

*The 6th International Young Naturalists' Tournament*

**Problem № 11**  
**«Fame»**



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# The task

Some people in the modern World are considered ‘famous’ since they frequently appear in the news, TV, and social media. Suggest a quantitative parameter of such ‘fame’, and build lists of persons that are sorted according to this parameter.

# Hypothesis

Fame of a person is strongly related to his achievements and merits

## Aim of the study

Build lists of people sorted by the number of Google web-pages mentioning them

# Objectives

1. Study the literature;
2. Formulate hypothesis and aim of the study;
3. Build lists of the Nobel laureates in Literature from 1901 to 1949 sorted by the value of their fame;
4. Define how the fame correlates with the achievement;
5. Substantiate the conclusions.

# Theory

These days there is an easily assessable index to fame: the number of web pages (as found using Google) that mention the person in question (number of *Google hits*).



# Theory

**The Nobel Prize in Literature** is a Swedish literature prize that has been awarded annually, since 1901.

It is one of the five Nobel Prizes established by the will of Alfred Nobel in 1895 and it has become the world's most prestigious literature prize.

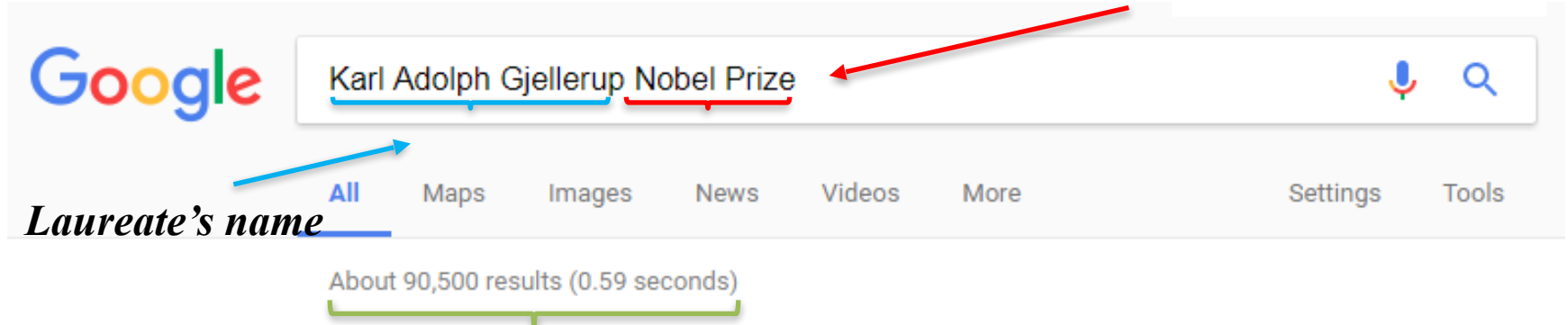


*Sully Prudhomme (1839–1907) was the first person to be awarded the Nobel Prize in Literature*

# Research Methods

We entered the laureate's name and „Noble Prize“ when searching

*„Nobel Prize“ – to remove namesakes*



The image shows a Google search interface. The search bar contains the text "Karl Adolph Gjellerup Nobel Prize". A blue underline is under "Karl Adolph Gjellerup" and a red underline is under "Nobel Prize". A blue arrow points from the text "Laureate's name" to the blue underlined part. A red arrow points from the text "„Nobel Prize“ – to remove namesakes" to the red underlined part. Below the search bar, the word "All" is underlined in blue, with a blue arrow pointing to it from the text "Laureate's name". Below the search bar, the text "About 90,500 results (0.59 seconds)" is shown, with a green bracket underneath it. Below the bracket is the text "Number of Google hits (December 1, 2017)".

*Laureate's name*

Number of Google hits (December 1, 2017)

It is worth noting that the number of Google hits changes rapidly with time.

# Experiment 1

**Purpose:** to build lists of the Nobel laureates in Literature (1901-1949) sorted by the value of their fame.

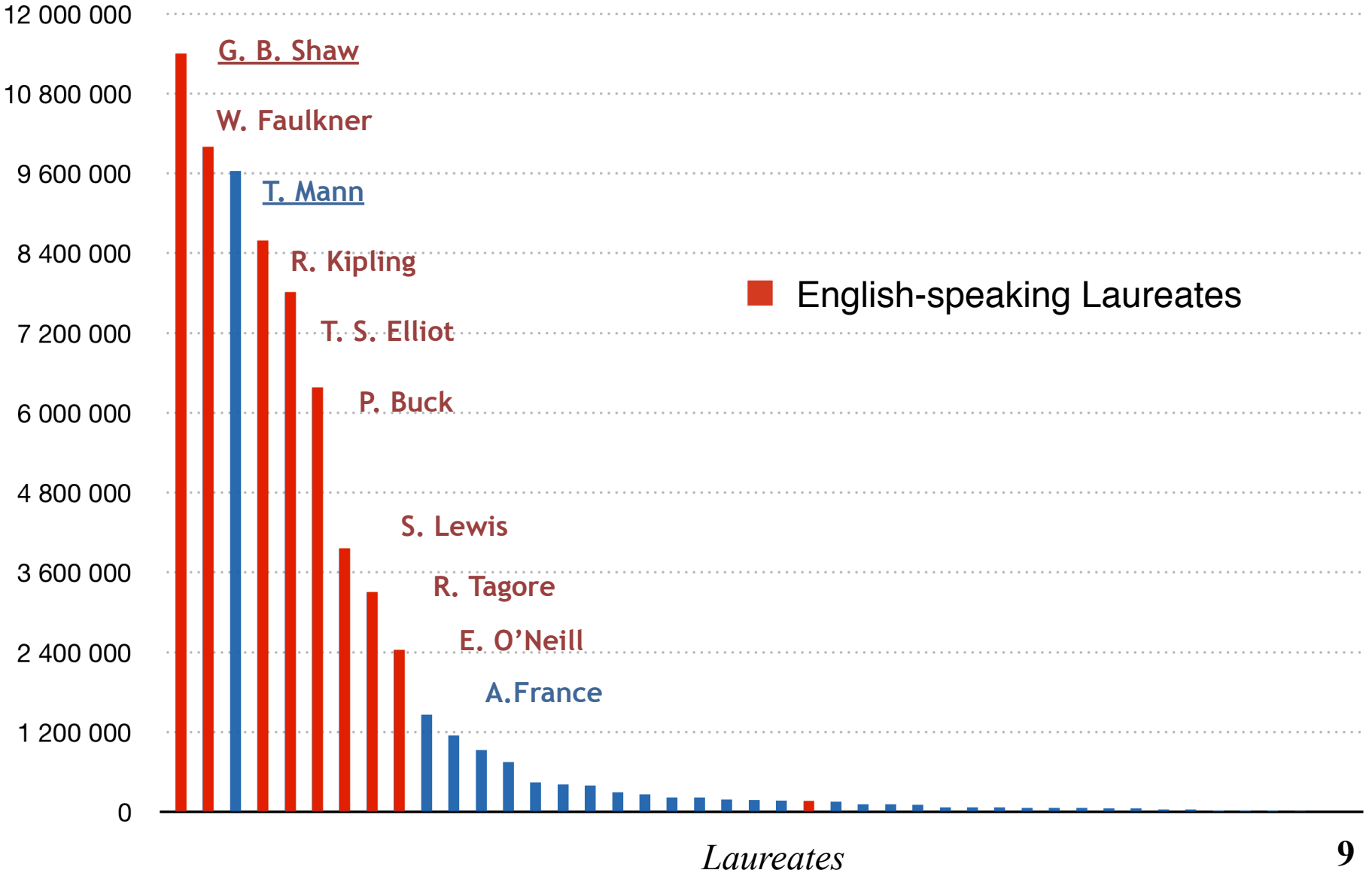
Year of award	Name	Fame (November 2017)	Year of award	Name	Fame (November 2017)
1925	George Bernard Shaw	11 400 000	1946	Hermann Hesse	929 000
1949	William Faulkner	10 000 000	1947	André Gide	748 000
1929	Thomas Mann	9 640 000	1927	Henri Bergson	441 000
1907	Rudyard Kipling	8 590 000	1937	Roger Martin du Gard	414 000
1948	T. S. Eliot	7 810 000	1945	Gabriela Mistral	399 000
1938	Pearl S. Buck	6 380 000	1934	Luigi Pirandello	298 000
1930	Sinclair Lewis	3 960 000	1915	Romain Rolland	264 000
1913	Rabindranath Tagore	3 300 000	1905	Henryk Sienkiewicz	220 000
1936	Eugene O'Neill	2 430 000	1909	Selma Lagerlöf	215 000
1923	William Butler Yeats	1 460 000	1911	Maurice Maeterlinck	187 000
1921	Anatole France	1 150 000	1904	Frédéric Mistral	177 000

*Table 1. The first 22 writers ranked by the number of Google hits*

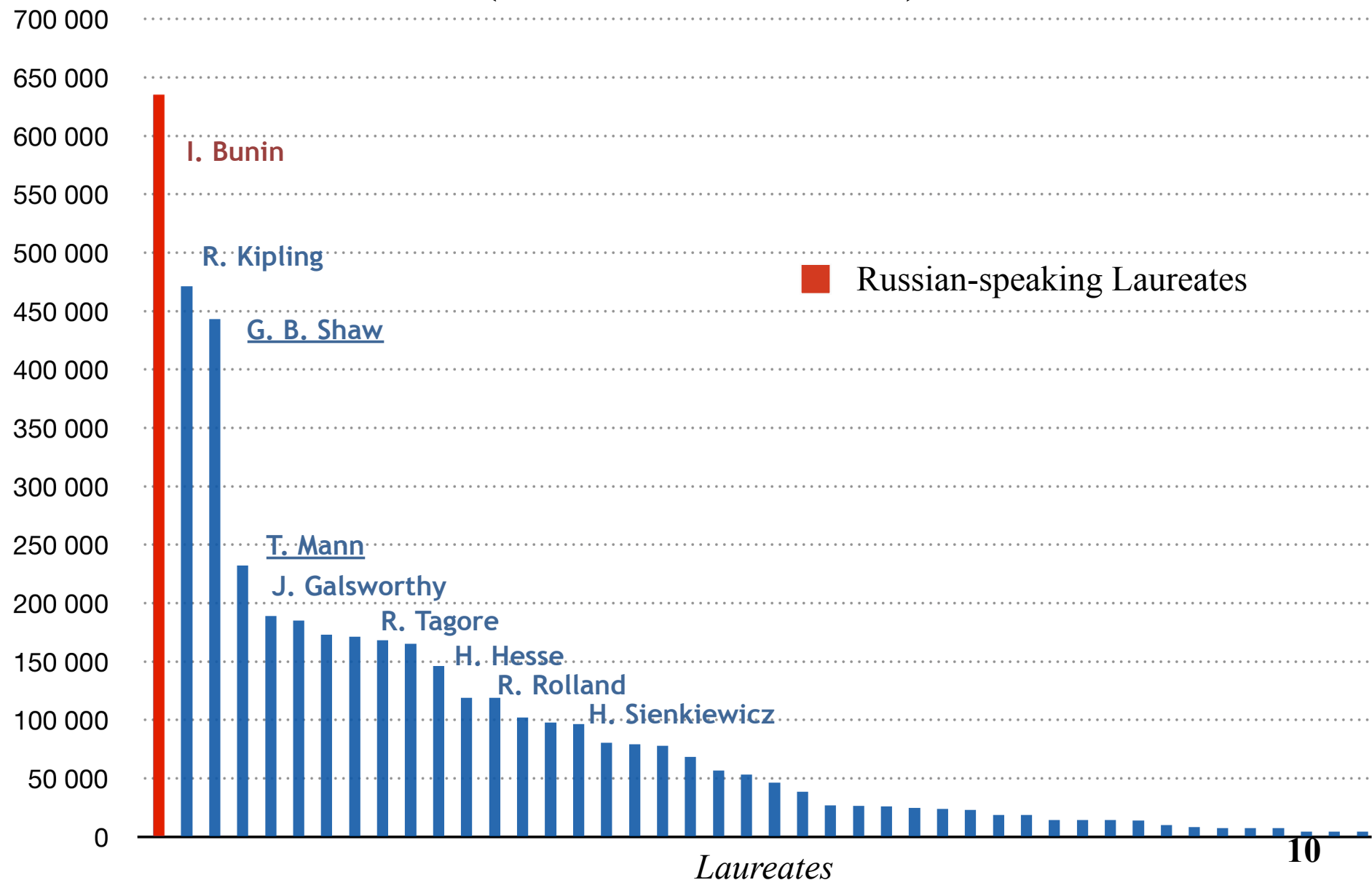


# Fame of Nobel Laureates in Literature 1901-1944

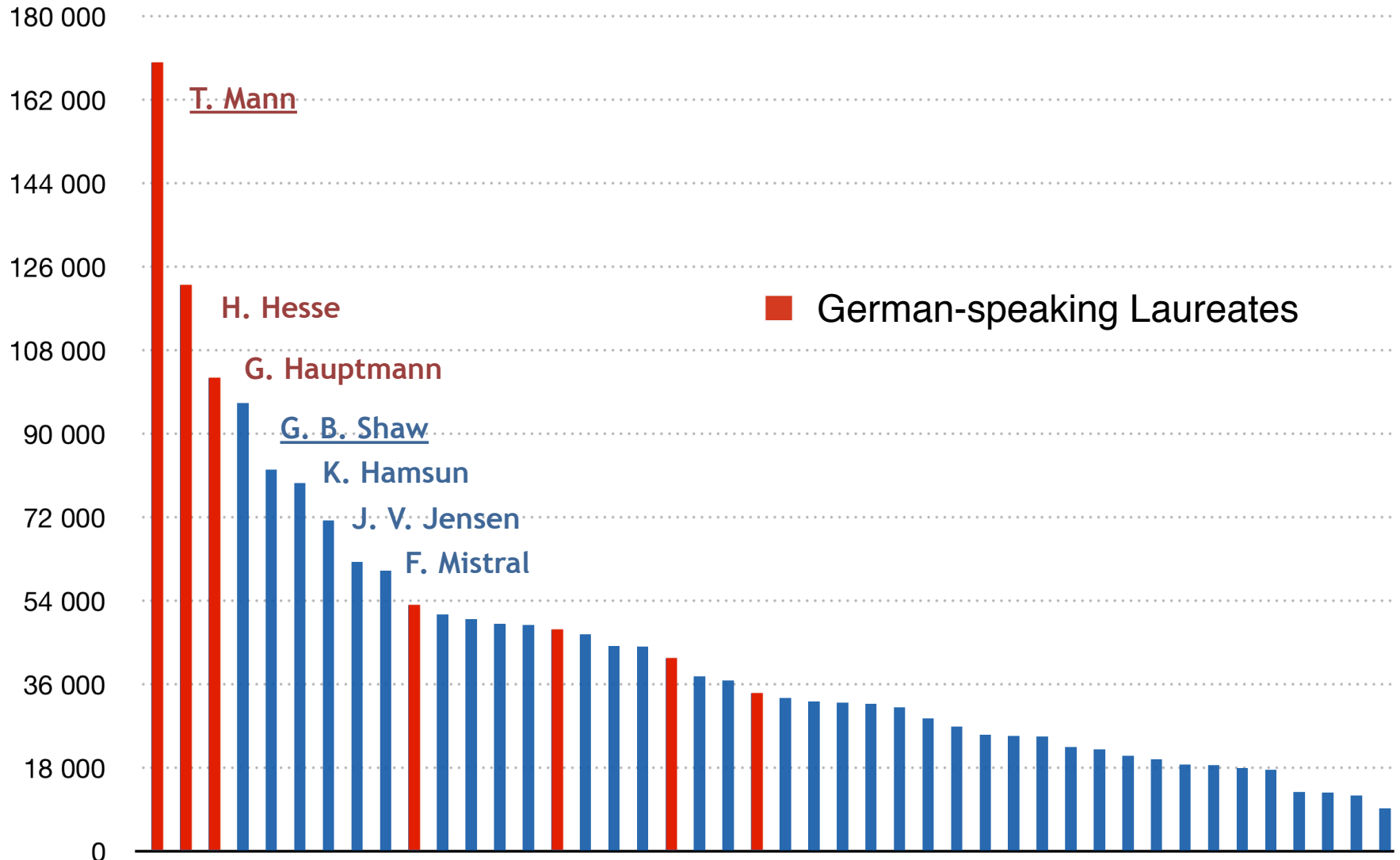
(search results in English)



# Fame of Nobel Laureates in Literature 1901-1944 (search results in Russian)

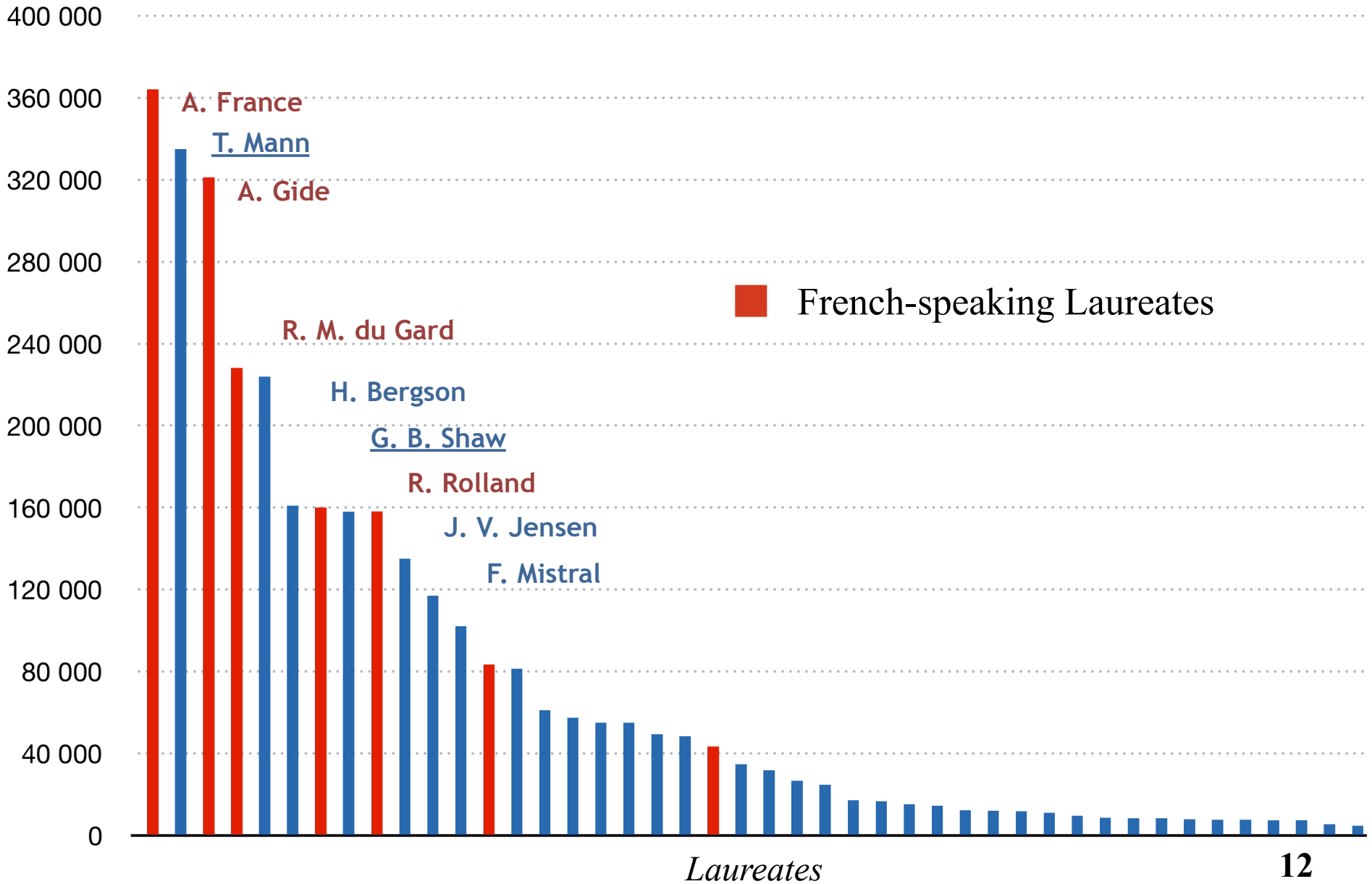


# Fame of Nobel Laureates in Literature 1901-1944 (search results in German)



*Laureates*

# Fame of Nobel Laureates in Literature 1901-1944 (search results in French)



# Experiment 2

**The Academy Awards**, also known as the **Oscars**, are a set of 24 awards for artistic and technical merit in the American film industry, given annually by the Academy of Motion Picture Arts and Sciences.

**The Academy Award for Best Actress** is given in honor of an actress who has delivered an outstanding performance in a leading role while working within the film industry.



# Experiment 2

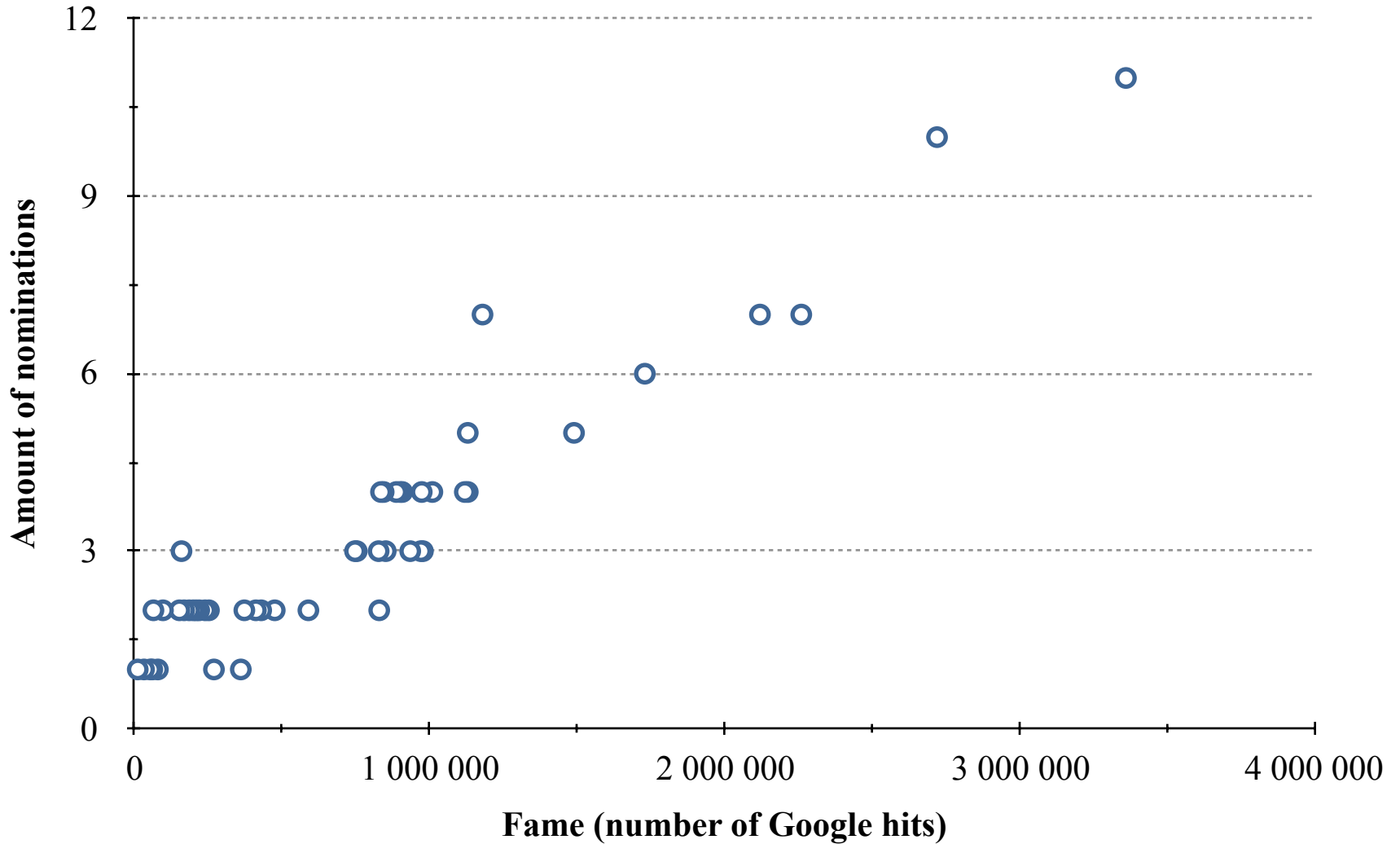
**Purpose:** to define how does the „achievements“ of the Oscar winners depend on their fame.

Nominations	Name	Fame (April 2018)	Nominations	Name	Fame (April 2018)
11	Katharine Hepburn	3 360 000	4	Greta Garbo	1 010 000
10	Bette Davis	2 720 000	4	Joanne Woodward	978 000
7	Deborah Kerr	2 260 000	4	Irene Dunn	974 000
7	Norma Shearer	2 120 000	4	Eleanor Parker	971 000
7	Audrey Hepburn	1 180 000	4	Vanessa Redgrave	935 000
7	Ingrid Bergman	2 130 000	4	Olivia de Havilland	908 000
6	Greer Garson	1 730 000	4	Janet Gaynor	900 000
5	Susan Hayward	1 490 000	3	Glenda Jackson	888 000
5	Shirley MaClaine	1 130 000	3	Gloria Swanson	852 000
4	Jane Wyman	1 130 000	3	Anne Bancroft	845 000
4	Barbara Stanwyck	1 120 000	3	Rosalind Russell	836 000

*Table 3. The first 22 laureates, ranked by the number of nominations for actress*

# Experiment 2

A scatter plot of the actress's fame versus the number of her nominations for Oscar



# Experiment 2

*calculation of correlation coefficient*

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$r = \frac{50 \cdot 189631200 - 160 \cdot 38162000}{\sqrt{(50 \cdot 724 - 160^2) \cdot (50 \cdot 53637946080000 - 38162000^2)}} \approx 0.9366$$

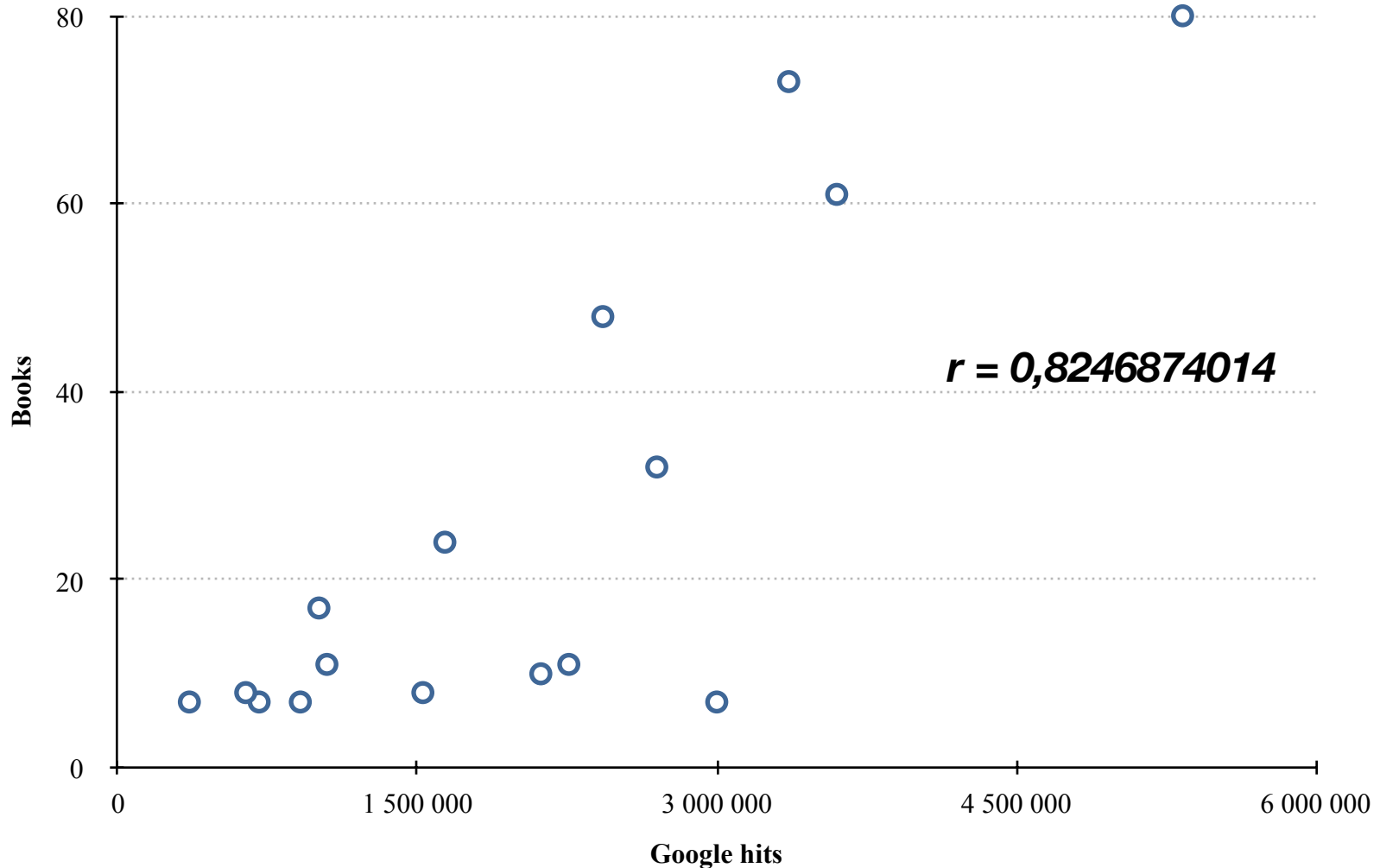
**Conclusion:** a high value of the coefficient means that the popularity of the actress strongly depends on the number of her nominations for Oscar.



# Experiment 3

**Purpose:** to define relation between different measures of fame.

A scatter plot of number of Google hits versus number of books



# Conclusions

1) Thus, we proved that there is a very strong relation between popularity of Oscar winners and number of their nominations and defined correlation between two different measures of fame

2) We've made lists of the Nobel laureates in Literature from 1901 to 1949 sorted by the value of their fame



# References

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