

10/25/19 – GMU NGA Datathon Presentation

Paul Albert

## George Mason University NGA Datathon Team



Paul Albert  
Art History  
Computational Social Sciences



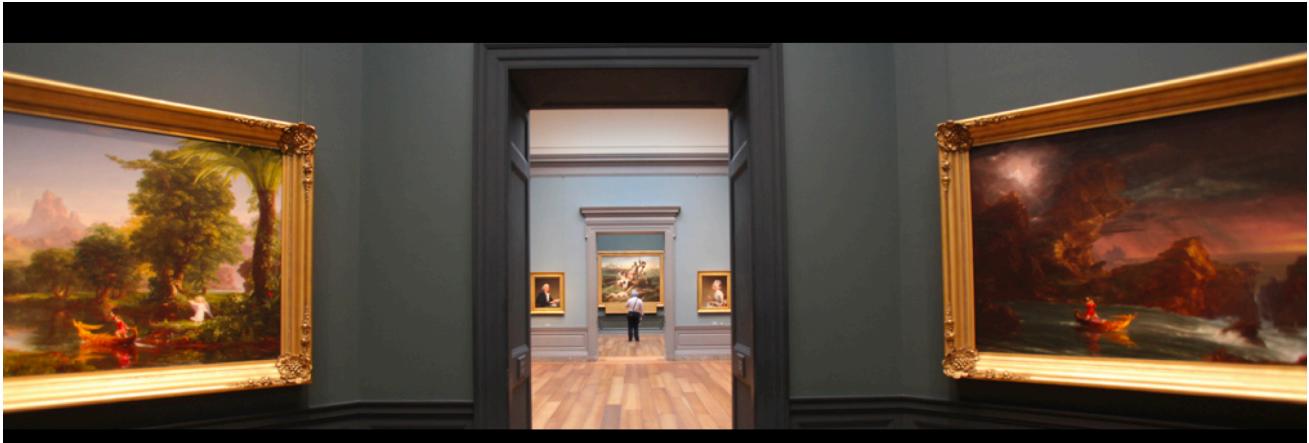
Gautham Vadakkappt  
Marketing



Laurie Meamber  
Marketing

Hello,

My name is Paul Albert and I'm part of the George Mason University team. My fellow team mates are Laurie Meamber and Gautham Vadakkappt.



**"The National Gallery of Art needs to both reflect America and attract America"**

Kaywin Feldman  
NGA Director

For our presentation we want to look at both parts of NGA Director Feldman's challenge on this slide, how has the NGA reflected America and what can the NGA do to attract America?

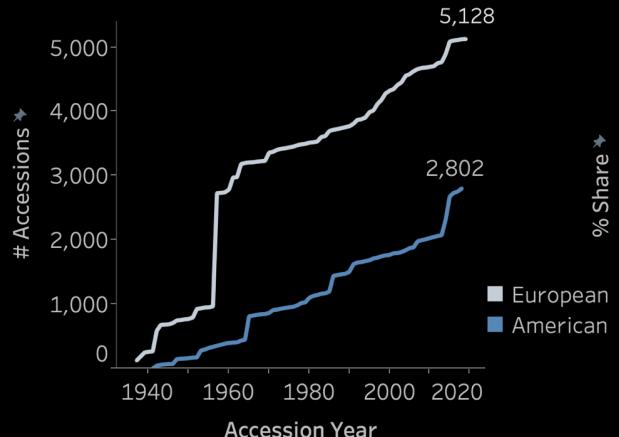
Like any data analysis effort, we believe that our success is not measured by the answers we find, but instead, by questions we inspire. Hopefully we succeed in this and your questions at the end of this presentation will help us judge our success. No pressure!

Let us first begin by looking at how the NGA's holdings have grown historically.

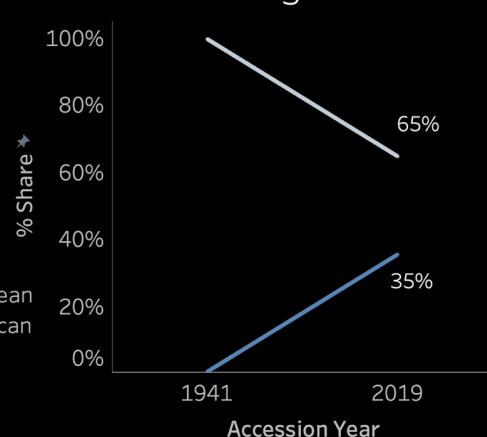
# NGA Accessions and Share of Holdings

Paintings and Sculptures

Cumulative Total



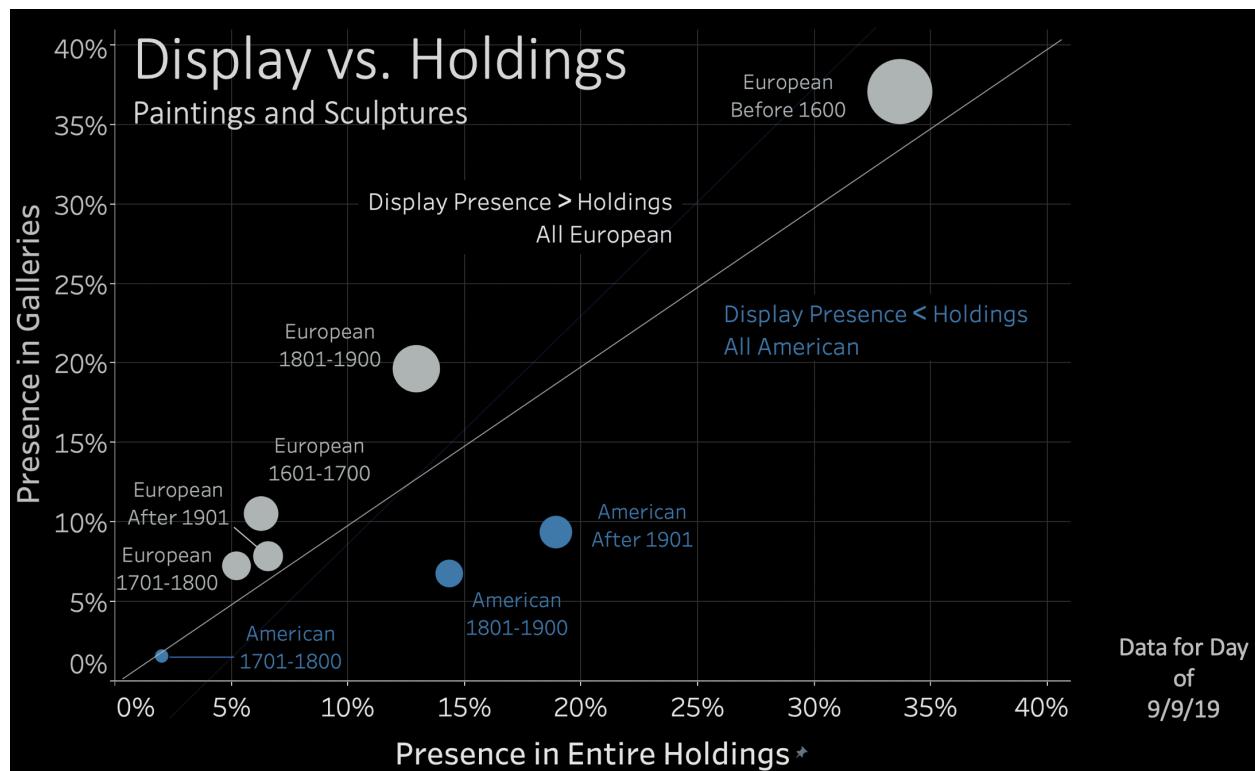
Share of Holdings



For this analysis, in general, we look at only works done by American or European artists. These two categories combined make up 97% of the NGA's entire holdings.

We propose that the NGA, **America's National Gallery**, obtained its legitimacy by first embracing and enshrining the European art canon. Over time, however, the NGA's collection grew to extend this aura to American artists as these artists were coming into their own in the art world. What started as a story setting America's place in the world through displaying the right artists on its national gallery's walls grew to a story of America also having artists worthy of gracing these walls.

Let's see how these stories have played out to today.



This chart compares the distribution of paintings and sculptures that were on public display against those in the NGA's entire holdings on one recent day, September 9, 2019, the day our dataset was created. Works are grouped by artist nationality and time span.

Dots that rise above the line indicate groups of works that have a gallery presence **greater** than their presence in holdings, dots that fall below the line indicate groups of works that have a gallery presence **less** than their presence in holdings.

Interestingly, European works all rise above the line and American works all fall below the line.

We suggest that this chart reflects a type of gravitational equilibrium point, set by many different opposing and complimenting forces.

On this particular day, it seems that the gravitational pull to enshrine the European canon was greater than the pull to showcase works by American artists.

This opens up an interesting question, “what should the NGA have on its walls?”

For this question, data by itself cannot provide an answer. The best answer is, instead, something that is reached through a process, a process of an informed conversation. Hopefully, these findings and those that we show in our online dashboards can contribute to this conversational process.

Now that we've very briefly considered how the NGA has reflected America, let's turn to a different question, “how might the NGA attract America?”

To help with this question, we've done what many people do with the toughest questions in their life, we turned to the Internet.



Specifically, we turned to Wikipedia to find out, for the artists at the NGA, how many Wikipedia page views each artist has earned. We call this measure the “artist engagement score.” About 4,200 of the NGA’s artists have English Wikipedia pages and we were able to programmatically find out how many views these pages had received over the last 50 months. All told, these artists, combined, had over 457 million-page views for this time period.

We believe that Wikipedia page views can be used as a proxy measure for the artists’ general popularity or general engagement potential.

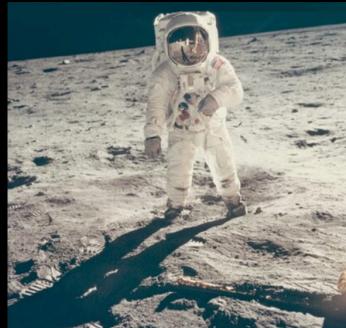
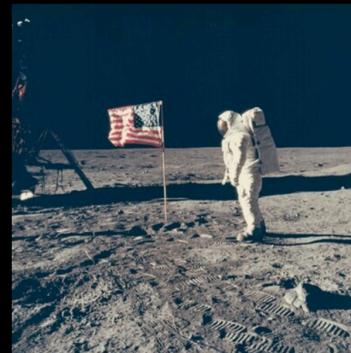
This word cloud shows the 100 most popular artists in all of NGA’s holdings for all types of art works. The artist name is sized and colored by the number of pageviews the artist received. As a small aside, it might not be surprising that the most generally popular artist at the NGA is Leonardo Da Vinci, however, what surprised us is that the second most popular artist at the NGA is Neil Armstrong, the astronaut.



### Leonardo da Vinci

Florentine, 1452 – 1519  
Ginevra de' Benci  
c. 1474/1478

Artist Engagement Score:  
**17.1M**



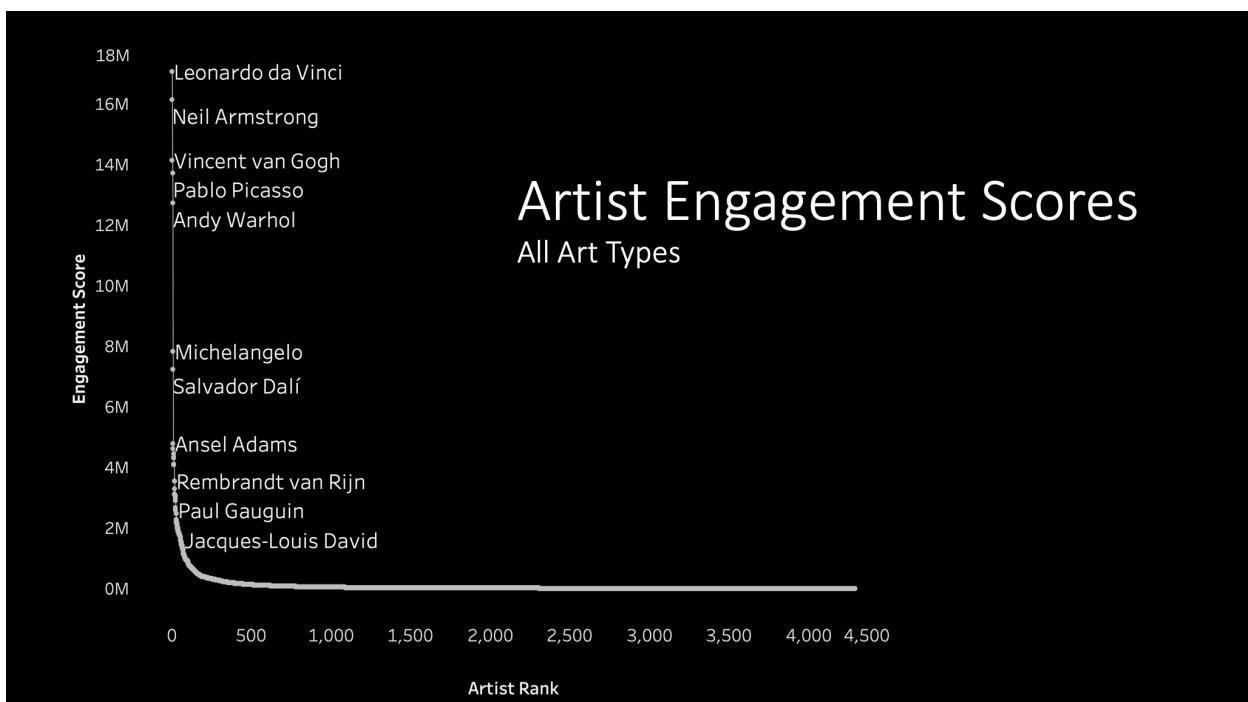
### Neil Armstrong

American, 1930 – 2012  
Buzz Aldrin, Moon Walk Reflection  
Buzz Aldrin Poses With Flag  
July 20, 1969

Artist Engagement Score:  
**16.2M**

Here are some of their artworks in the NGA's collection.

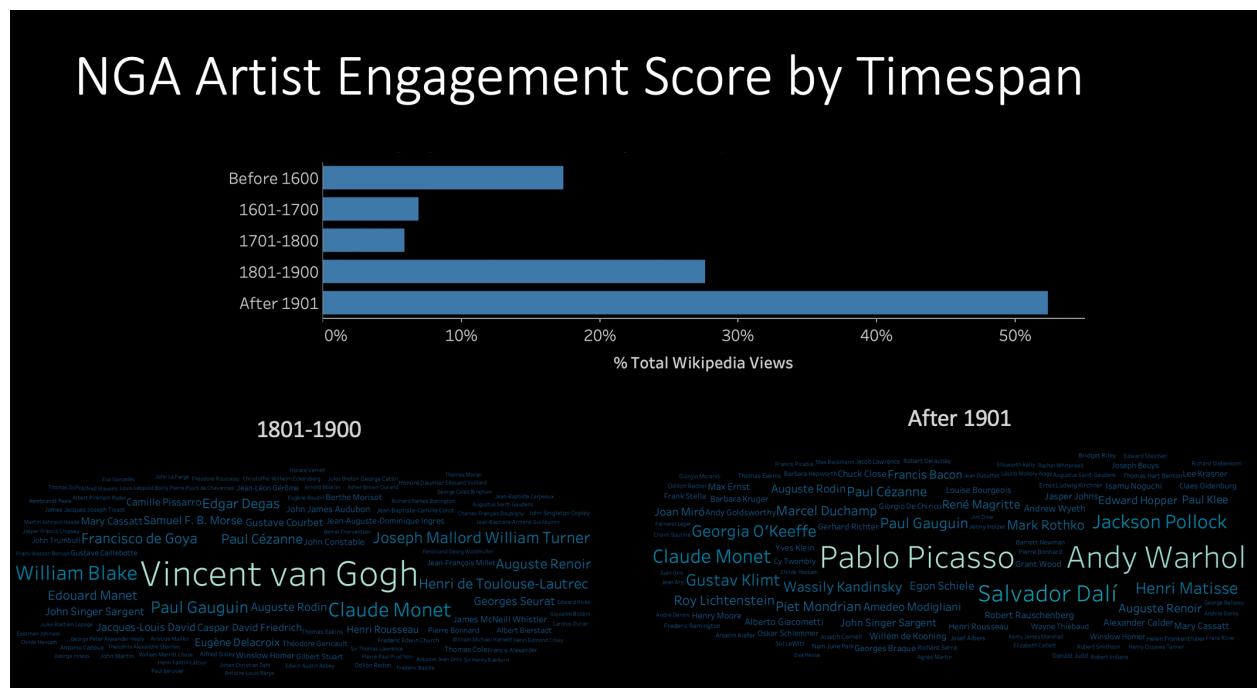
When we plot the engagement score for each artist by their relative rank,



we find a very skewed distribution. In fact, for our artists, the top 20% of artists accumulated over 97% of the total engagement scores.

This type of skewed distribution is, in fact, almost always found when looking at relative popularity measures. For example, it is almost always found when comparing auction prices for paintings, box office revenue for movies and sales for books. This phenomenon has generally become known as the “the rich get richer effect.”

While some people might think of a museum like the NGA as a place to see old pictures by long dead famous artists, it is interesting to note that the artists with the highest engagement scores are not necessarily those who have been deceased the longest.



In fact, what we see is that it is not the earliest artists that as a group have the highest engagement scores, there are, overall, more Wikipedia pageviews for artists who worked between 1800-1900 and after 1901. [Click] Here are the most popular artists in those groups.

This finding provides an interesting contrast with our discussion around the academic artistic cannon. As a group, the old masters that form the backbone of the academic canon are less generally publicly popular than more recent artists.

Not only can this finding inform the conversational process about what should be put on the NGA's walls, these engagement scores can help guide NGA outreach efforts. Perhaps while the NGA seeks to embrace and extend the legitimacy of the academic canon, it can also use our Engagement Scores to guide efforts to engage and educate the public about this very same canon.

For example, like us, the NGA could also turn to Wikipedia. But, instead, add NGA images and links to the most popular artists' Wikipedia pages using our engagement scores to guide the effort. Not only would this enrich Wikipedia, it would also leverage the public's interest in these artists to promote the NGA.

As another example, our artist engagement scores could also be used by the NGA to help shape their Internet social media efforts.

As a final, non-Internet, example of how artist popularity could be used to attract and engage the public, we invite you to consider the current landmark exhibit here at the NGA on the artist Verrocchio. Before this exhibit came here to be displayed, it was shown in Florence at the Palazzo Strozzi.

Here is the title the Palazzo Strozzi used for this exhibit compared to the NGA's title for what is mostly the same exhibit:

Palazzo Strozzi

National Gallery of Art

Verrocchio, Master of Leonardo

Verrocchio: Sculptor and Painter of Renaissance Florence

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Engagement Score

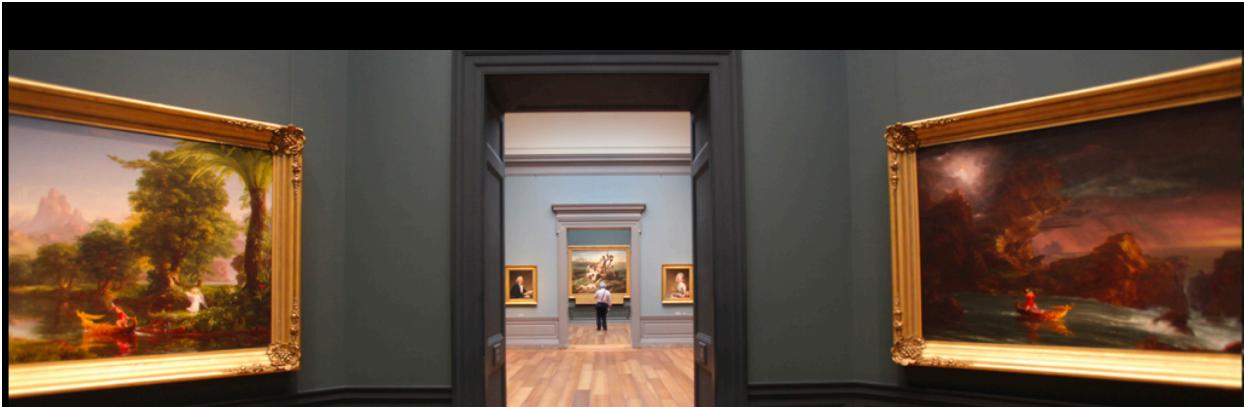


[Pause, click]

And, here are the relative engagement scores for Verrocchio and Leonardo.

We are definitely not showing this as a criticism, this a great exhibit and we we congratulate the NGA for mounting it. We hope this comparison might serve as food for thought for future conversations.

In the last few minutes, we've barely scratched the surface of the work done by the GMU team. We hope our findings and online dashboards will inform new and better conversations in the future.



"The National Gallery of Art needs to both reflect America and attract America"

Kaywin Feldman  
NGA Director

<http://bit.ly/GMU-NGA>

So, let us end on the slide we began with. For those who are interested in seeing even more of our findings we invite you to look at our online dashboards, the exact URL for these is on the bottom right of this slide.

We'd like to sincerely thank the staff of the NGA for all the hard work behind this datathon event and also sincerely thank all the people who have contributed comments and suggestions to our particular effort.

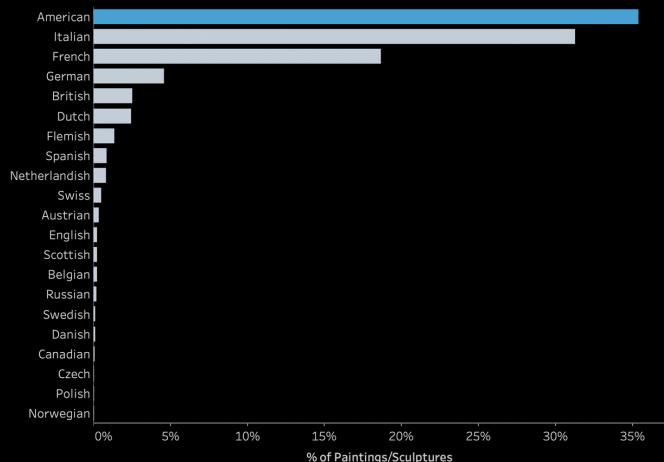
We look forward to your questions.

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Backup Slide:

## American Works Lead by Specific Nationality

Just Paintings and Sculptures



## American/Europeans Dominate NGA Collection

Just Paintings and Sculptures

