

# Unpacking popularity: volume, longevity, connectivity and globality

*Keywords:* Popularity, Collective memory, Fame,  
Network Science, Complex Systems.

## Extended Abstract

Measures of citations, fame, and popularity are used frequently as proxies for the quality of scientific and cultural work to study the dynamics of success, attention, and collective memory[1–3]. The advent of the internet has made it possible to estimate popularity online by measuring the overall quantity of attention through searches, video reproductions, and page views [4–6]. Yet, raw measures of attention often conflate multiple forms of popularity. To address this issue, we unpack popularity in a framework focused on four dimensions: (i) volume, (ii) longevity, (iii) connectivity, and (iv) globality. These dimensions are computed from the page views and demographic information on Wikipedia of the 100k most famous people collected by the Pantheon database in 2020 [7]. Volume refers to the overall quantity of attention measured by page views. Longevity captures the temporal extent of attention [3]. Connectivity captures how people are related to other people’s fame, measured by the number of times that a person was mentioned on other pages of Wikipedia [8]. Lastly, globality captures how attention varies across space, measured by the diversity and concentration of attention across languages [9, 10].

We find that globality, connectivity, and longevity explain 66%, 20%, and 3% of the variance in volume, respectively. Taken together, the globality, connectivity, and longevity dimensions explain 76% of volume, after controlling for individual characteristics such as occupation, gender, age and nationality. Figure1 illustrates our decomposition for four famous actors and soccer players. For instance, the actress Meryl Streep has the highest globality, connectivity, and volume, and Henry Irving has the highest longevity. Although Irving, an English stage actor born in 1838, is still famous in our sample, he is not as famous as Meryl Streep. For the soccer players, Ahmed El Shenawy is a young Egyptian player who has only played professionally in his country scores low on globality and longevity, but relatively high on volume indicating he is a local famous player. Thus, each dimension contributes to understanding the heterogeneities of popularity across occupations and generations. Our findings take one step further in mapping the historical geography of fame and provide a more nuanced and comprehensive framework for measuring popularity.

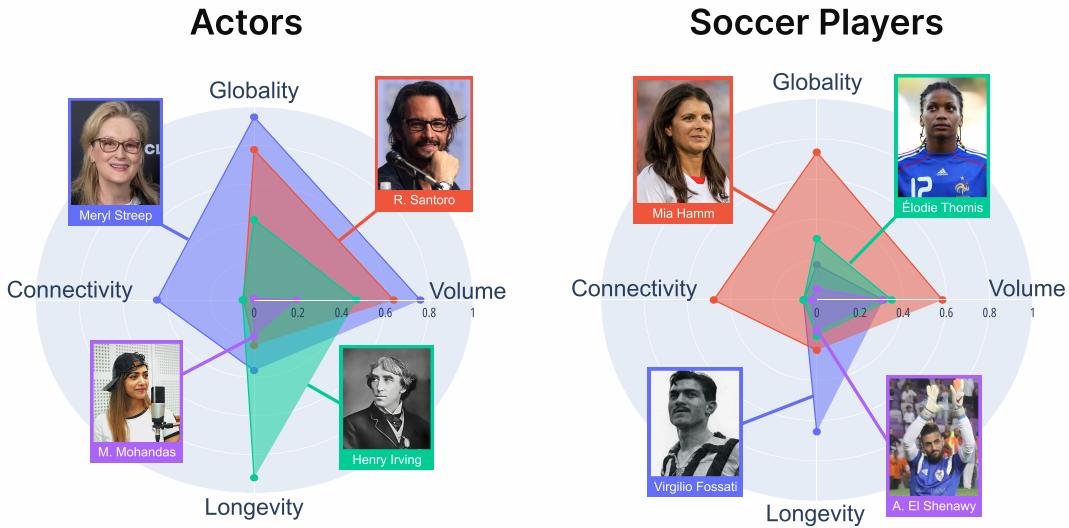


Figure 1: Dimensions of popularity: volume, longevity, connectivity and globality.

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