THE GREYSCALE EPIDEMIC

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01

WHAT HAPPENED?

Blaming Minimalism

SOURCES

1. **COLORLOSS HISTORICALLY**

   Colour & Shape: Using Computer Vision to Explore the Science Museum Group Collection

2. **ITS EVERYWHERE**

   Is color disappearing from the world?

3. **WHOSE FAULT?**

   Blaming Minimalism: What Happens When Color Disappears?

HAS THERE BEEN A SIGNIFICANT DECLINE IN THE COLORFULNESS OF EVERYDAY CLOTHES?

HAS [illegible] COST
“[illegible]” LAST DECADE?

02

METHOD

Picture > Color > Number

THE DATAFRAME

01 STYLES.CSV

- id
- gender
- masterCategory
- subCategory
- articleType
- baseColour
- season
- year
- usage product
- DisplayName

02 IMAGES.CSV

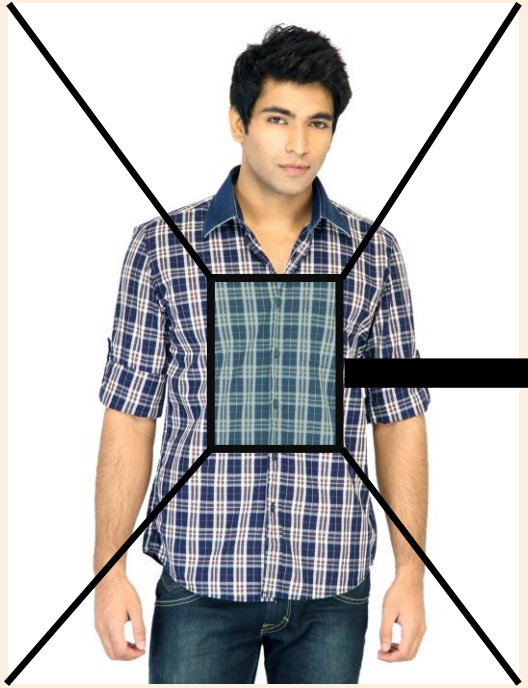
- Filename
- Link

THE DATAFRAME

02 IMAGES.CSV

How to extract color code?

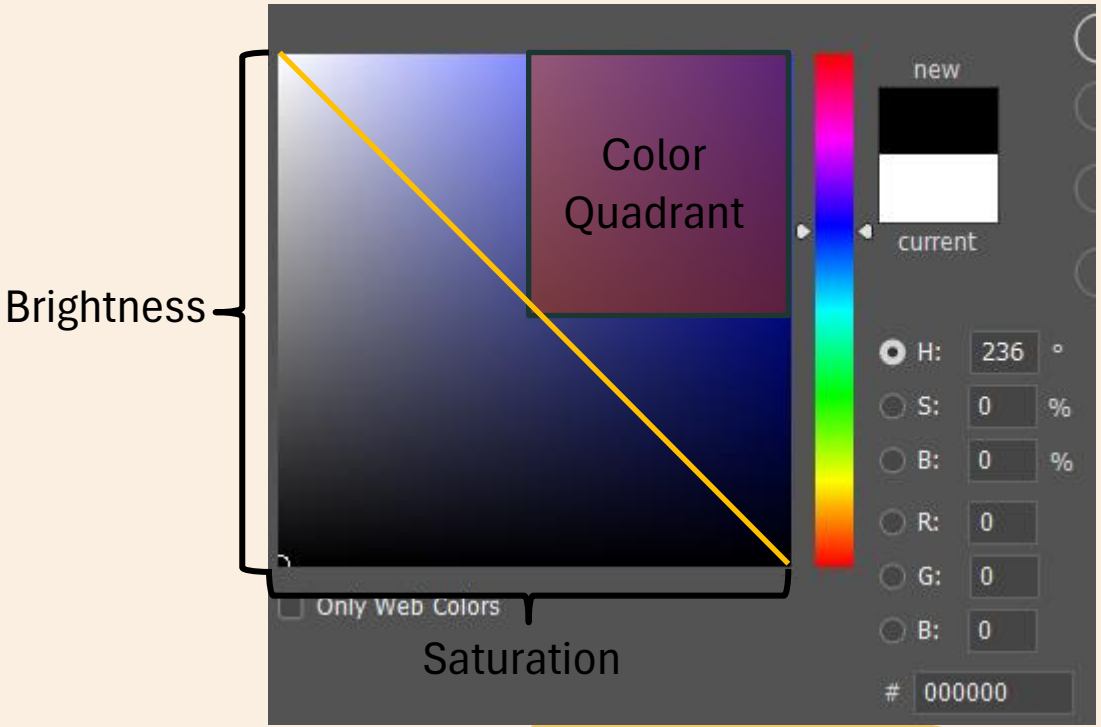
How to extract color code?



25% of true size!

RGB(134, 135 151)

From color code to Colorfulness?



From color code to Colorfulness?

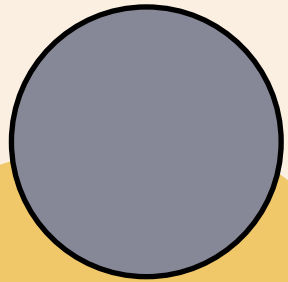
01 **Hasler:**

$$\text{Colorfulness} = \sqrt{(R-G)^2 + (G-B)^2 + (B-R)^2}$$ = 4.851995

02 **Normal:**

$$\text{Colorfulness} = S \times V$$ = 0.064784

RGB(134, 135, 151)



From color code to Colorfulness?

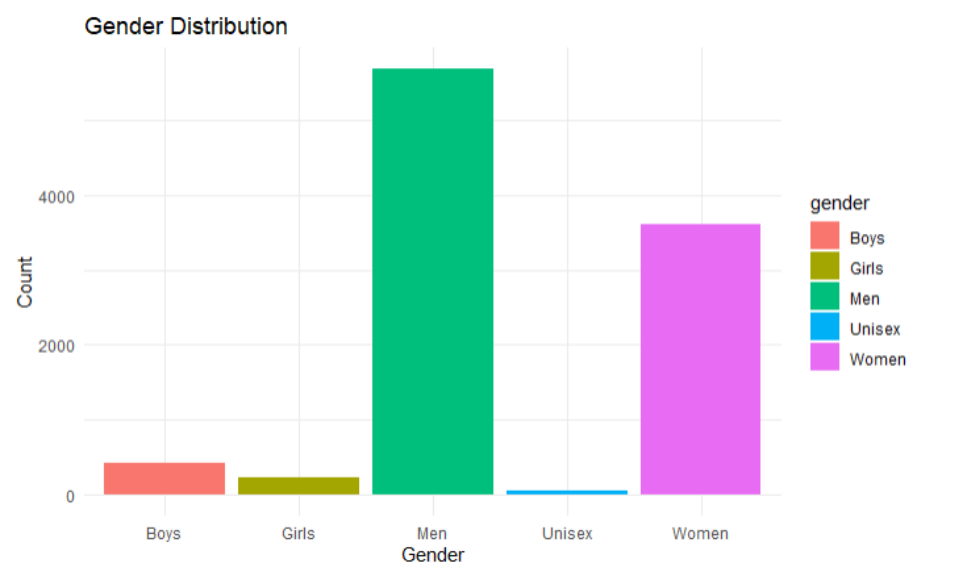
Base Colour	Count
Blue	1584
White	1463
Black	1294
Green	829
Grey	723
Red	761
Purple	536
Navy Blue	533
Pink	521
Yellow	304
Orange	171
Maroon	156
Brown	249
Beige	123
Cream	115
Olive	82
Off White	81
Multi	97
Peach	70

03

RESULTS

Has day to day clothes
lost color or not?

Variables and distributions

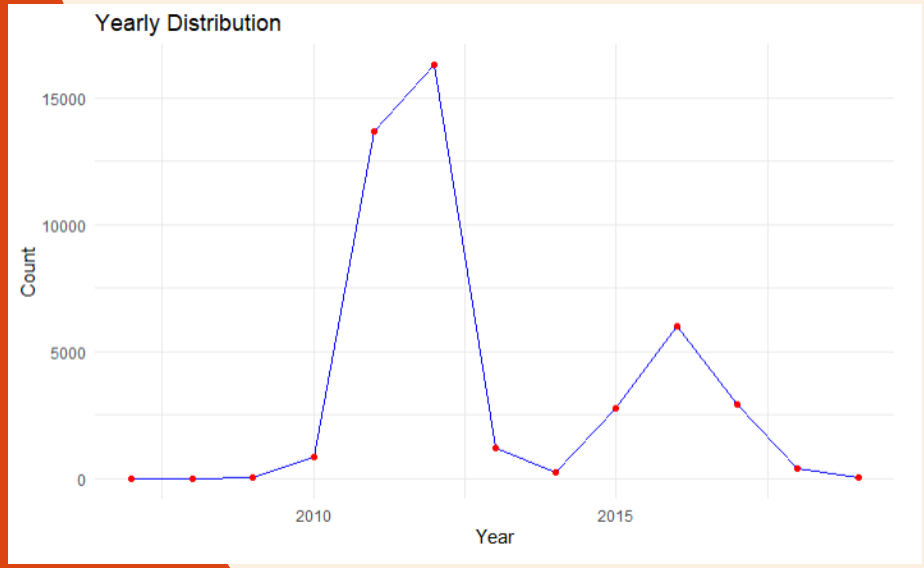


articleType <chr>	count <int>
Tshirts	4543
Shirts	2080
Kurtas	1186
Tops	1163
Sweaters	196
Sweatshirts	188
Jackets	175
Tunics	160
Kurtis	154
Dupatta	80

1-10 of 20 rows

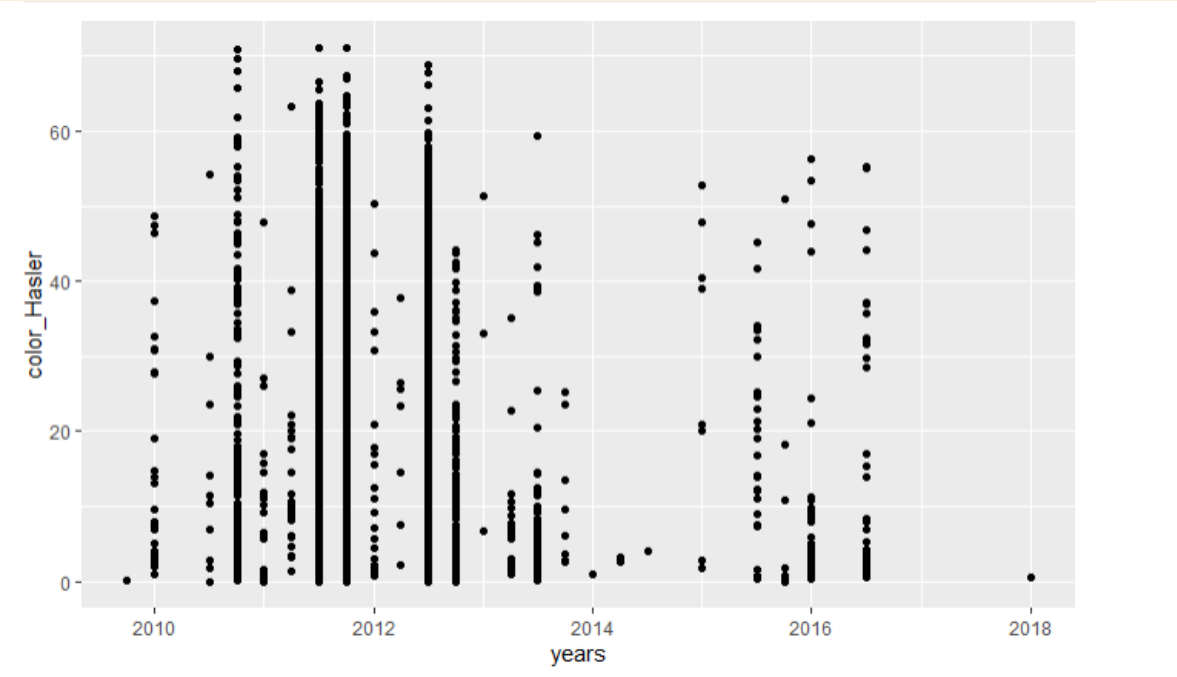
Variables and distributions

Without filtering
“Topwear”



Variables and distributions

Using “seasons”



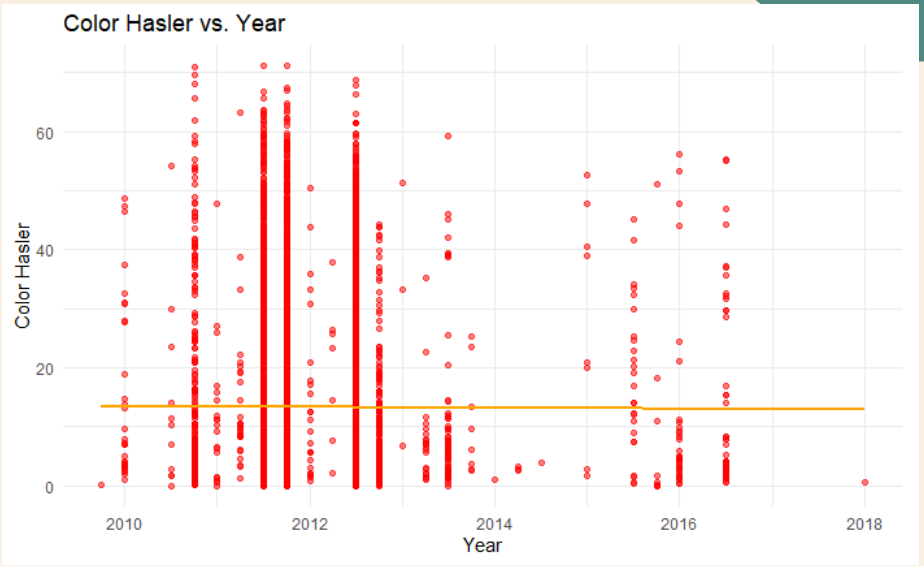
P-values

```
Call:
lm(formula = color_Hasler ~ years, data = df)

Residuals:
    Min      1Q  Median      3Q     Max
-13.434  -9.802  -4.864   5.496  57.715

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) 154.23760  398.06461   0.387    0.698
years        -0.07003    0.19784  -0.354    0.723

Residual standard error: 13.21 on 9944 degrees of freedom
  (54 observations deleted due to missingness)
Multiple R-squared:  1.26e-05,  Adjusted R-squared:  -8.796e-05
F-statistic: 0.1253 on 1 and 9944 DF,  p-value: 0.7234
```



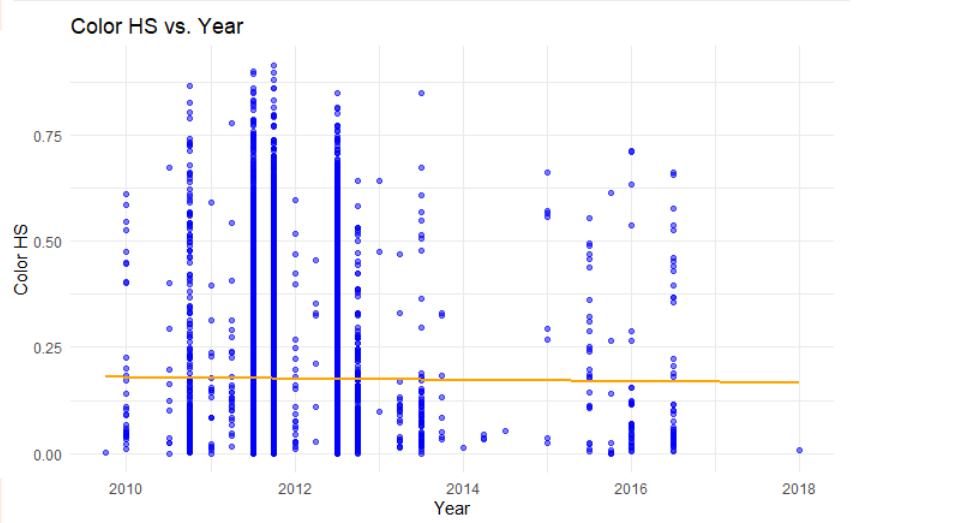
P-values

```
Call:
lm(formula = color_HS ~ years, data = df)

Residuals:
     Min       1Q   Median       3Q      Max
-0.17832 -0.12765 -0.06042  0.07283  0.73625

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  3.360632   5.119766   0.656    0.512
years       -0.001583   0.002545  -0.622    0.534

Residual standard error: 0.1698 on 9944 degrees of freedom
  (54 observations deleted due to missingness)
Multiple R-squared:  3.891e-05, Adjusted R-squared:  -6.165e-05
F-statistic: 0.3869 on 1 and 9944 DF,  p-value: 0.5339
```



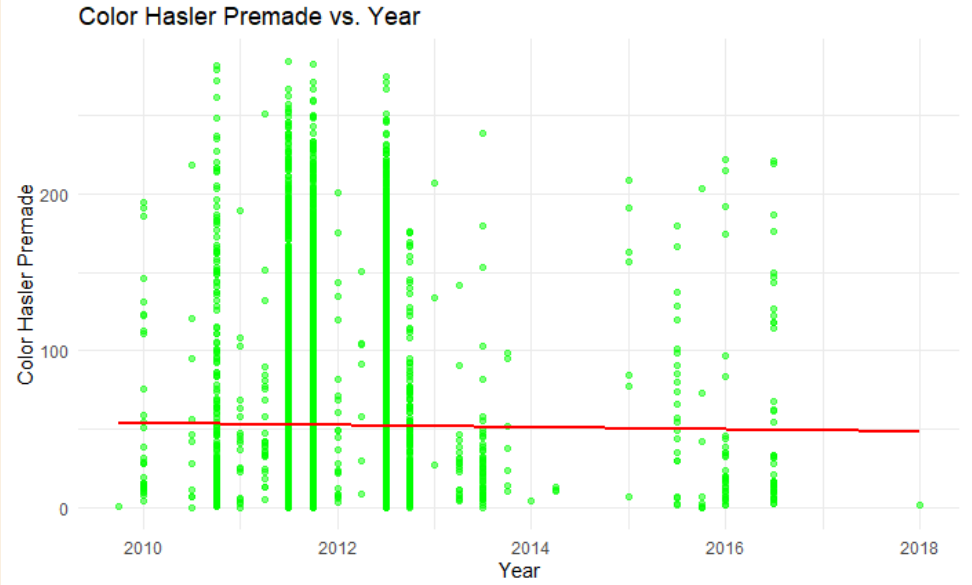
P-values

```
Call:
lm(formula = color_Hasler_premade ~ years, data = filtered_df)

Residuals:
   Min     1Q Median     3Q    Max
-53.45 -38.58 -19.27  20.81 231.78

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) 1407.2257  1611.0194   0.874    0.382
years         -0.6733     0.8007  -0.841    0.400

Residual standard error: 52.38 on 9641 degrees of freedom
  (49 observations deleted due to missingness)
Multiple R-squared:  7.335e-05, Adjusted R-squared:  -3.037e-05
F-statistic: 0.7072 on 1 and 9641 DF,  p-value: 0.4004
```



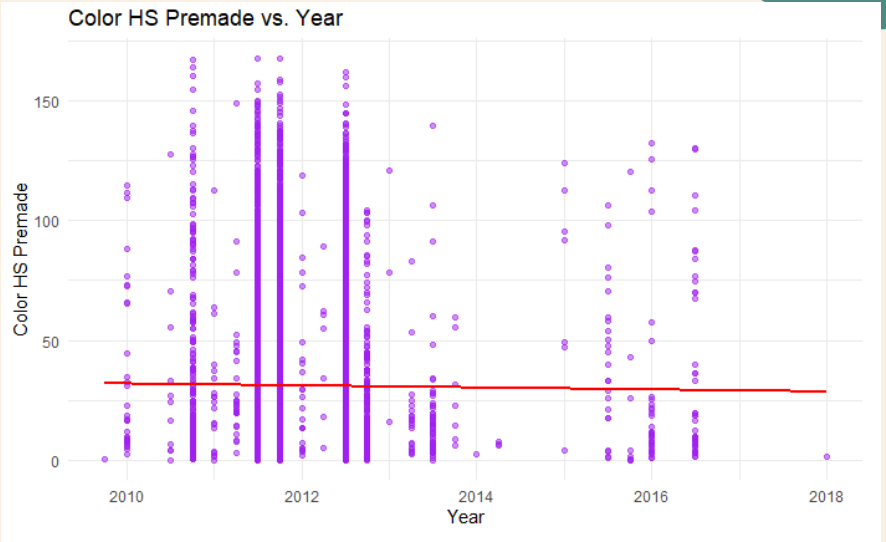
P-values

```
Call:
lm(formula = color_HS_premade ~ years, data = filtered_df)

Residuals:
   Min     1Q Median     3Q    Max
-31.71 -22.90 -11.43  12.21 136.31

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) 863.0186   953.8759   0.905    0.366
years        -0.4135     0.4741  -0.872    0.383

Residual standard error: 31.01 on 9641 degrees of freedom
  (49 observations deleted due to missingness)
Multiple R-squared:  7.89e-05,  Adjusted R-squared:  -2.482e-05
F-statistic: 0.7607 on 1 and 9641 DF,  p-value: 0.3831
```



04

Discussion

Sooo, what happened

Things to consider

What could had influenced bad results?

- Color image processing
- “Colorfulness” calculations
- Uneven distribution of “years”

Other possible hypotheses?

- World is not becoming colorless, but shifting into an earthy palette (Vibrancy test?)
- World is becoming colorless, but more patterned? (Western Culture?)

Next step?

- **Interesting findings within other variables?**
- Gender
- articleType(t-Shirt, sweaters, etc)
- Other accessories (not topwear)

```
        Pearson's product-moment correlation

data:  df$years and df$color_Hasler
t = -0.35399, df = 9944, p-value = 0.7234
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.02320137  0.01610455
sample estimates:
         cor
-0.003549786
```

```
Call:
lm(formula = color_Hasler ~ years, data = tshirt_df)

Residuals:
    Min      1Q  Median      3Q     Max
-15.546 -11.587  -5.747   7.839  55.738

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) 365.2229   557.5678   0.655    0.512
years        -0.1739     0.2771  -0.628    0.530

Residual standard error: 14.76 on 4518 degrees of freedom
  (23 observations deleted due to missingness)
Multiple R-squared:  8.718e-05, Adjusted R-squared:  -0.0001341
F-statistic: 0.3939 on 1 and 4518 DF,  p-value: 0.5303
```

````
```{r}
cor.test(df$years, df$color_Hasler, method = "spearman")

```
````

```
Warning: Cannot compute exact p-value with ties
        Spearman's rank correlation rho

data:  df$years and df$color_Hasler
S = 1.638e+11, p-value = 0.9132
alternative hypothesis: true rho is not equal to 0
sample estimates:
        rho
0.001092929
```