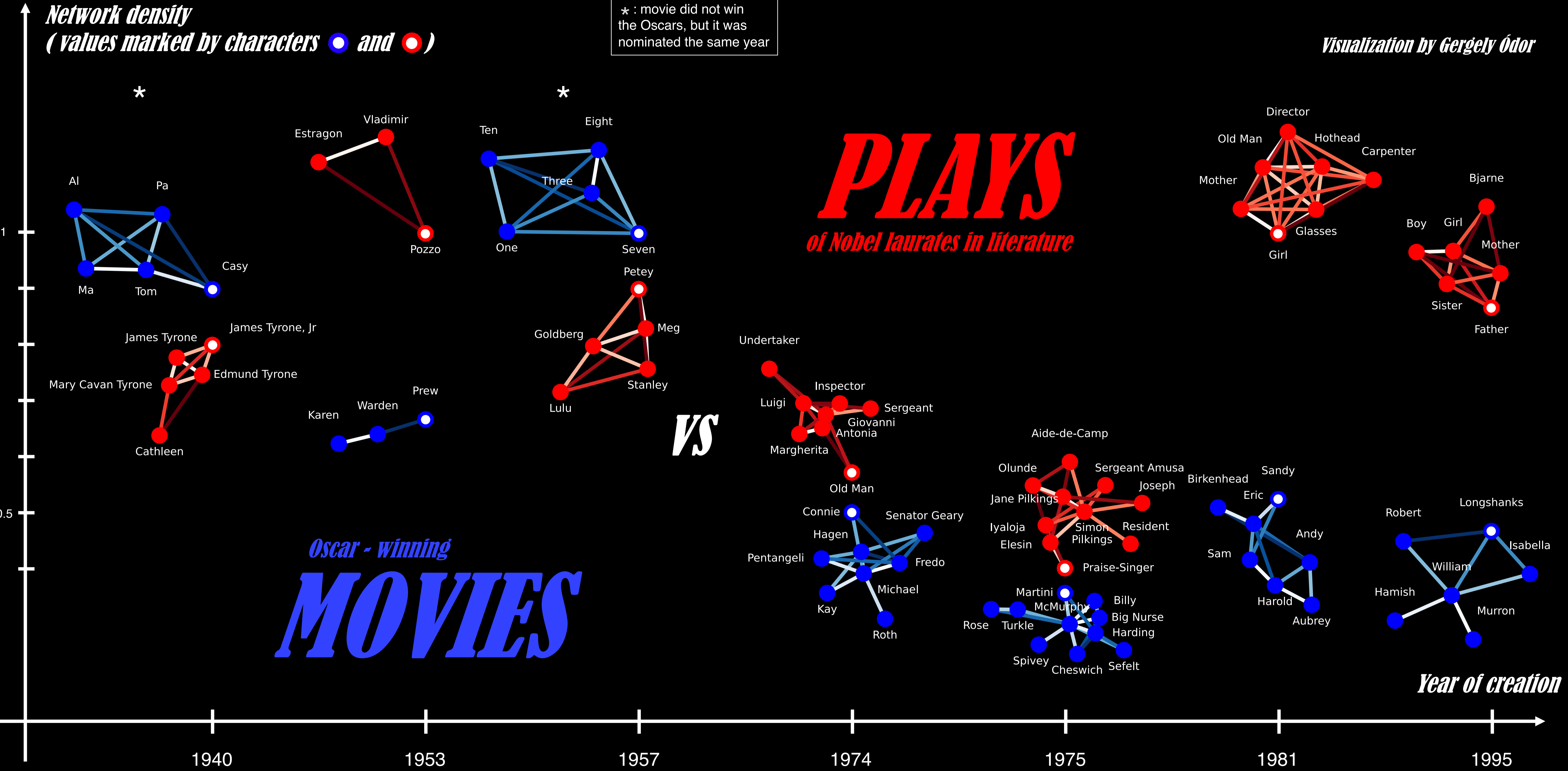**Long Day's Journey Into Night**
Eugene O'Neill
USA, 1936

Waiting for Godot
Samuel Beckett
Ireland, 1969

The Birthday Party
Harold Pinter
UK, 2005

Play title
Author
Country, Nobel year

Can't Pay? Won't Pay!
Dario Fo
Italy, 1997

Death and the King's Horseman
Wole Soyinka
Nigeria, 1986

The Bus Stop
Gao Xingjian
China/France, 2000

The Name
Jon Fosse
Norway, 2023

The Grapes of Wrath*
John Ford
Nunnally Johnson

From Here to Eternity
Fred Zinnemann
Daniel Taradash

12 Angry Men*
Reginald Rose
Sidney Lumet

Movie title
Director
Screenplay

The Godfather Part II
Francis Ford Coppola
Coppola & Mario Puzo

One Flew Over the Cuckoo's Nest
Milos Forman
L. Hauben and B. Goldman

Chariots of Fire
Hugh Hudson
Colin Welland

Braveheart
Mel Gibson
Randall Wallace

∗ : movie did not win the Oscars, but it was nominated the same year

Network density
(values marked by characters ● and ●)

Visualization by Gergely Ódor

PLAYS
of Nobel laurates in literature

VS

Oscar - winning
MOVIES

1
0.5

Year of creation

1940   1953   1957   1974   1975   1981   1995

Character labels:
Al, Pa, Ma, Tom, Casy, James Tyrone, James Tyrone, Jr, Mary Cavan Tyrone, Edmund Tyrone, Cathleen, Karen, Warden, Prew
Estragon, Vladimir, Pozzo
Ten, Eight, Three, One, Seven, Petey, Meg, Goldberg, Stanley, Lulu
Undertaker, Luigi, Inspector, Sergeant, Giovanni, Antonia, Margherita, Old Man
Connie, Senator Geary, Hagen, Fredo, Pentangeli, Michael, Kay, Roth
Aide-de-Camp, Olunde, Sergeant Amusa, Joseph, Jane Pilkings, Resident, Iyaloja, Simon Pilkings, Elesin, Praise-Singer
Martini, McMurphy, Billy, Big Nurse, Harding, Rose, Turkle, Spivey, Cheswich, Sefelt
Birkenhead, Sandy, Eric, Andy, Sam, Harold, Aubrey
Robert, Longshanks, Isabella, William, Hamish, Murron
Director, Old Man, Hothead, Carpenter, Mother, Glasses, Girl, Bjarne, Boy, Girl, Mother, Sister, Father

Methodology:

1. We selected all Nobel laureates in literature who received their prize for their plays, or are primarily identified as playwrights on Wikipedia (13 playwrights)

2. We selected the most well-known play of each of these 13 playwrights.

3. We paired the selected plays with the Oscar-winning movie from the same year. We dropped the plays written before 1927 (the first year the Oscars were awarded).

4. We searched for the full script of the remaining 7 play-movie pairs. Since the script of the Oscar-winning movies in 1940 and 1957 were not available, in these years we chose a non-winning but nominated movie with an available script (these movies are marked with a *).

5. By processing the script of each piece, we measured the number of interactions between every character pair, which we measured as the number of times they talk immediately after each other.

6. For each piece, we created the network of interactions between the characters, weighted by the number of interactions. We filtered out edges with weight smaller than 5, and we took the largest connected component.

7. In all instances, the plays had fewer characters than the movies. For a fair comparison, we took the subgraph spanned by the characters with the most lines, so that the resulting movie network has the same number of nodes as the corresponding play network.

8. The networks were visualized with the Fruchterman-Reingold force-directed algorithm. Brighter edge colors mean higher edge weights.

9. We computed the density of each network (ignoring the weights). We arranged the networks visualized in the previous step so that the location of the nodes with the highest/lowest y-coordinates (marked with a white circle) corresponds to the density value of the network.

10. We noticed that the only cases where the movie networks had a higher density value were the cases where the movie was only nominated for the Oscars, but did not win it.