scene, Doyle uses simultaneous contrast (Figures 45a - 45c) technique where bright colour is used against a dull or dark foreground, and the contrast will be strongest inviting the audience attention to the focus on the background. The method of using darker foregrounding techniques is to shape the visual direction of the audience to be attracted to brightest part of the image. In the conversation scene of *In the Mood for Love* (Figure 45b), Doyle places the camera shooting from the back of actor Tony Leung to focus the attention to the main conversation. The foreground half of the frame is filled with the shadowed back view of actor Chow, however Doyle directed the visual direction and the weightage of the frame to the front view of the main character who is lit with white fluorescent. Christopher Doyle also uses a tint of yellow tint on the left side of the frame by bring out colour contrast into scene. (Figures 45c – 45e.)

Figure 45c. Complementary colour scheme in *In The Mood For Love*. (Chu 2018)

Figure 45d. Complementary colour scheme in *In The Mood For Love*. (Chu 2018)

With reference to Figure 45d, Doyle uses a split-complementary colour combination with wider range of tonal value to bring out the same strong visual contrast as complementary colour schemes, but it has lesser tension with the uses of two colours adjacent to its complement. In Figure 45c, complementary yellow-violet is used as the theme of the scene where Chow Mo-wan's (Tong Leung) face is lit by tungsten lighting producing warm orange tone paired with yellow Oklahoma filter and the background is lit with cool violet lighting. Oklahoma yellow colour filter gives a rich blend of bright sunshine and warm ochre overtones to the visual. Using warm intense colours like yellow and red can overpower darker colours as darker hues tend to be heavier looking than lighter ones. The usage of this combination of colour green/red and yellow/violet is very common in the earlier work of Christopher Doyle in *Chungking Express*, *Psycho*, *In The Mood For Love*, *Rabbit-Proof Fence*, *Hero & 2046* (See Figure 47) drives the audience direction to the mark up colour boxes in Figure 45c by using the colour weightage technique and balancing the composition of the frame.

Figure 46e. Complementary colour scheme in *2046*. (Chu 2018)

Figure 46f. Split complementary colour scheme in *2046*. (Chu 2018)

Figure 46g. Complementary colour schemes in *Chungking Express*. (Chu 2018)

Figure 46g. Complementary colour schemes in *Chungking Express*. (Chu 2018)

Figure 46h. Complementary colour schemes in *Rabbit-Proof Fence*. (Chu 2018)

Figure 46i. Complementary colour schemes in *Hero*. (Chu 2018)

Figure 46j. Complementary colour schemes in *Psycho*. (Chu 2018)

Christopher Doyle's use of a violet/yellow colour scheme is mainly associated with scene with remoteness and loneliness in most of his sequences in *Chungking Express*, *Psycho*, *In The Mood For Love*, *Rabbit-Proof Fence* and *Hero* (See Figure 47). Doyle uses the combination of violet/yellow as a metaphorical representation to show the internal struggle of the character in the film.

The usage of secondary colour violet instead of primary colour blue gives a gentle blend of colour contrast as compared to strong contrast of complementary primary colour such as red and blue combination. Audience will be able to focus on the performance of the character instead of giving a strong intense visual for the scene. In *Hero*, Cinematographer Christopher Doyle and Director Zhang Yi Mou intended the film to be a visual piece putting colour as the main theme of the film. Primary colours and secondary colours are all used throughout the sequences of the film in their individual single colour hues resulting in an intense visual experience. The use of single colours results in an intentional lack of contrast between characters and setting. Doyle and Zhang uses colour as a visual storytelling by telling one story coloured by different perceptions. Most of the film critics commented this in *Hero*, the visual being very powerful in the performance of the story.

Figure 47. Violet-yellow complementary colour mood board. (Chu 2018)

Analogous colours

Figure 48a. Analogous colours analysis. (Chu 2018)

Figure 48b. Analogous colours wheel. (Peh 2018)

Analogous colours are colours that are next to each other on the colour wheel. The usage of analogous colour will match well and is pleasing to the eye, creating visual harmonious and unity⁴⁹ (see Figure 49a – 49g). Christopher Doyle uses analogous colours red-orange, red-violet and yellow-green commonly in the sequence of *Chungking Express*, *In The Mood For Love*, *Hero*, *Rabbit-Proof Fence* and *2046* (See Figure 48). In the red-violet sequence, it is a combination of warm rich hues creating a passionate and fiery appeal.

Figure 48c. Analogous colours wheel. (Peh 2018)

⁴⁹A. Risk, Mary. "How to Use Color in Film: 50 Examples of Movie Color Palettes." StudioBinder. March 06, 2018. Accessed June 03, 2018. <https://www.studiobinder.com/blog/how-to-use-color-in-film-50-examples-of-movie-color-palettes/>.

Figure 49a. Analogous colours in *Chungking Express*. (Chu 2018)

Figure 49a. Analogous colours in *Chungking Express*. (Chu 2018)

Figure 49b. Analogous colours in *Hero*. (Chu 2018)

There is a high usage of yellow-orange combinations in *2046* and *In the Mood for Love* as the combination give a vibrant, bright and retro look to the moods of the films. Doyle uses red-orange-yellow sequences in *Hero* to portray the passion and anger of the character in the scene.

Figure 49b. Analogous colours in *Hero*. (Chu 2018)

Figure 49c. Analogous colours in *2046*. (Chu 2018)

Christopher Doyle uses yellow-green combinations in *2046* as there is a lightness and brightness in these shades that bring smooth and refreshing emotions in the visual aesthetic. Yellow and green sits well on the colour wheel and appeases the eyes of the audience.

Figure 49c. Analogous colours in *2046*. (Chu 2018)

Figure 49c. Analogous colours in *2046*. (Chu 2018)

Figure 49d. Analogous colours in *In The Mood For Love*. (Chu 2018)

Figure 49e. Analogous colours in *Rabbit-Proof Fence*. (Chu 2018)

Figure 49e. Analogous colours in *Rabbit-Proof Fence*. (Chu 2018)

Figure 49f. Analogous colours in *Psycho*. (Chu 2018)

Figure 49g. Analogous colours in *Last Life in the Universe*. (Chu 2018)

Figure 49g. Analogous colours in *Last Life in the Universe*. (Chu 2018)

In order to create contrast within the analogous colour combinations, Doyle uses one key primary colour to dominate (blue, red, green), a secondary colour (yellow and violet) to support and the third colour is used (along with black or white background) as an accent to bring out a stronger contrast to the narrative.

The use of more daring analogous colour schemes is more experimental and stronger in art house films such as *Chungking Express*, *In The Mood For Love* & *2046*. *Hero* is a good showcase of usage of analogous colour schemes in a major feature film.

Triadic/Tetradic/Square colour schemes

Figure 50. Triadic/ Tetradic /Square colour schemes⁵⁰(Itten, 1961)

In order to bring contrast in the images when using analogous colour schemes, Christopher Doyle uses triadic colour schemes to bring more vibrancy into the visual composition (See Figure 51a – 51f). A triadic colour combination uses colours that are evenly spaced around the colour wheel and brings harmonies and vibrancy to the narrative. Doyle is the pioneer in Asian cinema of using multiple colour lighting sources within a frame to achieve powerful visual aesthetic. Doyle uses red, yellow and green triadic colour combination in *Chungking Express*. In order to compose a well-balanced triadic harmony visual, Christopher Doyle will choose a key colour to dominate the scene and uses the other two colours for accent. Figures 51a – 51g are visual references from our data analysis of his usage in triadic colour strategy in his film works.

Figure 51a. Triadic colour schemes in *Chungking Express*. (Chu 2018)

⁵⁰"Types of Color Schemes." Siudy.net. February 18, 2018. Accessed June 17, 2018. <https://siudy.net/types-of-color-schemes/>.

Figure 51a. Triadic colour schemes in *Chungking Express*. (Chu 2018)

Figure 51b. Triadic colour schemes in *Rabbit-Proof Fence*. (Chu 2018)

Figure 51b. Triadic colour schemes in *Rabbit-Proof Fence*. (Chu 2018)

Figure 51c. Triadic colour schemes in *In The Mood For Love*. (Chu 2018)

Figure 51e. Triadic colour schemes in *In The Mood For Love*. (Chu 2018)

Figure 51c. Triadic colour schemes in *In The Mood For Love*. (Chu 2018)

Figure 51c. Triadic colour schemes in *In The Mood For Love*. (Chu 2018)

Figure 51d. Tetradic colour schemes in *In The Mood For Love*. (Chu 2018)

Figure 51e. Triadic colour schemes in *2046*. (Chu 2018)

Figure 51e. Triadic colour schemes in *2046*. (Chu 2018)

Figure 51f. Triadic colour schemes in *Psycho*. (Chu 2018)

Figure 51g. Triadic colour schemes in *Last Life in the Universe*. (Chu 2018)

One of the observations from the visual compilation is that Christopher Doyle uses unsaturated hues such as violet, pale blue, orange and cyan in the colour combinations (See Figure 51c & 51d). Christopher Doyle's use of unsaturated hues in the triadic combination is to bring harmony and create subtle contrasts, pleasing to the audience eye instead of using of primary colours.

Doyle carefully balanced the usage of unsaturated colours letting one main colour dominate a scene with two others for accent. By using this technique, Doyle is able to bring vibrancy to the visuals with the triadic combination of unsaturated hues.

Christopher Doyle uses the technique of bringing the primary colour in the foreground to set the mood of the film and support with a subtle secondary complementary colour from the set design or wardrobe. From the visual analysis, an overview of Christopher Doyle's colour strategies can be seen in bringing different visual experiences through the different colour manipulations and combinations. Christopher Doyle draws audience attention to colour by exaggerating the rules of coordination and harmony between set and wardrobe design by combining them with dynamic contrast.

Figure 52. Depth of colour chart⁵¹(Studiobinder, 2016)

The following scenes analysis are identified by colours using the Pantone software. Scenes with similar colour composites will be gathered together with a strip of similarly identified colour Pantones code. In this research, visual compilations are created from different film stills to match the Pantone Matching System to find out the underlying colour Pantone colours from the scenes in Christopher Doyle's films. Further analysis will be conducted on the respective scene collages and individual scenes. By analysing the identified Pantones, the relationships between various components of colours, Christopher Doyle's colour strategy in his work can be explored.

⁵¹ A. Risk, Mary. "How to Use Color in Film: 50 Examples of Movie Color Palettes." StudioBinder. March 06, 2018. Accessed June 03, 2018. <https://www.studiobinder.com/blog/how-to-use-color-in-film-50-examples-of-movie-color-palettes/>.

Figure 53a. Dark Blue Pantone Analysis. (Chu 2018)

Figure 53b. Common Blue Pantones in *Chungking Express*, *Hero*, *Rabbit-Proof Fence* & *Last Life in the Universe*. (Chu 2018)

In the analysis of *Rabbit-proof Fence*, *Chungking Express*, *Hero* & *Last Life in the Universe*, the common Pantone colour codes are noted that Christopher Doyle used in the film. Pantone 3590C, 3506U and 3590U is represented by violet-blue colour predominantly used in sequences to showcase the sombre and lonely atmosphere of the scenes. It is also a representation of death in sequences in *Hero*. In the sequence seen in Figure 53a, Doyle uses low key lighting and places the character in silhouette to evoke loneliness against the Pantone 3590C. The value and saturation were adjusted in the post-production to match the consistent hue and tonal value of the violet-blue to set the mood for the sequences throughout five films.

Figure 53d. Blue Pantones in *Last Life in the Universe*. (Chu 2018)

Figure 53e. Light Blue Pantone Analysis. (Chu 2018)

Comparing the saturation and chromatic value of the Figure 53a and Figure 53e, it is observed that Christopher Doyle uses Pantone 3590C, a darker shade of blue to represent more sombre and isolation moods in the scenes. Whereas in Figure 53e, it is represented by Pantone 3506U. The mood of the visual compilation aligns the themes of quietness and peace with the characters in the sequences.

Figure 53f. Blue Pantone of *2046* film still. (Chu 2018) **Figure 53g.** Blue Pantone of *Hero* film still. (Chu 2018)

The tonal and saturation values of the hue will affect the representation of emotional language of colour in narrative. Christopher Doyle uses a wide range of tonality and chromatic values of a single colour palette in Figure 53f. Colours are modified in appearance by their proximity to other colours. A bright blue against a darker blue will further deaden the colour. The intensity and contrast of the blue tonal values are interrelated with the association of emotions of the narrative.

Figure 54a. Violet Pantone Analysis. (Chu 2018)

Figure 54b. Common Violet Pantones in *Chungking Express*, *Rabbit-Proof Fence* & *Last Life in the Universe*. (Chu 2018)

Christopher Doyle uses violet Pantones 3543UP and 3575C in the films to evoke mystery, intimacy and hope in the narrative. Doyle commonly uses violet as atmosphere lighting to create a stylistic and vibrant scene such as in Figure 54a. It is able to evoke stylistic emotion and mood in the narrative. In the sequence of *Chungking Express*, the usage of Pantone 3575C from the ultra-violet neon lighting creates a high contrast stylized visual. The usage of this violet undertone creates a refreshing environment as it is not commonly used in modern films. In *Rabbit-proof Fence*, Christopher Doyle places the character against the bluish-purple sky. It is representation

of hope and calmness in the scene as the characters arrived in their new settlement. The Pantone 3543 UP has a lighter value as compared to the Pantone 3575 C in *Chungking Express*. Christopher Doyle uses violet neon lighting as motivation in *Chungking Express* as compared to the digital imaging in *Rabbit-proof Fence*.

Figure 55a. Red Pantone Analysis. (Chu 2018)

Figure 55b. Common Red Pantones in *In the Mood For Love*, *Hero* & *2046*. (Chu 2018)

In the Pantone analysis of 25 film stills from *In The Mood For Love*, *Hero* and *2046*, Pantone 2443 CP is identified as the key Pantone colour used by Christopher Doyle (Figure 55a). The Pantones 2443 CP is a mixture of 75% red, 18% green and 7% blue. It has a deep reddish-brown undertone. In the image analysis of *In The Mood For Love* and *Hero*, the Pantone 2443 CP is analysed from the colour of the props, wardrobe and set design. The red undertone is driven by the art direction instead from the lighting.

It is observed that Christopher Doyle lit the environment with tungsten warm lighting in *In The Mood For Love* and *Hero*. One of the advantages in using of art direction to evoke the red undertone in the composition instead of lighting is that Doyle is able to maintain the accurate colour temperature of the skin tone of the actors while having more control of colour grading in the post production. As compared to the red overall lighting used in *2046*, the scene is motivated by red lighting. The entire image including actress Fayne Wong's face is washed out by red lighting. The decision to use red lighting in *2046* is to create a fantasy world where it is a showcase of the movie's futuristic sequences. However, other than *2046* movie, Doyle prefers to use the art director and wardrobe to bring out the intensity and mood of the red in the scene rather than red lighting which will affect the image control in post-production.

Figure 55c. Red Pantone of *2046* film still. (Chu 2018) **Figure 55d.** Red Pantone of *Hero* film still. (Chu 2018)

Christopher Doyle uses Pantone 2443CP to associate with love, lush, anger and tension in his range of film work. In order to differentiate the different portrayal of moods in the sequences, Doyle uses lighting to control the intensity and the colour tone of the reds in the scenes. The colour of the images is determined by what parts of the spectrum they reflect. The eye is not equally sensitive to all wavelengths. In dim light, particularly, there is a definite shift in the apparent brightness of different colour tones. The saturation of the red seems darker in a low lighting environment as compared to brighter red in a bright lited environment. Christopher Doyle uses low key lighting to desaturate the red in association of romance and lush in *In the Mood for Love*. Doyle also uses bright intense red in association with anger and blood in the scenes of *Hero*.

The red Pantone underlines and motivates the ensuing violence in *Hero*. The red Pantones in Figure 55d is stronger in contrasts than surrounding scenes. It is a common technique for binding colour to narrative in *Hero* as the colour-symbol was originally linked directly to blood. Christopher Doyle taps into the association of red and made it extraordinarily vivid throughout the three films.

Figure 56a. White Pantone Analysis. (Chu 2018)

Figure 56b. Common White Pantones in *Rabbit-Proof Fence* & *Hero*. (Chu 2018)

Christopher Doyle uses Pantone 13-0607 TCX in the association of faith and purity in *Hero* and *Rabbit-Proof Fence*. The common Pantone in these two scenes is Pantone 13-0607 TCX (see Figure 56b) which is similar because of the outdoor desert-like terrain where both scenes are shot. Christopher Doyle used white wardrobe against the vast desert to depict a pure, neutral, emotionless and harsh mood or outdoors. When it was decided to shoot the key part of *Hero* in a desert, Doyle picked the white of the desert at noon to match the wardrobe design. Colour is carried primarily by costume and location, and this allows it to be manipulated through staging and art direction. Christopher Doyle fluidly shifts emphasis by integrating colour through location leading viewer attention to the character action.

Christopher Doyle uses chiaroscuro lighting techniques for indoor scenes to create low key lighting with the implementation of red, blue and violet colour lighting for the indoor setting. Whereas for the outdoor on location filming, Doyle uses lighter colour palette such as white and beige for wardrobe to match the environment. Given the importance of colour to the cinema, the cinematographer uses colour as a visual tool to narrate the story. Through the practical experiment and data collection, the specific common Pantone colours used by Christopher Doyle in his colour strategies have been identified (Figure 53). Christopher Doyle uses red, blue and violet consistently in his range of work throughout *In the Mood for Love* (2000), *Hero* (2002), *Chungking Express* (1994), *Rabbit-proof Fence* (2002) and *Fundamentally Happy* (2015). Doyle's visual designs involve strong colour strategy in the art, lighting and wardrobe design to deliver captivating visuals in his narratives.

Figure 57. Common Pantones in *Chungking Express*, *In The Mood For Love*, *Hero* & *Rabbit-Proof Fence*. (Chu 2018)

Lighting as Narrative Device

Chiaroscuro

“Chiaroscuro lighting is represented by light and dark, illumination and shadow. It also reflects the ‘zeitgeist’ of the times: the growing undercurrent that not all things can be known, what is unseen in the shadows may be as significant as what is seen in the light”⁵². The theory was observed by Blain Brown in the book of *Cinematography: Theory and Practice*.

In research observations, Christopher Doyle uses the technique of gradations and brilliancies of achromatic colours, those colours within each chromatic hue, in his visual narratives. He references his style with the influences of the old painting technique of chiaroscuro, which uses strong contrasts between light and dark within the same chromatic hue. In paintings, the description refers to the tonal contrasts which are often used to suggest the volume and modelling of the subjects depicted⁵⁶. This term and style of painting originated during the Renaissance period. Famous artists who mastered the use of *chiaroscuro* include Leonardo Da Vinci, Caravaggio and Rembrandt. What made this style of painting so ground breaking is the close resemblance to realism particularly in terms of light and shadows. Some of the classical paintings which portray the style of *chiaroscuro* are *The Calling of Saint Matthew*, *The Taking of Christ* and *Judith Beheading Holofernes* by Caravaggio and *Self-Portrait as the Apostle Paul* by Rembrandt (See Figure 60a & 60b).

⁵² Brown, Blain. *Cinematography: Theory and Practice: Imagemaking for Cinematographers and Directors*. New York: Focal Press, 2012, 69.

⁵⁶ Gallery, London The National. "Glossary." The National Gallery. Accessed June 18, 2018.

<https://www.nationalgallery.org.uk/paintings/glossary/chiaroscuro>

The Calling of Saint Matthew

The Taking of Christ

Figure 60a. Classical *Chiaroscuro* paintings. (Chu 2018)

Judith Beheading Holofernes

Self-Portrait as the Apostle Paul

Figure 60b. Classical *Chiaroscuro* paintings. (Chu 2018)

In the early cinema, cinematographers used Chiaroscuro lighting techniques first used by painters first in the 15th century to make an object pop-up from a flat painting, by imagining a light source from a side of the painting. The gradual darkening of the shoulder would suggest that the person is three-dimensional in a two-dimensional canvas. It evolved into *Film noir* cinema in the early 1940s which it is associated with low-key lighting, side lighting, shadows and black and white visual style which is prominently featured in black and white films in Hollywood. As optical colour is not evident in the early cinema, cinematographers used shadow and highlights to shape the black & white viewer experience.

Early film was shot in high contrast in low key lighting. Famous filmmakers who have produced trademark *film noir* films include Alfred Hitchcock, Fritz Lang, Gregg Toland, John Alton, John F. Seitz, Orson Welles and Otto Preminger³⁷. Some of the classic black and white *film noir* films are *Citizen Kane* (1941), *Double Indemnity* (1944), *The Third Man* (1949), *The Big Combo* (1955), *Touch of Evil* (1958) and *Psycho* (1960)³³. Chiaroscuro lighting technique is probably one of the most translated techniques across different forms of art. Not only is it used metaphorically in photography and literature, but it has even been used in stop-motion animation films such as *Frankenweenie* (2012) in Figure 60c.

Figure 60c. *Frankenweenie* (2012) animated still. (Peh 2018)

The Big Combo (1955) film still. (Chu 2018)

Psycho (1960) film still. (Chu 2018)

Figure 61a. Classical *film noir* films.

The Third Man (1949) film still

Citizen Kane (1941) film still

Figure 61b. Classical *film noir* films. (Chu 2018)

Lighting creates the environment for storytelling. Christopher Doyle experiments with light and colour in his visual work to create strong and effective elements in his narrative films. Chiaroscuro lighting technique has proven over the century to be an effective visual tool in bringing drama to the narrative. Christopher Doyle draws his inspiration from *chiaroscuro* in the play of light and shadow and the high contrast of light and dark where the low-key lighting which accentuated shadows on the actors and sets. Texture and variation is achieved through the pools of intense spot illumination, motivated by strong key light from the single direction. The silhouette, light-dark contrast, long shadows and directional lighting are strong visual devices in *Fundamentally Happy* (2015) that make them so visually empowering. The dynamic tonal contrast of the style helps to dramatize the narrative.

⁵³ Brown, Blain. *Cinematography: Theory and Practice: Imagemaking for Cinematographers and Directors*. New York: Focal Press, 2012, 69.

With the influence of *film noir*, Christopher Doyle uses extreme low-key directional lighting to simulate the realistic motivation in his range of works. Christopher Doyle uses contrasting techniques of reconciling colour, light, and space. The use of chiaroscuro lighting is prominent in *Fundamentally Happy* (2015) and *In the Mood for Love* (2000) as the films are almost entirely shot in low-key lighting (See figures 62). The lighting style for both the film emulate black and white effects, and several sequences build a new kind partnership between chiaroscuro and colour. Adding spotlighting makes these colours luminous in the darkness; and bringing out the monochromatic contrast of *Fundamentally Happy* (2015).

Figure 62a. Chiaroscuro effect in *In The Mood For Love*. (Chu 2018)

Figure 62b. Chiaroscuro effect in *Fundamentally Happy* (2015). (Peh 2018)

The lighting technique of chiaroscuro effect heavily influenced painting from Renaissance. Low key lighting accentuates the contours of the characters by spot lighting the key area of the image and throwing the rest of the areas into shade to control the contrast (See figures 63a – 63d).

Figure 63a. Comparison between 2046 film & *The Matchmaker* painting by Gerrit van Honthorst. (Chu 2018)

Figure 63b. Comparison between *Rabbit-Proof Fence* film & *The Holy Family By Night* painting by Rembrandt. (Chu 2018)

Figure 63c. Comparison between *Chungking Express* film & *The Calling of Saint Matthew* painting by Caravaggio. (Chu 2018)

Figure 63d. Comparison between *In The Mood For Love* film & *Self-Portrait as the Apostle Paul* painting by Rembrandt. (Chu 2018)

Christopher Doyle uses the same techniques used in theatre by spotting the main performance and isolating the rest of the frame with shadow areas. Doyle has engaged in far more adventurous lighting schemes, reducing illumination well below the latitude of the camera threshold and the effect shrouds the images in darkness and obliterates colour in Figure 63d. In order to intensify the saturation of onscreen colour, Christopher Doyle uses single point top lighting to give a spot-lighting effect. In order to control the spilled of the lighting source, most of the lighting fixture that Doyle uses are small direction sources such as Dedolights. A Dedolight is a powerful yet highly controllable light source which would occupy a minimum amount of space and producing unprecedented light quality. Doyle uses diegetic colour where colour originates within the narrative to provide motivation for his intensely coloured lighting. In Figure 63d, actress Maggie Cheung is lit with a mixture of the motivation by an orange street lamp lighting. It is important to appropriately light facial details for reinforcing mood, performance, and character psychology. Doyle has developed precise lighting control of facial modelling in *In the Mood for Love* to compose the lighting design much like the modelling in a Rembrandt painting, hence directing audience focus to the performance.

Figure 63e. Comparison between *In The Mood For Love* (detail) & *Self-Portrait as the Apostle Paul* (detail) by Rembrandt. (Chu 2018)

Christopher Doyle's lighting is similarly conspicuous in key scenes across *Fundamentally Happy* (Figure 64d). The low-key lighting compresses the range so that colour tones come forward. In low-key lighting, the subject is usually left in dark, shadowy and has little or no fill light. Doyle boldly mimics monochrome cinematography, expunging hue in favour of light and shadow to create dramatic moment in the narrative.

Christopher Doyle uses soft directional top lighting to create the stylized facial modelling of actress Maggie Cheung in *In the Mood for Love* (2004). The treatment of shadows doesn't receive much attention in contemporary film probably because the advent of Technicolor paved the way for other colouring techniques. However, shadow is an essential visual tool in shaping the dramatic effect of the narrative. Christopher Doyle uses shadows as a visual tool in especially in *Fundamentally Happy*, *In The Mood For Love* and *2046*. The usage of shadows is essential in restricting the view and creating three-dimensional space of the scenes through contrasting shadow patterns and textures of the space. The low-key lighting, directed pools of intense spot illumination, motivated by on and off screen lamps, create texture through a play of light and shadow. Doyle's use of tonal contrast also serves as a practical goal to ensure that characters will be the centre of attention, within background and using light and shadow to create different layers in the composition guiding audience attention to the action. It is a visual technique of using tonal foregrounding tied to narrative developments (Figures 64a – 64d).

Figure 64a. Shadows in *In The Mood For Love*. (Chu 2018)

Figure 64a. Shadows in *In The Mood For Love*. (Chu 2018)

Figure 64b. Shadows in *2046*. (Chu 2018)

Figure 64c. Shadows in *Chungking Express*. (Chu 2018)

Figure 64d. Shadows in *Fundamentally Happy*. (Peh 2018)

Incandescent Spot

Christopher Doyle has an iconic style of placing practical light source in the frame to suggest the lighting motivation of the scene. The practical lighting source will form an incandescent spot in the visual. Figure 65a and 65b is a visual compilation of 41 film stills from *Chungking Express*, *Psycho*, *In the Mood For Love*, *Hero*, *2046*, *Last Life in the Universe*. The finding is that in all 41 film stills have a common incandescent spot in the centre of each composition. Christopher Doyle places this incandescent spot to draw viewer attention into the composition of the frame.

In most of these sequences, the incandescent spot is from the soft glow of a table lamp, ceiling light or fluorescent lighting that appear to illuminate the room. It is also to establish the mood and the atmosphere of the scene. The presence of the incandescent spot is to make possible the high contrast lighting allowing one point of visual intensification. Doyle uses diegetic colour that originates within the narrative to provide motivation for the incandescent spot, for example, the orange and violet neon lighting from the fish tank in the apartment in *Chungking Express*, or the pink-green neon-infused colours of the motel sign in Bates Motel in *Psycho*. The incandescent spot heightened atmosphere is achieved through the high contrast blacks and shadows.

The usage of soft diffusion filtration delivers effective softening of the image, and allows the incandescent spot in the image to create a softening glow effect. Doyle uses this effect to create a very subtle glow to the light sources and highlights.

Rabbit-Proof Fence

Figure 65a. Bright spots Analysis 1 in Doyle's selected filmography. (Chu 2018)

Figure 65b. Incandescent Bright spots Analysis 2 in Doyle's selected filmography. (Chu 2018)

6. Camera and Narrative Storytelling

Figure 66. Partial view framing scenes in Doyle's selected filmography. (Chu 2018)

Christopher Doyle has developed strong visual compositions in directing the viewers to focal points on the screen. Doyle uses foregrounding method by dividing the framing into three sections and uses only one-third to half of the frame for the revealing and framing of the performances. The remaining one-third of the frame is covered with some foreground object such as pillar, wall, curtain and other props. Although foregrounding method is a common method to narrow the scope of view for the audience, Christopher Doyle uses unconventional compositions by using more than one-third to half the frame for the foreground. His technique is able to direct the audience's attention to the key performance. The framing evokes a mysterious mood as though the viewer is hiding behind the main performance and watching from a distance.

In Figure 66, Christopher Doyle usually places the actor and the key performance on the one-third of the framing and using shallow focus method to blur out remaining of the action, directing the viewer's attention to the performance of the actor. Doyle uses graduation of lightness and darkness across the screen to create a gentle flow gradient to allow the audience to concentrate on the main action.

As a result, the characters often share the frame with large blank spaces. This directs the audience to the one-third frame where the character is. Reviewer Allan Cameron writes, “This bisection of the frame is taken to such extremes that at times it appears that the filmic image is split. This aesthetic of non-identity perfectly captures the imaginative trajectories of the characters, who project desire across walls, national boundaries and even decades, but are confronted instead with solitude and melancholy reflection” (2007)⁵⁴.

Figure 67a. Rule of third in Doyle’s scenes in *In The Mood For Love*, 2046, *Chungking Express*.
(Chu 2018)

Christopher Doyle follow the rule of thirds guideline when composing his visual images. (See Figure 67b). By using the rules of thirds, these images draw the viewer’s eye into the compositions. In Figure 67a, the horizon sits at the horizontal line dividing the lower third of the film stills from the upper two-thirds of the frame. This unique technique is similar to the golden rectangle composition of “rule of thirds” guideline in composing visual images in design, films and photography.

Doyle uses his composition to balance the visual in the frame as the human eye naturally gravitates to the four intersecting points of these lines. Unequal parts and gradations lead the attention easily and by placing the key action within the left or right part of the frame. As a result, it builds drama and interest in the visual design. Christopher Doyle adopts this technique throughout *In the Mood for Love* (2000) to *Fundamentally Happy* (2015).

⁵⁴Cameron, Allan. *A Review of Contemporary Media Jump Cut*, No.49, 2007

Doyle carefully plans for the visual composition for cinema as his framing has evolved from the extreme close-ups from *Chungking Express* to using of wider framing techniques to cater to the bigger screens of the new cinema.

Figure 67b. Guiding lines in scenes in Doyle's selected filmography. (Chu 2018)

Christopher Doyle uses dolly camera movement while keeping the one-third framing ratio to guide audience attention to the main performance (see Figure 67b).

Figure 67c. Over-the-shoulder shots in Doyle's selected filmography. (Chu 2018)

Christopher Doyle uses over-the-shoulder (OTS) shots consistently throughout *Chungking Express*, *In The Mood For Love* and *2046*. An over the shoulder shot (OTS) is a shot of someone taken from the perspective of another character, looking over the shoulder of one character to the other. This kind of shot is often used during conversations sequences of two characters.

Doyle improvised the standard OTS sequence by using it as a layering visual tool in his work. Doyle uses the main character's shoulder to block out one-third to half of the frame to create depth and layer in the visual. In Figure 67c, *In the Mood for Love* sequence, Doyle put the camera behind actor Tony Leung and uses his full silhouette shoulder as an outline to block out half of the frame.

Christopher Doyle uses the remaining outline of the character to compose the frame. Doyle creates new perspective of composition within the space. It is noted that in most of the over-the shoulder shot sequences, the shoulder of the character in the foreground is not lit while the other half of the composition in the frame is well lighted. Christopher Doyle created a bold over-the-shoulder framing method in directing the viewer's attention to the performance.

The over-the-shoulder (OTS) is a framing which is commonly seen in *Chungking Express*, *In The Mood For Love* and *2046*, is the over-the-shoulder shot (OTS)⁵⁵. Film theorist Gary Bettinson suggests "The anamorphically filmed *2046* strangulates the OTS schema, occluding much of the frontal character's face by obstructive back-to-camera figures. Gary further adds on in *In the Mood For Love* "the cramped interiors squeezing characters into nooks and crevices, a clutter of objects impinging upon private space devoid of privacy and hints at a world in which the characters' authentic selves are mutually inaccessible (2015)."⁵⁵ This visual scheme, adopted in Wong and Doyle's films, disturbs visibility, at the same time, maintains a tension of dynamic narration, attempting to combine sensuous appeals together with composition of obstructed views to fascinate and disorientate respectively.

⁵⁵ Bettinson, Gary. *The Sensuous Cinema of Wong Kar-Wai: Film Poetics and the Aesthetic of Disturbance*. Hong Kong: Hong Kong University Press, 2015, 61.

Usage of Mirrors

Figure 68. Mirror scenes in Doyle's selected Filmography. (Chu 2018)

Mirrors and their reflections are a complex signifier in cinema, a visual tool used to dramatize framing and action. Christopher Doyle has a preference of using mirrors in his range of work in *In The Mood For Love* & *2046* (Figure 68). The mirror is used as a metaphor of the character's self-reflection. Christopher Doyle incorporates mirrors into the scenes to define and expand the composition of the films. Doyle also uses mirrors to reflect the top lighting to illuminate the talent in the scenes. Like the colour scheme combinations, he adopts mirrors as a strategy to plan and establish his shots. Below is the analysis of how mirrors are used specifically to construct his scenes:

Figure 69a. Mirror as composition tool in *In The Mood For Love*. (Chu 2018)

Figure 69b. Mirror as composition tool in *2046*. (Chu 2018)

Figure 69c. Mirror as framing tool in *In The Mood For Love* & *2046*. (Chu 2018)

Figure 69d. Use of mirror to create depth in *In The Mood For Love* & *2046*. (Chu 2018)

Figure 69e. Gregg Toland usage of mirror to create depth in *Citizen Kane*. (Peh 2018)

By using a mirror as metaphor, it achieves its effect through association, resemblance and acts as a device in manipulating the audience perception. In Figure 69e, Cinematographer Gregg Toland used a mirror to create depth and space in a sequence of *Citizen Kane* to portray Kane's loneliness in the huge house that he built to indulge his own ego, his footsteps echoing through the emptiness of his own vanity. While some of the scenes may produce double or triple images as a form of composition (See Figure 69a & 69b) and framing (See Figure 69c), Christopher Doyle uses mirrors and layering to tell the stories instead of single perspective. Doyle insisted in using a mirror as a metaphor in *Fundamentally Happy*. Every time there is a mirror in the scene, it will suggest there is something more than what it seems in the visual. It is a way of including more than one element of metaphor in a shot. For example, there are three mirrors reflecting on the character Habiba during a monologue sequence in *Fundamentally Happy*. The presence of mirrors in *2046* is often an implication of challenging our own identification and self-reflexivity.

Christopher Doyle has the narrative and compositional functions in, as a visual device, as they “highlight play with identity” (Cameron 2007). The use of mirrors is seen as a metaphor to enhance the expression of (trans)national identity in Director Wong Kar Wai's films[∞].

[∞] Bettinson, Gary. *The Sensuous Cinema of Wong Kar-Wai: Film Poetics and the Aesthetic of Disturbance*. Hong Kong: Hong Kong University Press, 2015, 56.

Christopher Doyle's Close-Up Technique

Figure 70. Close-up shots in Doyle's selected filmography. (Chu 2018)

Another prominent visual device used by Cinematographer Christopher Doyle is the tight close-up framing of characters. Known for the unconventional and varying angles of close-up shots in Director Wong Kar Wai's films, shots with such framing increases in numbers within Doyle's films throughout the 1990s and peaked at *In The Mood For Love* & *2046*. The technique of close-up framing has also been used in Doyle's other films like *Psycho*, *Hero* & *Rabbit-proof Fence* but used more sparingly with the exception of *Hero*.

Close-up framing is a tool to express the vivid facial expressions on the character's face, fully indulging the scene with the emotions through the strength of acting by the actor. "At times, Director Wong's and DP Doyle's camera cannot resist lingering on the star's flawless physiognomy. Such intimate views are the basic currency of screen stardom. This is, perhaps, a similar approach which both Doyle and Wong align with and therefore, manifested in the significant number of shots in their latter films.

The flattering facial close-up is as ingrained a convention of star construction in Hong Kong cinema as it is in Hollywood film”⁵⁷.

“The primary objective” of such compositions, notes Joe McElhaney, “is to beautify the face” (2004: 67). Pam Cook suggests that the close-up aids “the process of idealization of stars,” proffering the star as an ideal figure of desire and identification (1979/1980:83).

Despite the influence of the stardom of the actors, the usage of close-up framing has to be carefully managed in relation to the film’s narrative context. Garry Bettinson coined this strategy as motivated sensuousness⁶⁰.

Christopher Doyle uses memorable close-ups of characters to capture emotion and action in detail. Often in close-ups, Doyle uses unconventional handheld camera work to direct audience attention to the performance of the actor. The handheld sequences in Director Wong Kar Wai’s films reveal tremendous emotions and facial expressions to the audience. Doyle usage of handheld close-up shot framing increases in numbers of films throughout the 1990s and peaked at *In The Mood For Love & Chungking Express*. Doyle never stops working in crafting his close-up movement shots, and he changes his handheld close-up style all the time and keeps improving the movement. In order to bring fluid movement in his close-up sequence in *Fundamentally Happy* (2015), Doyle fastened the Cinesaddle, which is a unique camera support to his abdomen to enable him to rest his elbows for stability and speed. His unconventional handheld-close-up method brings dynamic movement following the performance of the characters.

In *Fundamentally Happy*, Christopher Doyle moves around with the actors in the space of his films. Doyle believe that films are moving pictures and it is a perfect medium for him to express himself in his handheld shot sequences.

Author Gary Bettinson of *The Sensuous Cinema of Wong Kar-Wai* commented that “The flattering facial close-up is as ingrained a convention of star construction in Hong Kong cinema as it is in Hollywood film”⁵⁷. “The primary objective” of such compositions, notes Joe McElhaney, “is to beautify the face” (2004: 67). Pam Cook suggests that the close-up aids “the process of idealization of stars,” proffering the star as an ideal figure of desire and identification (1979/1980:83).

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In *Fundamentally Happy*, Christopher Doyle moved around with the actors in the space of his films. Doyle believes that films are moving pictures and it is a perfect medium for him to express himself in his handheld shot sequences.

⁵⁷ Bettinson, Gary. *The Sensuous Cinema of Wong Kar-Wai: Film Poetics and the Aesthetic of Disturbance*. Hong Kong: Hong Kong University Press, 2015, 61.

⁵⁸ Ibid, 60.

Camera Movement

Fig. 71: Swirling shots of *Chungking Express*

Fig. 72: Swirling shots of *Fallen Angels*

Christopher Doyle's signature style in his handheld shots of swirling camera movement, particularly in *Chungking Express* and *Fallen Angels* (See figures 71 & 72). He favours handheld shots because they are "more intimate and liberating"⁶⁰. Known for his agility in his handheld shots, Doyle follows the characters closely to create a jerky but swooning and ostentatious effect in his scenes, anticipating the next thrilling sequence. This effect is echoed in the chasing scenes in *Chungking Express* and *Fallen Angels*, unveiling the neon light decorated night scene of Hong Kong's streets. The swirling camera movement is most prominent in many fighting and chasing sequence of Christopher Doyle's works .

⁶⁰ Pennington, A. "Cinematographer Christopher Doyle," *Premiere* (1996): 38

Fig. 73: Panning shots of *In The Mood For Love*

Fig. 73: Panning shots of *In The Mood For Love*

Fig. 74: Handheld shots of *Rabbit-Proof Fence*

In comparison to *In The Mood For Love*, the films *Hero* and *Rabbit-Proof Fence*, however, there are more static and panning camera movements (See Figures 73 & 74). The previously employed frenzy camera movement does not fit the narrative of these films. *Chungking Express* and *Fallen Angels* mark Doyle's rise to international stardom, reflecting his younger and more energetic stage of life whereas *In The Mood For Love*, *Hero* and *Rabbit-Proof Fence* were later works which reflected his eventual maturity in life and techniques.

7. Conclusion: Christopher Doyle's evolving visual style in cinema

Cinematographer Christopher Doyle has made an extensive contribution in the Asian and world-wide cinema scene through his camera work on about a hundred films over 35 years. From his first independent feature *That Day, on the Beach* (1983) to high budget blockbuster film *Hero* (2004) to micro-budget feature *Fundamentally Happy* (2015), Christopher Doyle is able to adapt to various limitations yet use his creative camerawork and lighting mastery to make stunning visuals in his narrative work. Christopher Doyle has a strong visual sense and has created and used great colour aesthetics in narrative film. From the research and scene analysis, dominant cinematography styles and lighting techniques were identified in his range of works. In the years of his cinematography career, Doyle has developed many creative lighting techniques and visual styles. Although his visual and cinematography style changes from film to film and scene to scene, his lighting techniques and the usage of coloured lighting to craft narrative scenes is consistent throughout his narrative works. The combined use of low-key lighting with complementary colour zoning red & green, violet & yellow and orange & blue lighting combinations is evident throughout Doyle's films in the 1990s in *Chungking Express*, *In the Mood for Love*, and *Psycho*. (Figures 91 to 92) Doyle's use of complementary colours, light-dark contrast, shadows and framing techniques is a trademark he created in films such as *Chungking Express* and *In The Mood For Love*. Doyle uses three to four hues in at least five shades and tints simultaneously in achieving a stunning visual experiences in the films he has photographed. It is a breakthrough in the usage of colour lighting with the complementary combination of colour of the wardrobe and set design. Doyle shares many similar attributes with *film noir* cinematographers, one of which is his preference to work in dark environments and embracing extreme low key lighting techniques to establish his shots. With the use of low key lighting, he is able to achieve a strong light-dark contrast of *chiaroscuro* and also the casting of shadows, revealing the depth of imagery in his films. All of these visual effects are achieved through the placement of lights and intensity of lights.

Figure 91: Low-key Complementary lighting in Chungking Express, In The Mood For Love & 2046. (Chu 2018)

Figure 92. Usage of Violet-yellow complementary colour. (Chu 2018)

Christopher Doyle usage of Chiaroscuro lighting along with dynamic colour strategy and zoning techniques in the visual composition is his signature style. His influences from early legendary filmmakers like Alfred Hitchcock, Gregg Toland and Luciano Tovoli, early films from *Vertigo* to *Suspiria* and his involvement in theatre in the 1970s in Taiwan refined his aesthetical sense and eye for details within a camera frame. With no formal film training background, he learned his colour schemes, zoning and various lighting techniques on the job. His emphasis on secondary elements such as locations

and art direction contribute largely to his macro view of how he envisions the scenes. The multiple hues, colour tones, colour schemes and lighting techniques that he uses in his films and his resourceful ability to find solutions within limited resources and spaces, as seen in the neon lighting set up in the tight and narrow environments in *Chungking Express*, distinguishes his style from other cinematographers.

Doyle has placed strong direction in the overall aesthetic of the visual and work closely with art directors and costume designers to ensure the flow of the overall thematic of the visuals are in line with the narrative. Christopher Doyle is highly adaptable in his cinematography as he is able to work with extreme limitations such as a low budget for a film like *Chungking Express* (1994) to a much higher budget film like *Hero* (2002), and yet he is able to deliver stunning visual masterpieces. In his later part of his career from 2000s onwards, his style of lighting techniques and visual style have moved toward using more analogous colours to add more tonality and vibrancy to the value of the hues. The imaging contrast ratio of the image is less contrast with the use of higher key lighting, evident in films *Last Life in the Universe*, *Rabbit-Proof Fence* and *Hero*. (Figures 93-96)

Figure 93. High Key Analogous colours in *Last Life in the Universe*. (Chu 2018)

Figure 94. High-Key Analogous colours in *Hero*. (Chu 2018)

Figure 95. High-Key Analogous colours in Rabbit-Proof Fence. (Chu 2018)

In the late 2010 onwards, Christopher Doyle has used a narrow coordinated single palettes such as blue, violet, red, cyan and white in his work (Figure 96-99). He created a new possibility for tying hue to story. In *Fundamentally Happy* (2015), Doyle worked with the saturation and the value of a single hue to control the chromatic shift with the narrative. In this technique, audiences will notice the highlights and shadows (elements of tone) and focus on the production monochromatic lighting. By taking out different hues in the image, Doyle demonstrates great tonal manipulation of facial modelling and allowing the audience to focus on the performances.

Figure 97. Violet Pantone Analysis. (Chu 2018)

Figure 98. Lighting design and mood board, *Fundamentally Happy* (2015). (Chu 2018)

Christopher Doyle's visual strategies identified in the following findings from the practical visual compilation analysis work:

- *Chiaroscuro* lighting technique – Precise control of lighting and imaging
- Association of meaning in colour representation in the narrative
- Usage of high contrast imaging – Top/Side lighting
- Pioneer in usage of neon lighting - Red, Blue, Green, Yellow, Violet and Blue
- Visual Strategies in redirecting audience attention within the frame
- Usage of Monochromatic, Complementary, Analogous and Triadic Colour scheme according to the motivation of the mood of the narrative.

Christopher Doyle used predominantly primary colours, bold colour schemes and neon lighting more daringly and employed unsettling camera movements in motion, which took him to fame in the early 1990s. In this research, it is noticed that Christopher Doyle changes his style and keeps improving his visual strategy along with time. He continues to refine his cinematography over the years with various directors both from the East and West and hit new heights, once again with his collaboration with Director Wong Kar Wai, in *In The Mood For Love*. His visuals in *In The Mood For Love* struck a perfect balance with the narrative in which it manages to bring out the narrative eloquently and establish an intimate relationship between the characters and the audience. Along with the colour hues, Doyle has developed fluid handheld camera movement in bringing the rhythm with the performance in the narrative.

Although subsequently, the colours he uses have toned down as compared to *Chungking Express*, the tonality of colour are still in abundance. Christopher Doyle has made a change to using monochromatic combinations and analogous colour schemes in *Rabbit-proof Fence* (2002) and *Hero* (2002) to challenge the possibilities of a low contrast harmony by using single hues with variations of saturation and value. There is also a decrease in dramatic and swirling camera movements and adaptations of more calm camera movements. *Rabbit-proof Fence* was shot outdoors and the story of *Rabbit-proof Fence* took on a more active role while Doyle's visuals supported the narrative. For *Hero*, the strict colour scheme and colour palette is so strong that it complements and vibrantly supports the narrative.

The influence by Chinese Director Zhang Yimou in the visuals working together with Cinematographer Christopher Doyle created a beautifully shot commercial art house film which earned many positive and impressive reviews.

Since 2000s, Doyle has moved on from his early style of overwhelming use of neon lighting and an array of colours to selectively fewer colours and adopting lighter shades or tints of colour tones, as seen in *Last Life in the Universe*. Christopher Doyle has made a change to using monochromatic combinations and analogous colour scheme in *Fundamentally Happy* (2015), where he only used a single colour palette throughout the film. It is interesting that Doyle is able to challenge the use of multiple colours to using a single colour palette in his work to shape the different experience of the audience through the different genre films. Through the observation of this survey of his films, it was noticed how Doyle's style of cinematography has focused down over the years, from the early intense neon colours and slow shutter camera movement in *Chungking Express* to the single colours palette schemes, lighting and slow dolly movement in *In The Mood For Love* and the usage of single colour palette and static framing in *Fundamentally Happy*.

Nevertheless, a strong consistent sense of chromatic zoning and usage of complementary colour still remains in his style of cinematography. Over the one hundred films from Christopher Doyle, there is still a consistency of his ability to bring in different colours, such as primary colours (red, green blue), together cohesively, an effect which is unique in the 21st century cinematography style. Not only does he successfully fit in polarising colours compositionally, he also manages to convince the audience with the narrative of the film through his visuals, drawing the audience into the mood of his films.

Through the research and quantitative analysis of Christopher Doyle visual strategy in *Chungking Express* (1994), *In The Mood For Love* (2000), *Hero* (2002), *Rabbit Proof Fence* (2002) and *Fundamentally Happy* (2015), it is observed that Christopher Doyle's visual style has evolved over the twenty years.

Doyle's use of neon colour lighting and extreme wide angles for close ups has lessened in his recent works and evolved into usage of single colour palettes and slow dolly framing such as in *Fundamentally Happy*. With the advancement of digital technology in camera systems, the camera systems are able to capture raw information to be processed in post-production. It changes the entire workflow of usage of lighting and colour for all filmmakers.

The development of colour digital colour grading has provided contemporary filmmakers to experiment with the consistent design more intensively than in the past. In this author's experience working with Christopher Doyle on the film *Fundamentally Happy* (2015), the focus to work changed on precise lighting for facial modelling focusing on the control of highlights and shadows within the frame. The colour treatment was done with post production digital grader, who does the final colour and exposure adjustments, to handle the replenishment of colour through enhancing or removing colour from the imagery. It is the case of understanding the digital revolution of colour grading that has changed the workflow and visual processes in filmmaking.

The close analysis of using the Pantone Matching System and the study of colour scheme within a frame reveals a new way of colour logging function and strategies in film. In undertaking this study, the intention is to give a fuller account to study Christopher Doyle and his evolving visual style.

The usage of colour fluorescent as key lighting in music videos became popular in the 21st century Asian cinema after Doyle's films *Chungking Express* (1994) and *2046* (2004). Christopher Doyle created a strong visual style that is significant in cinema as his films have gone on to influence a subsequent generation of filmmakers and TV dramas that draw inspiration from Doyle's lighting and visual style. One such example is the 2018 released Channel News Asia (CNA) three-part TV docudrama *Love in a Time of Change*.

This series explores history through the lens of personal romances offering new insights into Singapore's past and the way its attitudes to love, sex and marriage transformed over the course of the 20th century. Each episode focuses on a couple whose relationship crossed boundaries and changed history and are told through a seamless mixture of dramatic re-enactment, period footage and images, and expert interviews.⁶¹

The author worked on the series as key lighting designer. Given the narrative and plot of the story on romance and marriage, it was necessary to carefully plan to use colour harmony, low key lighting and chromatic zoning, which are symbolic elements of Doyle's style, in the lighting design of the documentary drama series (See Figure 99a). The drama series was shot by Cinematographer Ken Minnahen and directed by Michel Cayla. The drama is based on the true love story of theatre trooper Bai Yan and Ye Qing. The film is set in the 80s of Singapore and the mood of the visual references are similar to the film *In the Mood for Love*. The author has used red in the art direction, set and wardrobe design but retained a warm orange lighting on the character faces so that the skin tone of the images was not washed out by the red lighting. The usage of brighter red as compared to Christopher Doyle's usage of reddish-brown is to represent passionate love and lush. The team pushed the usage of dramatic complementary colours of red and blue in the scenes of Love in Time of Change (Figure 99a) to create a contrasting visual.

⁶¹ "Love in A Time of Change." CNA. 2018. <https://www.channelnewsasia.com/news/video-on-demand/love-in-a-time-of-change>

Figure 99c. *Usage of precise top lighting facial modelling method.* (Peh 2018)

Figure 99d. *Usage of low key complementary Yellow-Blue lighting scheme.* (Peh 2018)

In this drama series, the author worked with the Cinematographer Ken Minehan to challenge the visual experience of audience by using projection mapping alongside with the actor performances (Figures 99e-99f). The strategy allowed more dynamic colour to be projected onto the character instead of using neon colour lighting. It also allowed the interaction of the actor performance with the projected sequence. This projection method effectively unveiled in the polarising use of colour schemes and combination. The visual strategies for the drama were influenced by Christopher Doyle and the author created his own visual language through the understanding of colour harmony and theories in film.

Figure 99e. *Usage of Complementary Yellow-Blue lighting scheme.* (Peh 2018)

Figure 99f. *Usage of projection mapping lighting scheme.* (Peh 2018)

The younger generation of cinematographers have improvised on Doyle's use of complementary chromatic zoning by using more intense splashes of dynamic neon colour lighting in scenes as the key practical lighting in music video scenes. The result of using the coloured neon lighting as key lighting gives the character's facial rendering with more dynamic colours.

Figure 100. Justin Bieber's *What Do You Mean?* (2015) Music Video film stills. (Chu 2018)

As the audience has accepted the use of neon lighting as a form of lighting style, filmmakers have utilised Christopher Doyle's neon lighting style and pushed the creative boundaries of colour lighting in films and music videos. In figure 100, the visual reference in a music video with singer Justin Beiber used unbalanced colour schemes of magenta-cyan and red-green colour combination. The usage of putting practical lighting in the frame is also well accepted to create the incandescent spot lumination in the visuals. It has become a trend in the use of putting neon lighting in films and music video scenes. There are bolder uses of tonal contrasts and colour lighting on the character faces as they evolved from the influence of Christopher Doyle lighting techniques (See Figures 101a – 101h). Colour lighting no longer has to conform to a standard and motivation of the source as it is now well accepted by the audience in the 21st century.

Figure 101a. Luis Fonsi's *Despacito* ft. Daddy Yankee (2017) Music Video film stills. (Chu 2018)

Figure 101b. Luis Fonsi's *Despacito* ft. Daddy Yankee (2017) Music Video film stills. (Chu 2018)

Figure 101c. Moonshine X Dash's *Feel Feel* (2017) Music Video film stills. (Chu 2018)

Figure 101d. BTS's *Blood, Sweat & Tears -Japanese Ver.* (2017) Music Video film stills. (Chu 2018)

Figure 101e. Tomgirl Band's *Darker Now* (2017) Music Video film stills. (Chu 2018)

Figure 101f. Tomgirl Band's *Darker Now* (2017) Music Video film stills. (Chu 2018)

Figure 101g. Jacky Lee's *Gucci x Dover Street Market* (2017) Commercial film stills. (Chu/Peh 2018)

Figure 101h. The Sam Willow's *For Love* (2016) Music Video film stills. (Chu/Peh 2018)

Figure 101h. *Second Hand Smoke* (2018) Music Video film stills. (Chu/Peh 2018)

Christopher Doyle's renowned cinematography style from the use of neon lights, complementary colour schemes and chromatic zoning has influenced a new generation of cinematographers such as Kelvin Chew, Ken Minehan and Charles He and the author to push the envelope of colour lighting design with more daring and dynamic visuals.

In Figures 101a-101h notice how a new generation of filmmakers and cinematographers have since developed from Doyle's style by the using multiple coloured lighting on the character's faces. The style of the neon lighting has evolved into stylistic mixed coloured lighting combining the different colours zones within the frame.

The list of subsequent generation cinematographers and filmmakers worldwide who, to a certain degree, have been influenced by Christopher Doyle includes James Laxton (*Moonlight*), Larry Smith (*Only God Forgives*), Benoît Debie (*Enter The Void & Lost River*), Roger Deakins (*Blade Runner 2049*), Ken Minehan (*Love in a Time of Change*), Joshua Reis (*What Do You Mean?*), Thomas Marvel (*Despacito*), HyunWoo Nam (*Blood, Sweat & Tears*), CNTR\$T (*Feel Feel*), Kelvin Chew (*Gucci x Dover Street Market, Darker Now, For Love*), He Zhen Liang Charles (*Second Hand Smoke*).

Christopher Doyle may not bear his famous visual style of hysteria in his current style of cinematography anymore but as a pioneer of neon lighting in art house genre film, he has definitely left a mark in the Asian and world cinema and certainly on the music video scene. The list of cinematographers, directors and filmmakers who have been influenced by him is countless and remains non-exhaustive.

This research serves as a guide for cinematographers to understand the basics of colour techniques while designing a unique palette of lighting techniques to best suit the theme of a film. As we move further into the digital age, there will be tools created to automate this color logging. It may be helpful for such tools to use some of the color analysis outlined in this thesis to provide aesthetic possibilities and understanding. The author hopes this research has served to confirm the value of close analysis of visual film pioneer and maestro, Christopher Doyle. His creative works and the ability to challenge the norm in the film industry has cast a great influence on the next generation of filmmakers and cinematographers.

This research is a tribute to Christopher Doyle and his contributions to the film world. It is hoped that this research paper will give readers a comprehensive and in depth survey of the relationships between the role of colour, lighting and camera in film narrative storytelling through the case study of Cinematographer Christopher Doyle works and the author hope that it will be an inspiration for more future research.

Appendix: Christopher Doyle's Selected Filmography⁶²

- *That Day, on the Beach* (1983) – directed by Edward Yang
- *Soul* (1986) – directed by Kei Shu
- *Noir et blanc* (1986) – directed by Claire Devers
- *My Heart Is That Eternal Rose* (1987) – directed by Patrick Tam
- *Days of Being Wild* (1991) – directed by Wong Kar-wai
- *The Peach Blossom Land* (1992) – directed by Stan Lai
- *Mary from Beijing* aka "Awakening" (1992) – directed by Sylvia Chang
- *Red Rose White Rose* (1994) – directed by Stanley Kwan
- *Ashes of Time* (1994) – directed by Wong Kar-wai,
- *Chungking Express* (1994) – directed by Wong Kar-wai
- *Fallen Angels* (1995) – directed by Wong Kar-wai
- *Temptress Moon* (1996) – directed by Chen Kaige
- *Happy Together* (1997) – directed by Wong Kar-wai
- *Psycho* (1998) – remake, directed by Gus Van Sant
- *In the Mood for Love* (2000) – directed by Wong Kar-wai,
- *Hero* (2002) – directed by Zhang Yimou,
- *The Quiet American* (2002) – directed by Phillip Noyce
- *Rabbit-Proof Fence* (2002) – directed by Phillip Noyce
- *Last Life in the Universe* (2003) – directed by Pen-Ek Ratanaruang
- *2046* (2004) – directed by Wong Kar-wai,
- *Perhaps Love* (2005) – directed by Peter Chan
- *Invisible Waves* (2006) – directed by Pen-Ek Ratanaruang
- *Lady in the Water* (2006) – directed by M. Night Shyamalan
- *Paranoid Park* (2007) – directed by Gus Van Sant
- *Downloading Nancy* (2008) – directed by Johan Renck
- *The Limits of Control* (2009) – directed by Jim Jarmusch
- *Ondine* (2009) – directed by Neil Jordan
- *Passion Play* (2010) – directed by Mitch Glazer
- *Tormented* (2011) – directed by Takashi Shimizu

- *Underwater Love – A Pink Musical* (2011) – directed by Shinji Imaok
- *Magic Magic* (2013) – directed by Sebastián Silva
- *Ruined Heart! Another Love Story Between a Criminal and a Whore* (2014) – directed by Khavn
- *Hong Kong Trilogy: Preschooled Preoccupied Preposterous* (2015)
- *I Am Belfast* (2015) - directed by Mark Cousins
- *Enishi: The Bride of Izumo* (2015) – directed by Hisoshi Horiuchi
- *Stockholm, My Love* (2016) - directed by Mark Cousins
- *Endless Poetry* (2016) - directed by Alejandro Jodorowsky
- *You Mean The World To Me* (2017) - directed by Saw Teong Hin
- *Human Flow* (2017) - directed by Ai Weiwei
- *The White Girl* (2017) – directed by Jenny Suen, Christopher Doyle
- *Love Only* (2018) – directed by Charine Chan, Christopher Doyle
- *Anthony Bourdain: Parts Unknown* (2018) – 1 Episode
- *The Rest* (2018) – directed by Ai Weiwei
- *Tezuka's Barbara* (2018) – directed by Macoto Tezuka
- *Cuba* (2018) – directed by Peter H. Chang
- *To Heaven, To Gather* (2018) – directed by Li-Yue Chang

⁶²"Christopher Doyle." IMDb. Accessed April 16, 2019.
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