



# *AN OVERVIEW OF THE TATE ART MUSEUM*

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# INTRO

This presentation oversees datasets relating to the Tate Art Museum, one of the largest museums of contemporary and modern art in the UK. Its datasets show details of the artists showcased (*artists.csv*) and extensive detail of its pieces (*artwork.csv*).

The data involved asks the following:

- How varied are the mediums of the pieces?
- What is their largest piece?
- Where even are the exhibited artists from?

# PRIOR EXPLORATION

Before I began any sort of research questions, I created a vector where I could organize *artwork.csv* by art eras.

```
#function that sorts artists by era
art_eras <- artwork %>%
  mutate(
    era = case_when(
      year %in% c(1520:1599) ~ "mannerism",
      year %in% c(1600:1780) ~ "baroque_rococo",
      year %in% c(1781:1849) ~ "class_romance_real",
      year %in% c(1850:1889) ~ "impressionism",
      year %in% c(1890:1905) ~ "symbol_nouveau_express",
      year %in% c(1906:1924) ~ "surrealism",
      year %in% c(1925:1954) ~ "abstract",
      year %in% c(1955:1969) ~ "popart",
      year %in% c(1970:2020) ~ "modern",
      TRUE ~ "unknown"
    )
  )
art_eras
```

I also summarized both sets for ease of an overview with them.

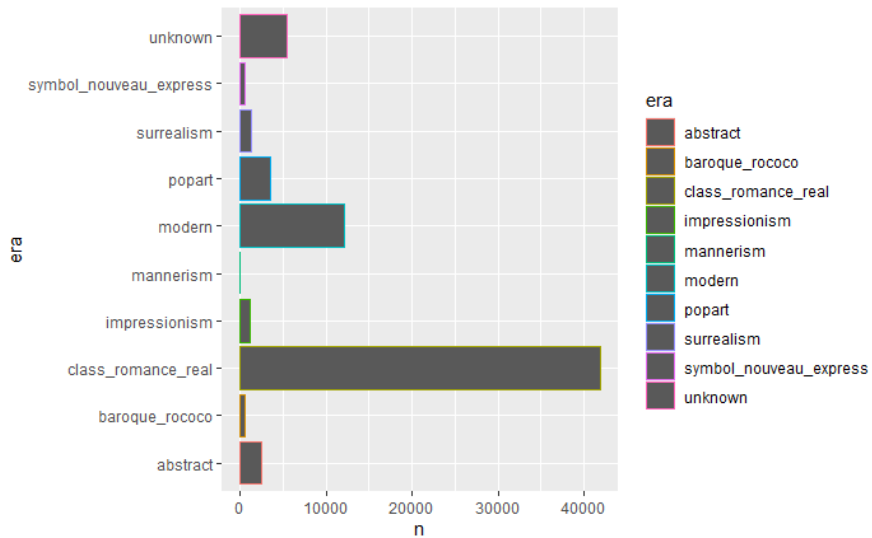
Note that some are combined for ease of formatting.

summary(artists)					
id	name	gender	dates	yearOfBirth	yearOfDeath
Min. : 0.0	Length:3532	Length:3532	Length:3532	Min. :1497	Min. :1543
1st Qu.: 885.8	Class :character	Class :character	Class :character	1st Qu.:1855	1st Qu.:1876
Median : 1772.5	Mode :character	Mode :character	Mode :character	Median :1910	Median :1944
Mean : 3330.3				Mean :1887	Mean :1921
3rd Qu.: 2676.2				3rd Qu.:1941	3rd Qu.:1983
Max. :18896.0				Max. :2004	Max. :2014
				NA's :60	NA's :1304
placeOfBirth	placeOfDeath	url			
Length:3532	Length:3532	Length:3532			
Class :character	Class :character	Class :character			
Mode :character	Mode :character	Mode :character			

summary(artwork)					
id	accession_number	artist	artistRole	artistId	title
Min. : 3	Length:69201	Length:69201	Length:69201	Min. : 0	Length:69201
1st Qu.: 19096	Class :character	Class :character	Class :character	1st Qu.: 558	Class :character
Median : 37339	Mode :character	Mode :character	Mode :character	Median : 558	Mode :character
Mean : 39148				Mean : 1201	
3rd Qu.: 54712				3rd Qu.: 1137	
Max. :129068				Max. :19232	
dateText	medium	creditLine	year	acquisitionYear	dimensions
Length:69201	Length:69201	Length:69201	Min. :1545	Min. :1823	Length:69201
Class :character	Class :character	Class :character	1st Qu.:1817	1st Qu.:1856	Class :character
Mode :character	Mode :character	Mode :character	Median :1831	Median :1856	Mode :character
			Mean :1867	Mean :1911	
			3rd Qu.:1953	3rd Qu.:1982	
			Max. :2012	Max. :2013	
			NA's :5397	NA's :45	
width	height	depth	units	inscription	thumbnailCopyright
Min. : 3.0	Min. : 6.0	Min. : 1.00	Length:69201	Length:69201	Mode:logical
1st Qu.: 118.0	1st Qu.: 117.0	1st Qu.: 48.25	Class :character	Class :character	NA's:69201
Median : 175.0	Median : 190.0	Median : 190.00	Mode :character	Mode :character	
Mean : 323.5	Mean : 346.4	Mean : 479.20			
3rd Qu.: 345.0	3rd Qu.: 359.0	3rd Qu.: 450.00			
Max. :11960.0	Max. :37500.0	Max. :18290.00			
NA's :3367	NA's :3342	NA's :66687			
thumbnailUrl	url				
Length:69201	Length:69201				
Class :character	Class :character				
Mode :character	Mode :character				

# UNIVARIATE AND BIVARIATE

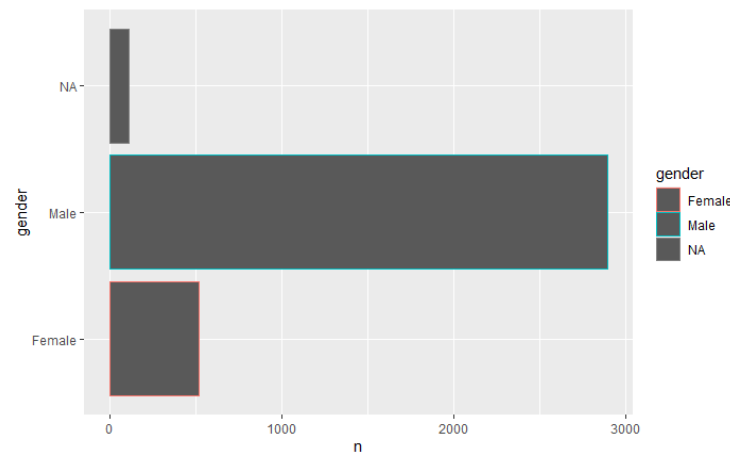
```
filter(count(art_eras, era)) %>%
  ggplot() +
  geom_bar(aes(x = n, y = era, color = era), stat = 'identity')
```



Broken down is a visualization of the number of pieces from each art era and the genders of the artists in the set.

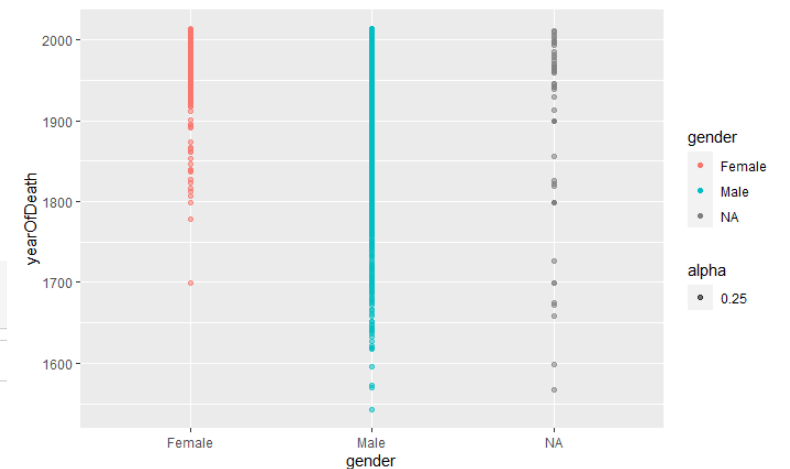
```
filter(count(artists, gender)) %>%
  ggplot() +
  geom_histogram(aes(x = n, y = gender, color = gender), stat = 'identity')
```

Warning: Ignoring unknown parameters: binwidth, bins, pad



```
artists %>%
  ggplot() +
  geom_point(aes(x = gender, y = yearOfDeath, color = gender, alpha = 0.25))
```

Warning: Removed 1304 rows containing missing values (geom\_point).



Included in the bivariate analysis is also an overview of year of deaths for the artists organized by gender.

# HOW VARIED ARE THE MEDIUMS OF THE PIECES?

Usually a commonality of the pieces is a medium – the object that makes up an art piece. In this case, they wound up being extensively more varied than expected.

```
mediums <- artwork %>%  
  group_by(medium) %>%  
  count(medium)  
mediums
```

In the end, I discovered pieces such as the one shown that were made of multiple pages or images. This contributed to the *medium* column's count and variety.



# WHAT IS THEIR LARGEST PIECE?

This question had multiple answers, but the general conclusion was "*Visceral Canker*" since "*Consolation Services*" was a projection and varied in size.

```
art_eras %>%
  arrange(desc(dimensions)) %>%
  select(title, dimensions, medium, artist)
```

title	dimensions
<chr>	<chr>
Consolation Service	variable
Visceral Canker	unconfirmed: Panel 1 (wood and perspex sheet) 1220 x 910 mm; Panel 2 (mixed media and 2 perspex sheets) 1220 x 910 mm; Panel 3 (wood and perspex sheet) 1550 x 910 mm; Panel 4 (mixed media and 2 perspex sheets) 1550 x 910 mm
Metamorphosis (Self-Portrait)	unconfirmed: 997 x 721 mm
Wrapping Paper	unconfirmed: 991 x 686 mm
Die gute alte Zeit	unconfirmed: 984 x 635 mm
The Confinement of Richard Dadd	unconfirmed: 980 x 915 mm
Alcheringa 1 - Fire	unconfirmed: 978 x 679 mm
Alcheringa 2 - Air	unconfirmed: 978 x 679 mm
Alcheringa 4 - Earth	unconfirmed: 978 x 679 mm
Alcheringa 3 - Water	unconfirmed: 978 x 679 mm

Some pieces also varied in depth, but I decided to focus on heights and widths for the time being

# WHERE EVEN ARE THE EXHIBITED ARTISTS FROM?

When examining the set, the locations are varied from around the world, but countries repeat more often than states.

```
birthplace <- artists %>%  
  group_by(placeOfBirth) %>%  
  count(placeOfBirth)  
birthplace
```

placeOfBirth <chr>	n <int>
'Afula, Yisra'el	1
Aachen, Deutschland	1
Abbotsford, Canada	1
Aberdare, United Kingdom	1
Aberdeen, United Kingdom	6
Aberdeen, United States	2
Abergavenny, United Kingdom	1
Abinger, United Kingdom	1
Accrington, United Kingdom	1
Acton, United Kingdom	1

1-10 of 1,264 rows

Previous 1 2 3 4 5 6 ... 100 Next

With this, I also chose to find where most artists were born, the answer for that being London.

```
birthplace %>%  
  arrange(desc(n))
```

placeOfBirth <chr>	n <int>
NA	492
London, United Kingdom	446
Paris, France	57
Edinburgh, United Kingdom	47
New York, United States	43
Glasgow, United Kingdom	35
England, United Kingdom	30
Dublin, Éire	29
Liverpool, United Kingdom	23
Birmingham, United Kingdom	22

1-10 of 1,264 rows

Previous 1 2 3 4 5 6 ... 100 Next



# CONCLUSION

The following answers were gained from the analysis questions:

- Most pieces are from *Classicism, Romanticism, or Realism*
- Almost 3,000 of the showcased artists were male
- Most of these artists have passed
- Many mediums are unique down to its bare mediums
- The largest piece in the museum can actually vary in size
- And most artists originated from London itself

In the future, I'd look deeper into any updates the dataset might have as well as other unasked or simpler questions.