

Reversal film transparencies and their colours: examining the medium of an era.

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ABSTRACT

Colour reversal film transparencies (slides) are a medium that seems to have, almost, disappeared. They gained their prominence mostly between the 1950s to 1970s, as a preferable photographic choice, since their vibrant colours gave them an edge over negative film photographs, not only as a professional option but also as a means of recording family moments. Slide showing became a social activity. The gathering of people, cinema-like conditions and interaction made them quite popular. The question which we will concentrate on is about their colours and how this is consistent with the colour palette of their era. In the current study source material, from a family collection, is utilised and an empirical approach and analysis is applied. The study concludes that the medium employs the colours of their times, and how this helps with the preservation of these items, not only as family archives but as cultural objects enriched with semiotic elements.

KEYWORDS slides, transparencies, colour, images, semiotics, social interaction

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1. Introduction

Colour reversal film transparencies, short for colour reversal film transparencies slides, were, predominately, a 1960s and 1970s phenomenon. Transparencies were presented, usually, in a session known as slide show. They were a single framed pieces of 35 mm film, framed in a 2x2 cardboard or plastic casing which could be viewed usually on a screen, through the usage of a specialised projector.

In the case of image analysis, when examining transparencies, the pivotal question which arises is whether transparencies can be examined and analysed in the same way as paper printed photographs. They could be labelled as an easy and affordable alternative to home movies, in a society where images are important, and moving ones doubly so. And since amateur photography boomed in the 1950s and 1960s, with the mass production of cheap and easy-to-operate photographic cameras, images started flooding the home moments scene. Their main purpose was displaying family moments and holiday snapshots. This of course does not mean that amateur photographers did not record everything they could: their houses and gardens, their children growing up, country fairs, new additions to their surroundings and much more. Thus, the produced items were a welcome addition to the printed images, which constituted the main bulk of the recorded family moments. But the crucial difference with photographic images was the act of slide showing. Printed photographs were stacked in albums, which could be seen by many, but was a static process or at least a one-on-one happening, usually. And they were smaller than life. Transparency showing, on the other hand, was orchestrated along different lines. The whole event included, almost always, a commentary along with the projection of every image shown. All this took place in a semi-dark room, with a group of people, almost like a private cinema screening and the free flow of everyone participating in this happening, with their own comments about the images, something which made it something more than an informal gathering. It was a social interaction event.

The research question of this paper can be formulated as whether the colour attributes of the transparencies are in synch with their era. The transparencies examined here are simple images created with one thing in mind: an archive of a Moment in Time. A semantic approach to the transparencies involves understanding what exactly we see in them. The interesting fact is that the researcher is in the unique position to understand, to a great degree, the creator of these transparencies as he is the researcher's father. Almost all were shot between 1968 and 1972. The images involve two kinds of participants: represented and interactive. The choice of using this approach can be understood better if we try and understand the relation

between the original producer and the original intended viewers. This is especially true in the first transparency, taken in early 1968 (Fig. 1). The image is a view of a small town's main street. Collaborating information can be gathered by studying the surroundings, but as both the date and the place are known it is not necessary to go into those details. The represented participants are not people, it is the place itself.



Fig. 1. Neal Street, Harden, NSW, Australia.

The second transparency examined (Fig. 2) also contains involvement and detachment. It is another typical tourist holiday snapshot. Here there are represented participants, which are people, but the place is also of importance.



Fig. 2. Chora, Kythera, Greece.

The picture was shot during the producer's holiday back to his birthplace island and village. Depicted are family members residing on the island. The angle is frontal, at eye level. Yet he is a tourist. He does not reside in this place. He is visiting. The depicted participants may not be the interactive ones. The persons shown will not see their image, probably, but others will.

In trying to understand how photographs representing loved ones act in many ways Barthes' notion of *punctum* (1993 p. 27) is decisive. This allows a bridging to the past, towards the structure of memory or *postmemory*. The personal feelings, subjectivities and memories become more pressing than the actual memory, not for the creator but mostly for the viewer. And since these images are the creator's attempt to create a direct message to the viewers, himself included -at a later time, the "image is not the reality but at least it is its perfect analogon" (Barthes

1977 p.17). In the case of these transparencies, which are naturalistic images, the connoted message is what the interactive participant is trying to invest in it. Thus, transparencies can be examined as photographic images, but with a twist.

2. Data Collection and Choosing

Both the slides and the Super 8 Home movie stills (photograms) data used in this research are part of the researcher's family visual archive. They were created by the researcher's father from the 1950s to the 1970s. Private photographic archives have a unique quality since the documentation of a family's moments in time is more than a mnemonic device, as we have already suggested. It also connects the members and strengthens family networks. As memory and photographs are fundamentally connected, we can cite Bate (2010) who argues that photographs belong to both public and private memories creating a breakdown of the duality between cultural and individual memory.

The slides were shot by an Agfa Optima 35mm photographic camera, while the Super 8 videos by a Canon Auto Zoom 518. They were developed in specialised Kodak laboratories, the slides in Australia whilst the Super 8 in Germany since Kodachrome film required a specialised developing process. Both are part of the visual archive, along with their projectors and other paraphernalia. As the slides and Super 8 films were stored carefully and are in excellent condition, providing us with pristine material. We did not notice any colour deterioration or distortion.

The slides were scanned by means of a Canon ScanJet G4010 flatbed scanner, utilising the VueScan software (<https://www.hamrick.com/>). The scanner was chosen as it was of the last models which had film scanning capabilities incorporated. The original scanning took place during our thesis research period (2017-2019). No enhancements or alterations were employed during the scanning progress, preferring to use basic settings. The slides produced were of various dimensions (3168x2176, 2080x3168, 3136x2144 pixels), no less than 600 dpi, a bit depth of 24 bits ($2^{24} = 16.7$ million tones) and colour representation of sRGB. The saturation was automatically chosen to low, since these were slides, while sharpness was switched to soft, and the average size was between 1,5 to 3 MB (or more) per slide. We downsized them to specifics for publication, that is to equal or less than 300 dpi.

The Super 8 films had been digitised during the later part of 2015. We did not have access to any film digitising apparatus; thus, they were given to a photographer who had, and they were delivered to us in unencrypted VOB

format. We did not have any involvement to their scanning specifics. But since we were trying to make the films available for family gatherings it seemed adequate. Their properties were: dimension 720x576 pixels, at 25.00 frames/second, a data rate of 8500kbps and 8724 total bitrates, as an average. The stills were acquired by way of the GOM Video player (<https://www.gomlab.com/gomplayer-media-player/>), which allows screen capturing. These still images were saved as PNG files, of 710x480 pixels dimensions, a colour bit depth of 24 bits and an average of 400 Kb in size.

3. Research Methodology

Choosing the slides was an arduous undertake since the depictions were part not only of the collection but of our own childhood memories. Subjectivity crept in but as Rubin and Rubin (2011) claim naturalist researchers are active participants of their research (p.17) and need not be neutral and still produce credible results (p.234). The choices were natural: some from life in Australia and some from life in Greece. The dates varied but covered the late 1960s and early 1970s. The Home Movie stills were chosen randomly and were from the early 1970s, since the camera was bought in 1972. Still the chromatic attributes were those of the 60s, more than the 70s, which influenced our choice of the 1960s pallet in analysis.

In choosing a methodology to the research question, the choice between quantitative and qualitative approaches was considered. A quantitative approach would seem appropriate, as the total of the transparencies collection examined in our case study is not large in number, since it consists of about 60 transparencies. But such a method is suited to mechanistic 'what?' queries. The study's question demanded an approach founded in the special characteristics the source material was invested with, and which is definitely not mechanistic, per se. In contrast a qualitative approach to the query seems a much better suited one, as it helps understanding the 'why?' and 'how?' questions. We decided that the qualitative approach was preferable and a naturalistic one at that. The study's question focuses on the fact that transparencies are an item which is and is not an image, like an ordinary negative film printed photograph. There is therefore a need to have a small, yet representative sample. This study adopted a convenience combined with a judgment one, as it was decided that certain transparencies would be more productive than others, and specific choices had to be made. The choices could be challenged as biased, but they are not. The viewing of any image associated with one's early ages, whether their own or not, is emotionally moving and invested with denotation and connotations and emotional impact. Sampling for qualitative research is

something of a confusing part for any researcher. The aims of such an approach have to do more with trying to comprehend human issues rather than producing answers, with general attributes. In the case of this study only a minute number of transparencies was selected: no more than seven, in total (one was used both for chromatic as well as semiotic analysis). Results produced may seem a little generalised but an empirical qualitative approach, with convenience and judgement sampling, seems to have produced enough data to analyse them, by utilising a fundamental theoretical semantic background and a chromatic relativity approach.

4. Colour of the transparencies

The chromatic approach of this study's transparencies will concentrate on colour relations. Transparencies contain information and can be treated as any other photographic image. Their dualism is a result of the extra quality of their projection.




The field of Plastic Visual Semiotics was an attempt to make sense of the confusion of the visible with the speakable (Floch, 1985). Barthes through his semiotic approach is a way, yet not the only one in a sociological analysis, which may try to connect these different ideas and understand its links with specific eras (Skarpelos, 2018). Greimas (1989) talks about visual plastic semiotics containing a chromatic category, which beyond colour may refer to attributes such as luminosity and texture. Žemaitytė (2017) points that here we may have categories with graded characteristics, related to the perception of colour and matter. There seem to be different three origins, which Mohammadzadeh (2012) labels as colour semiotics. The first is the emotional impact of colours, the second is colours having socioeconomic origins and the third that certain colours meanings are cultural in origin. This case study stands on the fact that colours do have an emotional impact, as when transparencies introduced colour on a wide scale it was a novelty. And since the images were not only coloured but larger than life, they did have an impact, when viewed in the correct conditions. From that point the study elaborates that in the 1960s and 1970s colour images had all kinds of impact on people. Technology enabled colour to become a major part of everyday life: textiles, magazines, and photographs. This made transparencies a major force in the image game, as printed film colour photographs still lagged. Colour, consequently, was the factor which enabled the ascendancy of the transparency medium. And as it is still present, and has not faded, from our images examined, it allows us to see exactly what the viewers of the 1960s saw: vibrant, colourful moments on a big screen. While examining how professionals' utilized transparencies the

thought of experimenting with colour palettes and comparing transparencies with other, similar, images of the era arose. The fact that every era has a chromatic palette is not new. Best (2012, pp. 366) notes that through time there's a need to have "the right colour and design for the right period".

Barthes (1977, p. 39) introduced the idea of the "terror of uncertain signs", when he noted that images need linguistic messages, in order to fight of their own polyseme. But transparencies do not have a textual linguistic message. In their initial presentation the linguistic was present through the usage of the interpreter-creator, but this is not textual. So, when trying to analyse such images, after finishing with the morphological analysis we end up having to deal with their extra attributes and we stand still as he has talked meagrely of them. Barthes' essays on Pop Art and Edwin Parker "Cy" Twombly Jr. are important as examples on the aesthetics of colour. Riley (1995, p.57) comments on these saying "Barthes allows color to expand into a broad-ranging role in aesthetics. Its deployment can be enough to confer "artistic" status even on an object that has been deliberately categorized as unartistic or antiartistic" Colour is a part of the visual narrative of the transparencies. We would go as far as supposing that the 1960s pop colour boom created a new idiom, in items such as transparencies, something which has not been approached systematically, from a semantic point of view. This made us consider the possibility of trying and exploring the idea of a chromatic era palette, for the transparencies studied.

Consequently, the need to compare transparencies with other cultural artefacts of the same era arose. The only logical choice to compare them with is film stills, from Home Movies of the period. Both are part of what Chalfen (1987) terms as Home Media. When researching photographs of the same era, it was quite disappointing to find that colour printed ones were faded, to the point that they would be useless in a chromatic comparison. And as this study wanted to focus on colour, they were discarded, as a comparison item. The decisive, final, point for choosing Super 8mm Home Movies was Kodachrome, the same type of colour transparencies used. For the purposes of the research four random transparencies were chosen and compared with four random film stills, all from the said collection.

In the study's chromatic comparison, the help of the visual tool

Image	Color	Summarizer
		

 (<http://mkweb.bcgsc.ca/colorsummarizer/?home>) was employed. The report contains the average, median, minimum, and maximum of each component of RGB, HSV, LCH and Lab. Average hues are calculated, by using the mean of circular quantities. Some of the

questions this tool can answer are what the average colour hue, saturation and value are in an image, the colours which are most representative of the image, the image's human readable colour description. The process contains a concise visual information table, which allowed easy comparison of the images we had chosen to experiment with.

We chose a small number of Super-8 Home Movie stills along with more transparencies to acquire the necessary data we wanted. Below we show two groups of the images examined: The first is four movie stills, three recorded on the island of Kythera and one in Athens (Fig. 3).



Fig. 3. Super 8 Home Movie stills.

The next group contains four of the transparencies examined. Three were recorded in Australia and one in Greece. They were taken between 1968 to 1973 (Fig. 4).



Fig. 4. Random transparencies.

The tables (1-3) which follow, visualise the chromatic relations, with the help of the abovementioned software. It must be noted that both the Home Movie stills as well as the transparency images have not been tampered in any way. The first table (Table 1) contains detail information about the colour palette of the transparencies.

Colour palette of figures 3-10					
No.	image no.	Colour analysis information			
		pixel density %	colour name	hex number	
1.	3	41,86 20,52 15,54 11,84 10,24	raisin black emperor pale light greyish blue masquerade lola	#252326 #53474c #afade2 #7a7dbb #dbd0dd	
2.	4	36,78 19,77 18,23 16,16 9,06	scampi dark greyish rose mountbatten pink very dark rose maverick	#5e5aa2 #53474c #9f7f90 #221a23 #d0bbcd	
3.	5	41,86 17,78 14,57 13,4 12,39	kermadec swans down masquerade true blue storm dust	#192826 #d9e6db #6b7eb6 #31405b #62605c	
4.	6	27,64 27,1 18,55 18,23 8,47	kimberly torea bay silhouette aurora kidman	#7172a4 #3d4179 #2b242d #5e4f66 #d1bac0	
5.	7	40,78 28,5 16,26 7,46 7,01	just right brandy rose zambezi night rider stratosphere	#252326 #b28977 #635153 #1f130e #8d9dd2	
6.	8	35,74 23,82 22,24 10,01 8,1	blue moon magic carpet spinmaker celestial blue burnished brown	#7494ac #8595cc #2a536d #0c1d30 #a47e74	
7.	9	36,21 30,61 19,23 8,65 5,31	cornflower norwegian blue birdcage downriver vulcan	#6796ec #656487 #9492ae #0f1f51 #131620	
8.	10	32,31 27,49 22,52 15,26 2,53	skydiver wave rider ceil deep sapphire jaguar	#4d82cf #4b4276 #94abdb #1d205f #060410	

Table 1 Colour palette of figures.

After acquiring the colour data from the images (Table 1), the next step was to compare random colours from the chromatic palettes generated. The usage of the Color Matcher tool from the Color Tools webpage (http://www.colortools.net/color_matcher.html) allowed us to draw very interesting conclusions, since it compares given colour relations and produces a closeness percentage (Table 2).













Selective colour comparison of figures 3-10 (random picks)					
closeness percentage	image no.	pixel density %	colour name	hex number	colour
95%	3	20,52	emperor	#53474C	
	7	16,26	zampezi	#635153	
81%	4	18,23	mountbatten pink	#9F7F90	
	7	28,50	brandy rose	#B2B977	
89%	4	36,78	scampi	#5E5AA2	
	10	27,49	wave rider	#4B4276	
84%	5	14,57	masquerade	#6B7EB6	
	10	32,21	sky diver	#4D82CF	
84%	6	27,10	torea bay	#3D4179	
	9	8,65	downriver	#0F1F51	
95%	6	18,55	silhouette	#2B242D	
	8	10,10	celestial blue	#0C1D30	

Table 2. Selective colour comparison of figures

The results demonstrate that there are definitely aesthetic colour relations. The colours are similar, though not identical, which is something expected. But both transparencies and film stills are part of the eras' chromatic palette. In all cases examined we have colour relation percentage results ranging between 81 to 95%. These are high because the colours are closely related, as we already pointed out, but the aim was not to find the precise same colours but their aesthetic relation.

5. The extra step

The claim that the colours compared are part of the era's palette seemed to be an overstatement. What was needed was a comparison with other material. This is quite challenging as the standards of the chosen studied material were carefully controlled. Yet there must be a way to find the broader palette of the times. After examining

several sites dealing in colour, such as: <https://www.onyxcreative.com/blog/2020/9/popular-color-palettes-by-decade>, <https://www.housebeautiful.com/design-inspiration/a44075764/color-trends-by-decade/>, <https://looka.com/blog/every-pantone-color-of-the-year/>, <https://www.dunnedwards.com/pros/blog/popular-color-palettes-through-the-decades-1970s-2010s/>.

Although they were quite informative, almost all colour palettes shown were created leaning on interior design colour choices or focusing on one colour instead of a broader colour palette per decade. We finally chose Juicebox Interactive's site (<https://juiceboxinteractive.com/blog/color/>) where we encountered a database claiming that they have captured the colours of the last 100 years. Its significance is that its chromatic references are drawn from a diverse background including interior design colour images but also record covers, magazine article photographs and cinema posters. The choice of sticking with the 1960s palette was naturally dictated by the fact that the images we were examining had been produced during the said decade, thus were a product of their times, and even the ones from the early 1970s still reflect the 1960s colours.

With the intention of gaining information from the palette a total of seven colours was chosen during the usage of Image Color Summarizer. This was done as we have a six-colour palette plus the lettering in them. Then by employing the Color Matcher Tool, as done before for the transparency and Home Movie comparison, colour relations between transparencies and the 1960s palette were drawn. The results can be seen in the following table (Table 3):







Random colour comparison of transparencies and the 1960s palette				
closeness percentage	image no.	colour name	hex number	colour
86%	6	mountbatten pink	#9F7F90	
	16	double haystack (natural)	#CFB285	
84%	3	emperor	#53474C	
	16	hawaiian tan (teak)	#995B17	
89%	6	torea bay	#3D4179	
	16	teal blue (blue mustang)	#2F768D	

Table 3. Random colour comparison of transparencies and the 1960s palette

Although only three colours were chosen for the comparison, of the total six acquired, the fact is that the chromatic relation attributes range between 84 to 89%. Thus, we can conclude that the colours of the transparencies correspond aesthetically closely to the chromatic palette of the era. At this point we feel we should point out certain facts about the final comparison. Yes, this is a small-scale, random empirical approach. But in the end result the palette seems to be representative of the era's dominant colours. We are not very sure about the amount of data collected which produced the palette, but it does fall inside certain parameters: the data is diverse and ranges from actual photographic images to, carefully designed, movie posters. The overall feeling produced is quite convincing.

6. Conclusions

Bate (2010) suggests that since photographs belie meanings with far more potential significance attributed to them, they demand analysis rather than hypnotic reverie. Our study tried to approach transparencies through their eclectic colour relations with the major colour palette of their era. The research proved that this is true, by employing colour analysis and software comparison. Consequently, these methods can be used as a helping tool to researchers who have no information about their images. Transparencies were a medium for their era. The practise of using transparencies, instead of printed photographs, is a rather important factor, and not only to the photographers themselves. It moves them from pure photographic items to the testament sphere and they subsequently become part of family history archives, much like paper printed photographs. But it is their colour and presentation which sets them apart. The slide show transforms them into something akin to movie film projection, even though there is no actual movement of the images -apart from their succession. Film and transparency presentations are, almost, identical. They feel as a continuation of the silent film era, which itself was a step away from the magic lantern or phantasmagoria shows. They were, like all photographic images, a glimpse in Time, but they were colour ones, when colour was scarce. Their saturated colours and contrasty makes them almost a pop image. And pop is a 1960s (and 1970s) byword, being all the rage in the cultural scene, both in the public as well as the private fields. Our belief is that as some elements of the transparencies are, usually, missing that does not stop us from studying them as images, same as if they were negative film printed ones. After conducting this small-scale empirical case study, we reach the supposition that transparencies should be labelled as a communication device, with a social interaction angle, but

furthermore they ought to be considered and examined as cultural items, with invested metadata and emotional impact as well. Transparencies are a novel item in the field of Visual Culture, but we feel confident that more will try their hand in contributing to their study.

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8. Declaration of conflict of interest

The author has declared that no competing interests exist.

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