

## Appendix 1: Supplementary Material

Descriptive statistics and Shapiro-Francia test for silent and sound Hollywood films, 1920 to 1933, from the Cinemetrics database: <http://www.cinemetrics.lv>

Title	Year	Median	Q <sub>n</sub>	Shapiro-Francia	P	Submitted by	Date submitted	Database ID
Just Pals	1920	2.8	1.5	0.9863	<0.01	Cid Vasconcelos	29/12/09	4828
Number Please	1920	3.2	2.2	0.9881	0.01	Fabrice Lyczba	17/07/07	792
Penalty, The	1920	4.1	2.9	0.9953	<0.01	Mohsen Nasrin	05/09/09	3681
Within Our Gates	1920	3.9	2.9	0.9926	<0.01	Cid Vasconcelos	02/09/09	3667
Bell Hop, The	1921	3.9	2.6	0.9943	0.40	Torey Liepa	14/06/07	779
I Do	1921	2.5	1.8	0.9776	<0.01	Mohsen Nasrin	22/08/09	3577
Kid, The	1921	4.4	3.3	0.9768	<0.01	Charles O'Brien	14/01/08	1070
Cops	1922	5.2	3.5	0.9923	0.38	John C	10/10/06	276
Down to the Sea in Ships	1922	4.4	2.9	0.9978	0.18	Fabrice Lyczba	15/09/08	1961
Grandma's Boy	1922	4.1	2.9	0.9966	0.17	Mohsen Nasrin	21/08/09	3565
Moran of the Lady Letty	1922	3.2	2.2	0.9911	<0.01	Fabrice Lyczba	15/09/08	1960
Paleface, The	1922	3.5	2.4	0.9832	<0.01	John C	23/05/06	120
Frozen Hearts	1923	3.6	2.4	0.9924	0.11	Mohsen Nasrin	02/09/09	3660
Mother's Joy	1923	4.1	2.9	0.9924	0.19	Mohsen Nasrin	26/09/09	3764
Oranges and Lemons	1923	3.9	3.3	0.9820	0.12	Mohsen Nasrin	02/09/09	3659
Our Hospitality	1923	5.3	3.3	0.9916	<0.01	Charles O'Brien	28/01/08	1092
Roughest Africa	1923	2.6	1.8	0.9752	<0.01	Mohsen Nasrin	02/09/09	3661
Safety Last	1923	3.4	2.4	0.9860	<0.01	Charles O'Brien	22/01/08	1080
Soliers, The	1923	3.9	2.9	0.9842	<0.01	Mohsen Nasrin	21/09/09	3752
White Rose, The	1923	5.7	3.3	0.9966	0.02	Yuri Tsivian	10/10/07	902
Marriage Circle, The	1924	3.7	2.2	0.9724	<0.01	Mohsen Nasrin	19/04/09	3039
Navigator, The	1924	4.9	3.5	0.9943	0.06	John C	26/06/06	162
Near Dublin	1924	3.0	2.0	0.9881	0.01	Mohsen Nasrin	17/10/09	3870
Postage Due	1924	3.5	2.4	0.9805	<0.01	Mohsen Nasrin	24/12/09	4805

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Sherlock Jr	1924	5.1	3.5	0.9916	0.05	Charley Leary	05/02/07	479
Short Kilts	1924	3.5	2.0	0.9654	<0.01	Mohsen Nasrin	26/09/09	3765
West of Hot Dog	1924	3.5	2.2	0.9786	<0.01	Mohsen Nasrin	24/12/09	4807
Zeb vs. Paprika	1924	3.9	2.7	0.9836	<0.01	Mohsen Nasrin	17/10/09	3871
Dr Pyckle and Mr Pryde	1925	4.7	3.3	0.9643	<0.01	Mohsen Nasrin	24/12/09	4801
Freshman, The	1925	3.4	2.2	0.9939	<0.01	Charles O'Brien	21/02/08	1149
Gold Rush, The	1925	4.3	3.1	0.9917	<0.01	Charley Leary	03/02/07	476
Half a Man	1925	5.3	4.0	0.9602	<0.01	Mohsen Nasrin	24/12/09	4802
Navy Blue Days	1925	5.1	3.9	0.9839	0.10	Mohsen Nasrin	24/12/09	4804
Phantom of the Opera, The	1925	4.1	2.7	0.9883	<0.01	John C	24/06/06	161
Sleuth, The	1925	7.3	5.6	0.9860	0.23	Mohsen Nasrin	24/12/09	4808
Snow Hawk, The	1925	3.9	2.6	0.9715	<0.01	Mohsen Nasrin	24/12/09	4806
Super-Hooper-Dyne-Lizzies	1925	3.7	1.8	0.9877	0.03	Hilde D'haeyere	03/04/10	5075
Mum's the Word	1926	3.4	2.2	0.9695	<0.01	Mohsen Nasrin	04/01/10	4844
Sorrows of Satan, The	1926	5.7	3.3	0.9977	0.24	Yuri Tsivian	18/10/08	2121
Cat and the Canary, The	1927	3.2	2.0	0.9841	<0.01	Charles O'Brien	12/10/09	3835
General, The	1927	5.4	3.3	0.9857	<0.01	Charles O'Brien	01/02/08	1099
It	1927	3.1	2.0	N/A	N/A	Barry Salt	18/08/10	5866
Seventh Heaven	1927	4.4	2.4	N/A	N/A	Barry Salt	18/08/10	5867
Show, The	1927	3.7	2.2	0.9963	0.02	Torey Liepa	30/01/07	469
Three's a Crowd	1927	4.1	3.1	0.9896	<0.01	Charles O'Brien	04/10/09	3796
Two Arabian Knights	1927	3.4	2.2	0.9675	<0.01	Cid Vasconcelos	05/11/09	4276
Chaser, The	1928	3.1	2.2	0.9821	<0.01	Charles O'Brien	04/10/09	3795
Docks of New York, The	1928	4.5	2.9	0.9825	<0.01	Cid Vasconcelos	01/01/10	4835
Last Command, The	1928	4.3	2.9	0.9872	<0.01	Charles O'Brien	10/12/07	990
Laugh, Clown, Laugh	1928	5.0	3.3	0.9959	0.08	Charles O'Brien	17/12/07	1011
Speedy	1928	3.1	2.0	0.9851	<0.01	Charles O'Brien	10/12/07	991

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Steamboat Bill, Jr	1928	4.8	2.9	0.9680	<0.01	Charles O'Brien	19/12/07	1012
Student Prince in Old Heidelberg, The	1928	3.6	2.4	0.9601	<0.01	Charles O'Brien	27/09/09	3769
That Certain Thing	1928	5.2	3.1	0.9906	<0.01	Charles O'Brien	25/04/10	5319
Applause	1929	5.6	4.9	0.9664	<0.01	Kira Vorobiyova	06/06/09	3223
Battle of Paris, The	1929	7.5	6.0	0.9951	0.28	Charles O'Brien	07/04/07	656
Charming Sinners	1929	6.5	5.3	0.9950	0.32	Charles O'Brien	20/11/06	374
Coquette	1929	8.0	6.6	0.9889	0.02	Charles O'Brien	02/04/07	646
Desert Song, The	1929	6.2	4.6	0.9855	<0.01	Charles O'Brien	21/11/06	378
Dynamite	1929	7.5	6.0	0.9862	<0.01	Tristan Mentz	17/10/09	3875
Eternal Love	1929	3.8	2.7	0.9567	<0.01	Charles O'Brien	12/05/10	5425
Happy Days	1929	12.5	10.3	0.9895	0.09	Charles O'Brien	24/11/09	4507
Lady Lies, The	1929	6.2	4.2	0.9740	<0.01	Charles O'Brien	08/11/06	337
Love Parade, The	1929	6.9	5.8	0.9787	<0.01	Charles O'Brien	28/03/07	611
Love Trap, The	1929	5.0	3.3	0.9780	<0.01	Armin Jaeger	23/02/10	5038
Mexicali Rose	1929	5.3	3.8	0.9943	0.07	Charles O'Brien	12/03/07	550
New York Nights	1929	6.9	5.1	0.9946	0.21	Charles O'Brien	08/12/07	985
On with the Show	1929	5.4	3.8	0.9731	<0.01	Charles O'Brien	20/03/10	5113
Rio Rita	1929	8.8	7.5	0.9909	0.03	Charles O'Brien	13/04/07	679
Salute	1929	8.9	6.8	0.9813	<0.01	Jonah Horwitz	18/05/08	1648
Studio Murder Mystery, The	1929	4.3	3.5	0.9861	<0.01	Charles O'Brien	17/04/07	683
Tanned Legs	1929	5.4	4.4	0.9809	<0.01	Charles O'Brien	15/03/07	562
Their Own Desire	1929	9.0	7.7	0.9662	<0.01	Aaron Granat	12/10/09	3832
Vagabond Lover, The	1929	8.3	6.1	0.9905	0.05	Kira Vorobiyova	11/08/09	3500
Abraham Lincoln	1930	8.6	5.8	0.9949	0.13	Charles O'Brien	19/07/08	1892
All Quiet on the Western Front	1930	4.0	4.4	N/A	N/A	Barry Salt	29/03/07	619
Animal Crackers	1930	13.0	9.7	0.9948	0.39	Charles O'Brien	02/04/07	643
Be Yourself	1930	7.8	5.5	0.9878	<0.01	Charles O'Brien	23/10/09	3968

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Big Trail, The	1930	7.4	5.3	0.9971	0.23	Charles O'Brien	24/04/10	5314
Bright Lights	1930	5.5	3.8	0.9854	<0.01	Tristan Mentz	13/11/09	4393
Dawn Patrol, The (Flight Commander)	1930	5.5	3.5	0.9923	<0.01	Tristan Mentz	11/12/09	4714
Devil's Holiday, The	1930	10.0	8.5	0.9942	0.33	Charles O'Brien	29/11/06	389
Divorcee	1930	6.2	4.8	0.9851	<0.01	Charles O'Brien	28/09/09	3772
Doorway to Hell, The	1930	5.7	4.0	0.9908	<0.01	Tristan Mentz	09/12/09	4696
Feet First	1930	5.9	4.7	0.9894	<0.01	Charles O'Brien	08/04/07	659
Follow Thru	1930	7.0	5.3	0.9962	0.22	Charles O'Brien	09/04/07	662
Going Wild	1930	6.1	4.2	0.9862	<0.01	Tristan Mentz	10/12/09	4701
Hell's Heroes	1930	5.3	3.7	0.9830	<0.01	Armin Jaeger	12/02/10	5032
Hook, Line, and Sinkers	1930	5.5	4.0	0.9922	<0.01	Charles O'Brien	30/04/09	3078
Let Us Be Gay	1930	5.6	5.1	0.9799	<0.01	Andrea Comiskey	15/10/09	3858
Madam Satan	1930	5.6	4.4	0.9905	<0.01	Charles O'Brien	23/03/07	587
Maybe It's Love	1930	4.7	3.3	0.9821	<0.01	Tristan Mentz	17/11/09	4412
Notorious Affair, A	1930	5.2	3.1	0.9921	<0.01	Tristan Mentz	10/12/09	4703
Office Wife, The	1930	4.9	3.5	0.9887	<0.01	Tristan Mentz	09/12/09	4697
Playboy of Paris, The	1930	4.9	4.4	0.9878	<0.01	Charles O'Brien	14/05/08	1638
Sea Legs	1930	7.5	6.4	0.9881	0.02	Charles O'Brien	07/11/06	331
Sins of the Children, The	1930	9.1	7.3	0.9836	<0.01	Kira Vorobiyova	13/06/09	3240
Soldier's Plaything, A	1930	5.0	3.8	0.9879	<0.01	Tristan Mentz	20/11/09	4453
Song o' My Heart	1930	12.4	9.2	0.9673	<0.01	Charles O'Brien	06/11/06	329
Sweet Kitty Bellairs	1930	5.4	3.8	0.9837	<0.01	Tristan Mentz	20/11/09	4452
A House Divided	1931	5.0	3.5	0.9735	<0.01	Armin Jaeger	23/02/10	5039
Arrowsmith	1931	8.6	6.4	0.9889	<0.01	Jonah Horwitz	01/06/08	1725
Bad Company	1931	4.8	4.4	0.9965	0.30	Charles O'Brien	12/07/08	1873
Cheat, The	1931	6.1	4.6	0.9766	<0.01	Charles O'Brien	12/10/09	3834
Free Soul, A	1931	6.6	6.0	0.9748	<0.01	Charles O'Brien	07/08/08	1922

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Front Page, The	1931	10.0	8.8	0.9633	<0.01	Barry Salt	29/03/07	618
Lady Refuses, The	1931	5.4	3.7	0.9773	<0.01	Charles O'Brien	29/05/08	1717
Little Caesar	1931	7.1	5.3	0.9931	0.03	Charles O'Brien	22/05/07	741
Lonely Wives	1931	5.0	3.8	0.9735	<0.01	Charles O'Brien	28/05/08	1713
Mata Hari	1931	7.3	5.5	0.9926	0.01	Charles O'Brien	03/07/06	174
Miracle Woman, The	1931	6.0	5.1	0.9858	<0.01	Niels Beirnaert	29/07/09	3434
Palmy Days	1931	5.9	4.0	0.9927	<0.01	Charles O'Brien	11/11/06	347
Parlour, Bedroom & Bath	1931	4.9	4.2	0.9789	<0.01	Charles O'Brien	14/08/06	230
Politics	1931	6.2	4.7	0.9933	0.04	Amanda McQueen	20/10/09	3890
Seas Beneath	1931	7.1	5.1	0.9810	<0.01	Jonah Horwitz	22/05/08	1673
Smart Money	1931	5.8	4.4	0.9857	<0.01	Tristan Mentz	07/11/09	4299
Stolen Heaven	1931	11.7	9.0	0.9934	0.35	Charles O'Brien	10/04/07	666
Street Scene	1931	6.4	5.1	0.9906	0.01	Charles O'Brien	28/05/08	1714
Struggle, The	1931	9.3	7.0	0.9970	0.74	Charles O'Brien	04/12/09	4659
Svengali	1931	5.1	3.3	0.9854	<0.01	Charles O'Brien	21/05/07	737
Waterloo Bridge	1931	13.2	12.4	0.9934	0.42	Charles O'Brien	08/08/08	1923
20,000 Years in Sing Sing	1932	4.7	3.5	0.9978	0.43	Barry Salt	29/03/07	630
American Madness	1932	5.7	4.6	0.9901	<0.01	Niels Beirnaert	15/07/09	3335
Bird of Paradise	1932	4.6	3.1	0.9786	<0.01	Charles O'Brien	02/06/08	1730
Broken Lullaby	1932	4.5	4.2	0.9773	<0.01	Charles O'Brien	11/12/06	420
Doctor X	1932	4.1	3.5	0.9933	<0.01	Mohsen Nasrin	01/11/09	4214
Freaks	1932	6.0	4.4	0.9853	<0.01	Mohsen Nasrin	17/09/09	3730
Grand Hotel	1932	10.4	8.8	0.9939	0.12	Charles O'Brien	17/07/08	1885
Greeks Had a Name for Them, The	1932	6.4	4.6	0.9872	<0.01	Charles O'Brien	03/04/08	1578
Love Me Tonight	1932	5.2	4.2	0.9858	<0.01	Charles O'Brien	07/05/08	1608
Melodía de arrabal	1932	6.9	5.5	0.9950	0.16	Charles O'Brien	01/05/08	1584
Million Dollar Legs	1932	3.3	2.4	0.9922	<0.01	Charles O'Brien	16/10/08	2102

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Movie Crazy	1932	5.5	4.6	0.9715	<0.01	Charles O'Brien	18/07/10	5726
Mr. Robinson Crusoe	1932	3.9	2.4	0.9744	<0.01	Charles O'Brien	18/07/08	1891
Mummy, The	1932	5.5	4.7	0.9894	<0.01	Charles O'Brien	23/07/10	5758
Night World	1932	6.1	4.9	0.9849	<0.01	Charles O'Brien	25/04/10	5316
Rain	1932	5.1	5.0	0.9542	<0.01	Charles O'Brien	15/07/08	1882
Rasputin and the Empress	1932	5.4	4.2	0.9859	<0.01	Yuri Tsivian	30/01/09	2641
Red Dust	1932	5.6	4.7	0.9853	<0.01	Olivier Van den Broeck	17/07/09	3341
Red Headed Woman	1932	6.0	4.8	0.9733	<0.01	Charles O'Brien	21/04/10	5299
This is the Night	1932	5.0	4.2	0.9869	<0.01	Charles O'Brien	23/03/07	586
Tom Brown of Culver	1932	5.9	4.4	0.9976	0.57	Armin Jaeger	24/02/10	5044
Trouble in Paradise	1932	4.3	4.0	0.9644	<0.01	Charles O'Brien	21/03/07	580
White Zombie	1932	4.7	3.3	0.9800	<0.01	Mohsen Nasrin	30/11/09	4627
Bedtime Story, A	1933	5.1	3.3	0.9894	<0.01	Charles O'Brien	25/04/08	1561
Bombshell	1933	6.5	6.0	0.9921	0.01	Olivier Van den Broeck	16/07/09	3338
Child of Manhattan	1933	11.4	9.0	0.9903	0.08	Charles O'Brien	14/11/09	4397
College Humor	1933	8.4	7.3	0.9947	0.27	Charles O'Brien	14/03/07	555
Counsellor at Law	1933	8.2	6.9	0.9923	0.05	Armin Jaeger	03/03/10	5064
Diplomaniacs	1933	6.2	5.1	0.9843	<0.01	Charles O'Brien	01/07/08	1837
Duck Soup	1933	4.2	3.1	0.9932	<0.01	Charles O'Brien	13/05/05	1637
Female	1933	4.4	3.3	0.9896	<0.01	Charles O'Brien	05/09/09	3687
Forty Second Street	1933	6.2	4.4	0.9941	0.01	Charles O'Brien	29/04/08	1573
His Private Secretary	1933	6.7	5.5	0.9886	0.01	Charles O'Brien	02/05/10	5344
I'm No Angel	1933	7.1	5.7	0.9837	<0.01	Charles O'Brien	14/07/08	1879
My Weakness	1933	6.3	4.6	0.9917	0.01	Charles O'Brien	02/03/10	5114
Mystery of the Wax Museum	1933	4.1	3.1	0.9975	0.27	Mohsen Nasrin	07/12/09	4682
Rafter Romance	1933	11.5	9.2	0.9922	0.18	Charles O'Brien	09/05/07	719
Son of Kong	1933	5.9	4.4	0.9833	<0.01	Kira Vorobiyova	17/08/09	3543
Torch Singer	1933	6.8	5.1	0.9939	0.07	Charles O'Brien	04/12/09	4664