Colour – Texture – Material – Pattern Relation in the Process of Colour Forecasting

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Abstract - Styles and the associated colour pallets constitute an elementary element of colour trends. The variability of the latter is currently an important driving force in the fields of fashion, textiles, furniture industry, ceramics, interior design products, etc. Mood board is a basic way of presenting the colour and style pallet of the successive season. The colour is inseparably connected with such properties as texture, shape, pattern and material. The simultaneous impact of the colour pallet becomes significantly strengthened and directed by the name of the trend and inspiring images, drawings, photos of various objects – both from the range to which the mood board directly refers and additional areas (nature, art, technique). Even though there are unlimited possibilities available, it seems that a specific number of interior design styles associated with relevant juxtapositions of colours function nowadays. They take the following nanes: contemporary, traditonal, Scandinavian, zen, romantic, basic, retro, ethno, techno, classic, design, etc. They form a specific kind of a set of colour and formal stereotypes with which companies and designers can shape colour and aesthetic preferences of product recipients. At the same time, despite the fact that industry and trend studios introduce new colours of the season each year, the elementary style lines and the attributed type of colour combinations remain largery universal. My paper is aimed at analysing colour story boards prepared by companies, designers and trend studios that show colour trends in interior design in the years 2007-2011 and determine to what extent particular colours and colour combinations ane connected with a given style.

Keywords: color, pattern, harmony

1 Color Forecasting

Colour forecasting is an invention of the twentieth century, associated with the development of marketing. The process of colour forecasting is based on collecting, evaluating, analyzing and interpreting data to anticipate a range of colours desirable by the certain groups of consumers. Forecasts are created in advance by 1 or 2 years, and their authors are trend offices, national and international colour organizations and paint manufacturers. The most significant

are: the Color Association of the United States, the Colour Marketing Group, the International Colour Authority, Panton Color Institute, the Trend Union, the Color Box, Perclers, Promostyl, Carlin International. At present the accuracy of the forecasters inspires great confidence, this is why designers and marketing professionals appear less sure of their own judgments and feel safer following the promoted trends. The influence of the forecasters on industry is thought by some to be highlighted by the power of promotion and advertising. But because so many working colour designers for the industry are involved in colour forecasting organizations, predictions made by them can be treated as selffulfilling [1]. The information collected by color forecasters is compiled into trend prediction, developing colour stories, in which colour is is inseparably connected with such properties as texture, shape, pattern and material. The simultaneous impact of the colour pallet becomes significantly strengthened and directed by the name of the trend and inspiring images, drawings, photos of various objects - both from the range to which the mood board directly refers and additional areas (nature, art, technique). Colour stories are usually dedicated to a of consumers. whose philosophy, lifestyle, preferences specific group are determined by market segmentation.

Interior design is an area where the colour forecasting plays a crucial role. The paint manufacturers form their own teams of colour experts from the fields of design, architecture and fashion who annually meet to create their colour and lifestyle trends for the next season. Included in these forecasts are not only color combinations but also other important features in the interior design such as materials, styles, types of furniture, technology, textures and patterns [2].

Although the color stories have different names one can extract a few leading trends. They usually have a reference to the styles functioning in the interior decoration, colour traditions of individual countries or styles in architecture and art. The most common types of interior trends are: minimalist, rustic, industrial, retro. contemporary, English, French, Swedish (Gustavian), Mexican. Mediterranean, Tuscan, Art Deco, Pop Art, fifties, sixties, seventies, eighties. Any type of interior trends corresponds to a specific palette of colors, materials, and a particular style of .furniture. They constitute a kind of language used by interior decorators. The versatile styles are in turn reflected in the trends annually produced by paint manufacturers. They also form the long term trend of color, and are repeated in the key styles and colors that are characteristic for a longer period of time (3-7 years) being at the same time a reflection of current market developments, political, economic, cultural and social issues. At the same time colours and colour combinations used in the trends take on special meaning and character, which sometimes is not included in their more universal symbolism.

2 The Analysis of Selected Color Stories

In my work, I collected 59 colour stories developed by paint manufacturers (ICI Paints, Benjamin Moore, PPG, Sherwin Williams, Tikkurila) in 2007-2012. I have made a comparison of the colour stories in terms of the leading theme, inspiration, materials, design and style. I kept the record of colours in the colour systems used by individual companies. An important factor was also an associating the colour combination with specific style, material, pattern and texture. In the presented colour combinations, there is a different number of colours, ranging from 4 - in Tikkurila colour trends up to 17 in ICI Paints Colour Futures. Some of the trends include a lot of inspirational photographs, others are limited to the images of the interiors.

The study analyzed the following color stories:

Akzo Nobel: growing respect (2008), explorer (2008), art form (2008), hidden beauty (2008), ecotecture (2009), white dimensions (2009), living legacy (2009), equilibrium (2009), play house (2009), silent space (2010), fluid fantasy (2010), basic beliefs (2010), free spirit (2010), the beauty of everyday life (2011), finding the way (2011), pop up pleasure (2011), made with love (2011), molecular magic (2011), delicate mix (2012), one small seed (2012), living scrapbook (2012), different worlds (2012), rediscovered heroes (2012)

Benjamin Moore: earth and sky (2012), eclectic elegance (2012), spiced life (2012), sense and sensibility (2012), dreamy (2011), spirited (2011), soulful (2011)

PPG: ecotechno (2008), vintage (2008), fair trade (2008), ecoloco (2008), wonderland (2009), avatar (2009), desert spice (2009), Indie (2009), upcycle (2011), new bohemia (2011), glamour (2011), instinct (2011), local revival (2012), beauty queen (2012), deco candy (2012), quiet tech (2012)

Sherwin Williams: refreshed (2010), rooted (2010), simplified (2010), treasured (2010), bold invention (2011), gentle medley (2011), purely refined (2011), restless nomad (2011)

Tikkurila: eco-rebellion (2012-2013), mini romance (2012-2013), Antwerp (2012-2013), roots (2012-2013), open sea (2012-2013)

In the Table I, I presented a comparison of selected nine colour stories developed by ICI Paints colour experts team and the ideas and lifestyles that are associated with the colour stories. Illustrations of all the colour palettes that have been subjected to analysis is presented in the TABLE II.

	TABLE I. Selected colour trends characteristics (ICI Paints – 2008-2009)				
Colour theme	General idea	Materials	Style	Colours	
	and key words	and patterns			
"Growing Respect" ICI Paints 2008 [3]	Living in more immediate touch with nature. Sustainable, botanical, supportive, natural, responsible.	Sustainable materials, recyclable staff, wood, straw, rattan, enamelware, bamboo, cardboard. Plain colors, irregular surfaces.	A mix and match approach, Flexible and adaptable products, recycling, reusing.	40 YY 77/242, 30 YR 14/365, 50 BG 44/094, 70 YY 73/288, 70 YY 59/485, 40 YY 34/446, 40 YY 64/165, 43 YY 81/051, 90 YR 25/323, 20 YY 53/423, 50 YR 10/151, 10 GY 40/296, 50GY 18/178 Color description: mid-tones of bark, shale, rust and mustard with paler botanical shades of pollen, apple and moss.	
"Ebb and flow" ICI Paints 2008 [3]	A futuristic vision of form and material. Fluid, translucent, complex, contemporary, innovative, imaginative.	New, synthetic materials, rapid prototyping, transparent, liquid, translucent plastics. Underwater pattern textiles.	Creative product developments in glass, lighting, textiles and plastics – the undulating, organic forms.	30 YY 72/018, 80 YR 65/185, 99 YR 82/029, 30 BB 18/190, 10 BB 07/150, 90 GG 73/062, 10 BB 83/014, 10 BG 54/199, 70 BG 70/113, 90 BG 38/185, 30 YY 71/073, 90 YY 67/117, 70 GY 63/098, 50 BG 32/114, 50 BG 12/219 Color description: aqueous pales and mid-tones contrasted by subtle dappled deeps and touches of light-reflecting clarity.	

 TABLE I. Selected colour trends characteristics (ICI Paints – 2008-2009)

"Art form" ICI Paints 2008 [3]	A simplicity of form, and functionality. Urban, "sleek, chic and cool", streamlined, cerebral, sophisticated, graphic.	Concrete, steel, aluminum, glass, plain colors or bold geometrical patterns.	Modern furniture, colour blocking, minimalist interiors, the reoccupation of the disused industrial zones.	60 YY 71/409, 30 YY 68/024, 40 YY 63/473, 00NN 37/000, 30 YY 20/193, 00NN 62/000, 71 YY 87/078, 40 YY 67/087, 40 YY 67/087, 40 YY 67/087, 40 YY 66/265, 20 YY 53/124, 70 YY 66/265, 20 YY 53/124, 70 YY 55/299, 30 YY 10/038, 10 YY 35/094, 90 BG 16/060, 72 BG 75/023: Color description: warm, dusty greys, yellows – lemon, mustard and mimosa.
"Hidden beauty" ICI Paints 2008 [3]	A connection of masculine materials and feminine forms. Sculpted, sensual, ornamental, refined, exotic, subtle.	Sheer fabrics, ceramics with embossed decoration, objects that are wrapped in stretch.	A sensual and intriguing look. Designs by Karim Rashid, Zaha Hadid, Arik Levy and Hasan Fathy.	50 RR 11/286, 90 YR 36/203, 50 YR 18/223, 00YY 76/088, 30YR 49/097, 90 YR 67/085, 80 YR44/101, 10YY 72/172, 60 YR 40/297, 90RR 16/095, 10 YR 27/323, 10YR 13/437, 96 RR 08/311, 43YY 78/053, 70 RR 07/100 Color description: skin tones, nude pinks, desert reds, brick, corals, delicate shades of sand, pearl, chiffon and shell.
"Explorer" ICI Paints 2008 [3]	Geographical, spiritual or cultural journey. Enriching, eclectic, rhythmic, hybrid, youthful, diverse.	Mixture of materials plastics and natural, hybrid nature of the palette.	Traditional crafts developed into new design by designers using basic and often cheap	40 YY 63/473, 90 YY 48/500, 80 YR 34/468, 30 YY 64/149, 90 GG 30/195,

			materials. Designers like: Patricia Urquiola, Campana brothers, Paola Lenti.	10 YY 46/515, 29 YY 84/067, 14 YR 10/434, 80 RR 67/260, 70 BB 65/066, 90 RR 28/245, 10 RB 21/218, 90 RR 08/129, 56 RB 09/302, 50 BB 11/321
				Color description: multi-colour pallet with brick red, yellow, electric blue, orange, violet and grass green.
"Eco tecture" ICI Paints 2009 [4]	Green energy, global citizenship. Faceted, futuristic, synthetic, intriguing, complex, engineered, poetic and magical.	Sustainable materials, recyclable staff, playwood.	Ultra high technology systems (Hearst Tower in New York City)	40 YY 44/408, 30 YY 58/178, 70 YY 72/041, 90 GG 30/195, 20 YY 57/060, 30 RR 30/103, 70 YY 55/613, 70 YY 25/200, 70 BB 55/044, 70 BB 15/081, 10 GG 51/125, 30 YY 14/070, 20 YY 39/130, 10 GY 40/296, 70 GG 13/323 Color description: soft, natural colours such as straw, olive willow and aqua enliven by techno greens, marine blue and mauve.
"White dimensions" ICI Paints 2009 [4]	A touch of modern magic. A new 21 st century dawn of soft white. Faceted, futuristic, synthetic, intriguing, complex, engineered,	A highly engineered materials and constructions, Sculptured and geometric surfaces, layered and organic,	Hi-tech materials and rapid prototyping Cutting edge designers such as: Tord Boontje, Marcel Wanders, Ron Arad, Droog	00NN 72/000, 00NN 83/000, 30 YY 71/073, 70 YR 68/102, 10 YY 44/215, 70 YR 45/261, 50 YR 23/365, 44 YY 84/042,

	poetic and magical	faceted and filtered.	and Moooi.	10 YR 40/054, 60 YR 73/015, 10 GG 72/022, 10 BB 40/090, 98 YR 78/041, 50 GG 55/049, 70 BG 07/086, 30 YY 22/059 Color description: soft and chalky whites with muted and subtle shadowy shades offset by the stronger colours of rust, clay and dark slate.
"Living legacy" ICI Paints 2009 [4]	New esthetic approach to design and craft, micro production and limited editions. Continuity, integrity, pride, rediscovery, genuine customization	Metal, textile ceramic, glass or wood, unique and valued craft skills	Objects are unique – they flaunt and celebrate their workmanship, construction and materials, whether made of metal, ceramic, glass or wood, they often come from the worlds developing countries and regions, made by local craftsmen.	30 YR 25/463, 30 YR 07/157, 50 YR 23/365, 00YY 19/261, 10 RR 24/061, 70 YR 45/261, 30 YR 31/154, 20 YY 57/060, 70 RR 16/116, 44 YY 70/110, 30 YY 49/562, 70 BG 56/061, 30 YY 38/370, 60 YY 67/251, 30 BB 10/112, 23 YR 10/308
				Color description: rich and varied range of botanical shades such as mustard, aloe, grape and cactus, enlivened by techno tone of lemon green.
"Equilibrium" ICI Paints 2009 [4]	New attitude to life and leisure, re-evaluating human relationships. Nurturing, refreshing, balanced, sustaining, healing	Natural materials such as bamboo, timber framed carpentry, and dark metals such as iron, and rock.	Japanese inspired interiors, Zen-like qualities of space, open floor plans.	60 YY 33/130, 70 YY 65/090, 50 GY 66/111, 90 YY 62/264, 60 YY 67/251, 10 YY 61/136, 80 YR 40/148,

				80 YR 17/129, 10 YR 10/101, 00 YY 83/046, 50 YR 68/114, 80 YR 67/085, 30 YY 80/088, 90 YR 51/109, 10 YY 60/224, 00 YY 43/304
				Color description: the palette is inspired by the tones of skin and tea like jasmine, rose and linden, moss and mint.
"Play house" ICI Paints 2009 [4]	Putting the fun into functionality, making home an amusing place to be	Plastics, synthetic materials, transparent, opaque, translucent.	Colour blocking, affordable and easy to change, amusing everyday objects.	30 BB 16/031, 30 YY 72/018, 90 YY 48/500, 50 BG 55/241, 70 GG 39/303, 10 BG 14/296, 70 YY 12/167, 70 YY 46/160, 70 YY 63/326, 50 YY 65/454, 08 YY 56/528, 25 YR 34/473, 30 YY 47/145, 30 YR 53/188, 30 RR 15/375, 04 YR 11/537
				Color description: vibrant, saturated shades such as coral, grapefruit, kiwi and fuchsia, offset by softer and more degraded ones like graphite, ecru and khaki.

3 An Analysis of the Collected Colour Stories

In the analysis of the selected color stories a method used was Shigenibu Kobayashi *Color – image – scale*. The stories were grouped together into the 13 categories (see Tab. II) and separated in the Color Combination Image Scale as: casual, pretty, dynamic, romantic, natural, elegant, gorgeous, classic, clear, cool casual, chic, dandy, modern. Alas the cited categories were not fully responsive to the interior colour combinations. Therefore I attempted to group the colour palettes in specific 14 styles, popular in interior design. They are largely in line with the boundaries proposed by Kobayashi, although they represent only a portion of the styles used in interior design and they result directly from the analysis of collected colour palettes examples. Within this overall system, colour combinations that resemble each other are grouped together into categories, such as modern minimalism or shabby chic, so that each colour combination's distinguishing characteristics are easier to see, and their images can be differentiated with greater precision.

The names of interior styles do not apply only to colours, but can be equally applied to shapes, patterns, materials and overall interior decoration.

Modern Minimalist Style: White is the basic color for a minimalist interior design look, alternative to white are neutral colours, pale beige, taupe, stone. The main colour combinations are neutrals with white, accent colours are allowed. The emphasis is on simplicity, pieces of furniture are geometrical shapes – square, rectangular, round, the surfaces are clean, without patterns or details, textures are glossy. The finishes used are often of ultra-modern chrome, aluminum, stainless steel or glass.

Shabby Chic Style: Whites, creams and soft pastels. The essence of shabby chic style is vintage and antique furniture with the original aged paint, or painted white (or another soft pastel color) and distressed at the corners by sanding.

50's Retro Style: Pastel colors that are particularly characteristic for the style are pink, pale yellow, turquoise, mint green and blue. Furniture Ranging from Scandinavian laminated plywood furniture with very clean lines to space age, plastic organic shapes. There is a liberal use of traditional material, such as wood, and non-traditional materials such as metal, glass, vinyl, plywood, Plexiglass and Lucite.

grawing respect - ColourFutures ICI Paints 2008	sweet memory - ColourFutures ICI Paints 2010	spiced life - Benjamin Moore 2012	local revital - PPG 2012
artform - ColourFutures ICI Painto 2008	made with love - ColourFutures ICI Paints 2011	disamy - Benjamin Moore 2011	Beauty Queen - PPG 2012
ebb & flow - ColourFutures ICI Paints 2008	finding the way - ColourFutures ICI Paints 2011	souttul - Benjamin Moore 2011	Deco Candy - PPG 2012
reptorer - ColourFutures ICI Paints 2008	molecular magic - Colour Futures ICI Paints 2011	EcoTechno - PPG 2008	Quiet Tech - PPG 2012
ecolociume - ColourFutures ICI Painta 2009	pop up pleasure - ColourFutures ICI Painta 2011	vintage - PPG 2008	rooted - Sherwin Williams 2010
equilatum - ColourFutures ICI Paints 2009	Re boardy of everyoday 36 - Colour Fahres ICI Parts 2011	Feir Tiede - PPG 2008	tressured - Sherwin Williams 2010
Neg legery - ColouFutures ICI Parits 2009	addle harmory - ColouFutures ICI Paints 2012	Ecoloce - PPG 2008	singlified - Sherwin Williams 2010
play house - CoburFutures ICI Paints 2009	ore small seed-Akao Nabel 2012	wonderland - PPG 2009	nefreshed - Sherwin Williams 2010
white dimensions - ColourFutures ICI Paints 2009	Ning scrapbook - Colou/Futures ICI Pants 2012	avatar - PPG 2009	bold invention - Sherwin Williams 2011
Assic belefs - ColourFutures ICI Paints 2010	different works - Colou-Futures ICI Pairls 2012	Indie - PPG 2008	gerde medity - Sharwin Williams 2011
Auf fantary - ColourFuhrers (Cl Panta 2010	rediscovered heroes - ColourFutures (Ci Paints 2012	Uppyele - PPG 2011	purely refined - Sterwin Williams 2011
Adden besuty - ColourFutures ICI Paints 2008	esth & aly - Berganin Moore 2012.	New Bohemia - PPG 2011	restless nomed - Shervin Williams 2011
fre spirt - CalouFutures ICI Paints 2010	eclectic elegance - Benjamin Macre 2012	Glamour - PPG 2011	Eco Rebellon - Tikhurlia 2012-13
slent space - Colou-Futures ICI Paints 2010	sense 4 sensabily - Benjamin Moore 2012	Indiret - PPG 2011	Roots - Tinkurile 2012-13

TABLE II. Colour trends created by paint manufacturers the years 2008-2012

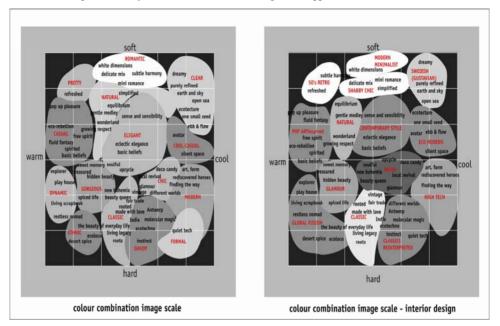


TABLE III. Shigenobu Kobayashi Colour Combination Image Scale applied to interior colour stories.

Pop Art inspired Style: Vivid, clear and bright colors, with strong contrast of hue. Contrasting color combinations using many different hues. Images from popular culture and advertising. The use of new manufacturing techniques and materials like plastic and arylic. An irreverent, not-so-serious, tongue-in-cheek aesthetic.

Natural Style: Richness of natural materials, warm, simple, opposed to the artificial feeling of modern. Color combinations are rich, sometimes grayish without vivid, clear tones. There is no pure white or black. Style structure is a crude, rough details, structure elements of furniture / lighting can be in tree trunks, logs, branches, jute. Style is found in mountain vacation homes, rural.

Contemporary Style: Colors are balanced, warm and cold, bright and pastel tones. Finishes warm, wood-veneer, solid wood doors with frames or appearance to look more polished and panels upholstered with leather or sometimes, may be characteristic of this style. Textile materials, leather, upholstered pieces are often used in shaping the ambience characteristic of this style.

Swedish (Gustavian) Style: Pale tones of white, cream, soft yellow, pale pink, soft green, and dove gray. Since pale walls, floors, and furnishings reflect the natural light, interiors decorated with this style are cheerful, calm, and even warm even on the darkest winter days. After white, blue and red are the colors most often used in Swedish style interiors, they can be found in wallpaper, fabrics,

stripes, and floral prints. Light colored hard and soft woods are used for case goods and flooring. Birch, white pine, beech, and alder are very common. Woods are often bleached, painted or stained with white or pale paints.

Eco Modern Style: Colours inspired by nature, especially greens and blues – either muted or bright. Furniture from sustainable materials or recycled resources, with natural finishes. Textiles made from hemp, organic cotton, organic linen, and tencel.

High Tech Style: A lot of neutrals, the key color is grey. Vivid colors, giving an accent, are used to create a bold effect. Rough surfaces, unfinished look and everything related to industry, fabrics and such. Concrete, steel, metals that are embossed, brushed, plain or painted. Exposed pipes, ducts and beams. Floors surfaced with materials industrial in origin - concrete, monochrome ceramic tile, vinyl tile (with raised rubber dots) or flat commercial-grade carpeting.

Global Fusion Style: The items tell the story of life and travel. Moroccan lanterns, African bowls and vases and Asian-inspired furniture blend seamlessly. Natural materials, warm colors, multicolor combinations.

Glamour Style: Mature, extravagant, alluring, luxurious. Red and mauve colors with black, white and gold. Furniture and accessories have time-worn elegance and a vintage look. Chairs, tables, and armoires painted in black or cream bear golden accents. They blend beautifully with dark, carved wood. Rich, shimmering silks and luxurious brocades and velvets enhance upscale interiors.

Classic Style: Traditional, elaborative, decorative and formal. The colors combinations are dark and hard. The contrasts are moderate. The use of brown, black and olive green gives a feeling of tradition and quality. By adding wine and gold colors a feeling of gorgeousness is created. The style is refined, developed, rich in details, which are found both in the structure of furniture, lighting, etc. as well as in sets, prints. The furniture is the "art" type, carved or inlaid details and apply.

Classic Style Reinterpreted: Classic forms are found in a new approach, some elements of a furniture style combined with modern elements, creating that fusion between old and new. Finishing parts are in a new approach - painted and varnished, with different and innovative often cold colors, surface gold, silver, finished with patina or serigraphic.

Conclusions

The analysis showed that there are now well established interior style categories that occur in developed annually by the paint manufacturers colour trends for the coming years. They are a kind of a visual language in which colour combinations have a defined scope and features and they are closely connected with such attributes as texture, pattern, material and shape. They are also very often associated with a particular lifestyle. In this way additional features and meanings are ascribed to the colour combination, which are clear only in the case of applying it in the interior of a specific style and character. The meaning of these has become very important for interior designers and aesthetic evaluation is closely connected with the specific context of a colour combination.

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