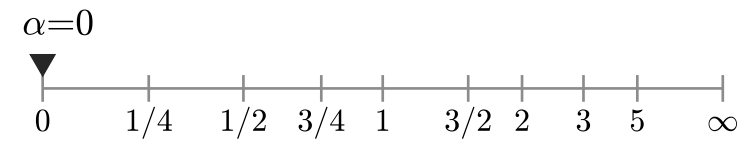


Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

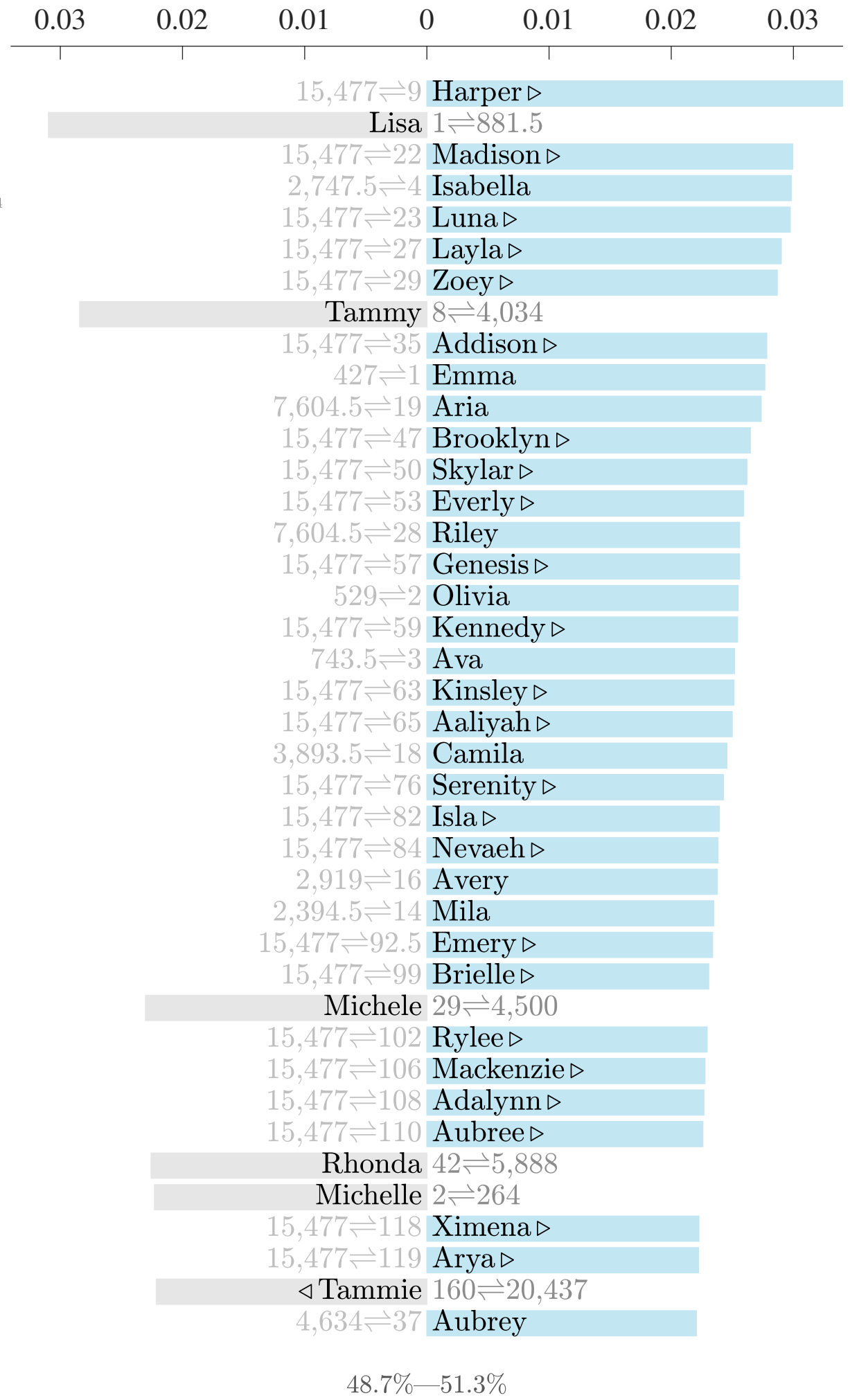
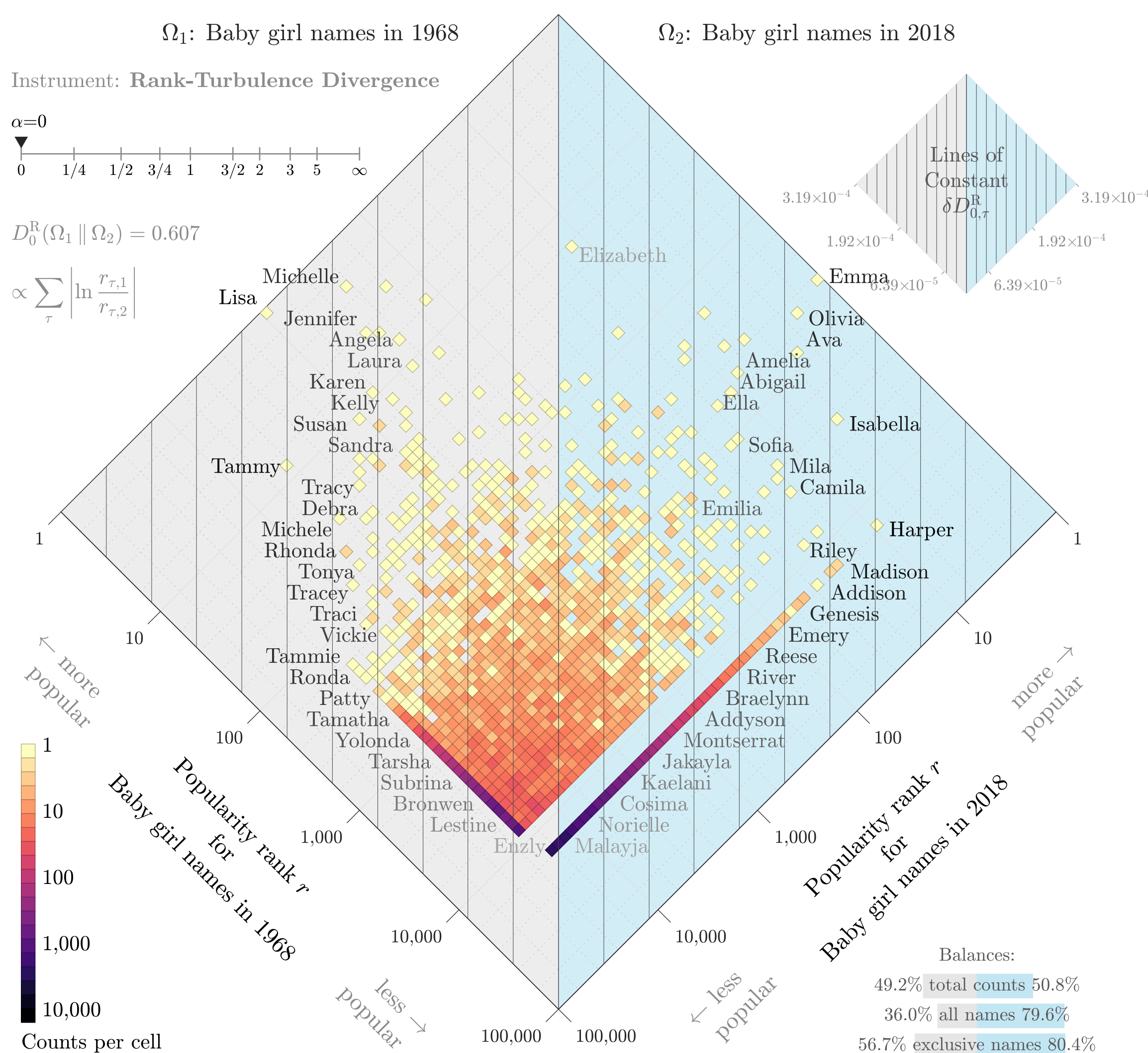
Divergence contribution $\delta D_{0,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$D_0^R(\Omega_1 \parallel \Omega_2) = 0.607$

$\propto \sum_{\tau} \left| \ln \frac{r_{\tau,1}}{r_{\tau,2}} \right|$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

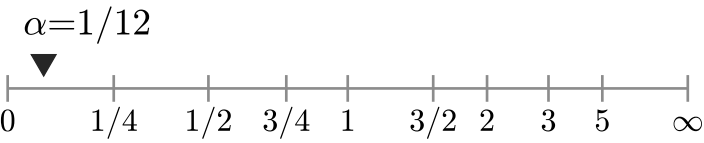
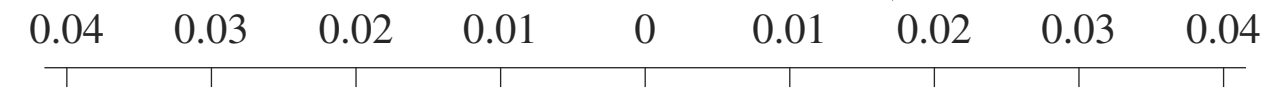
48.7%—51.3%

Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

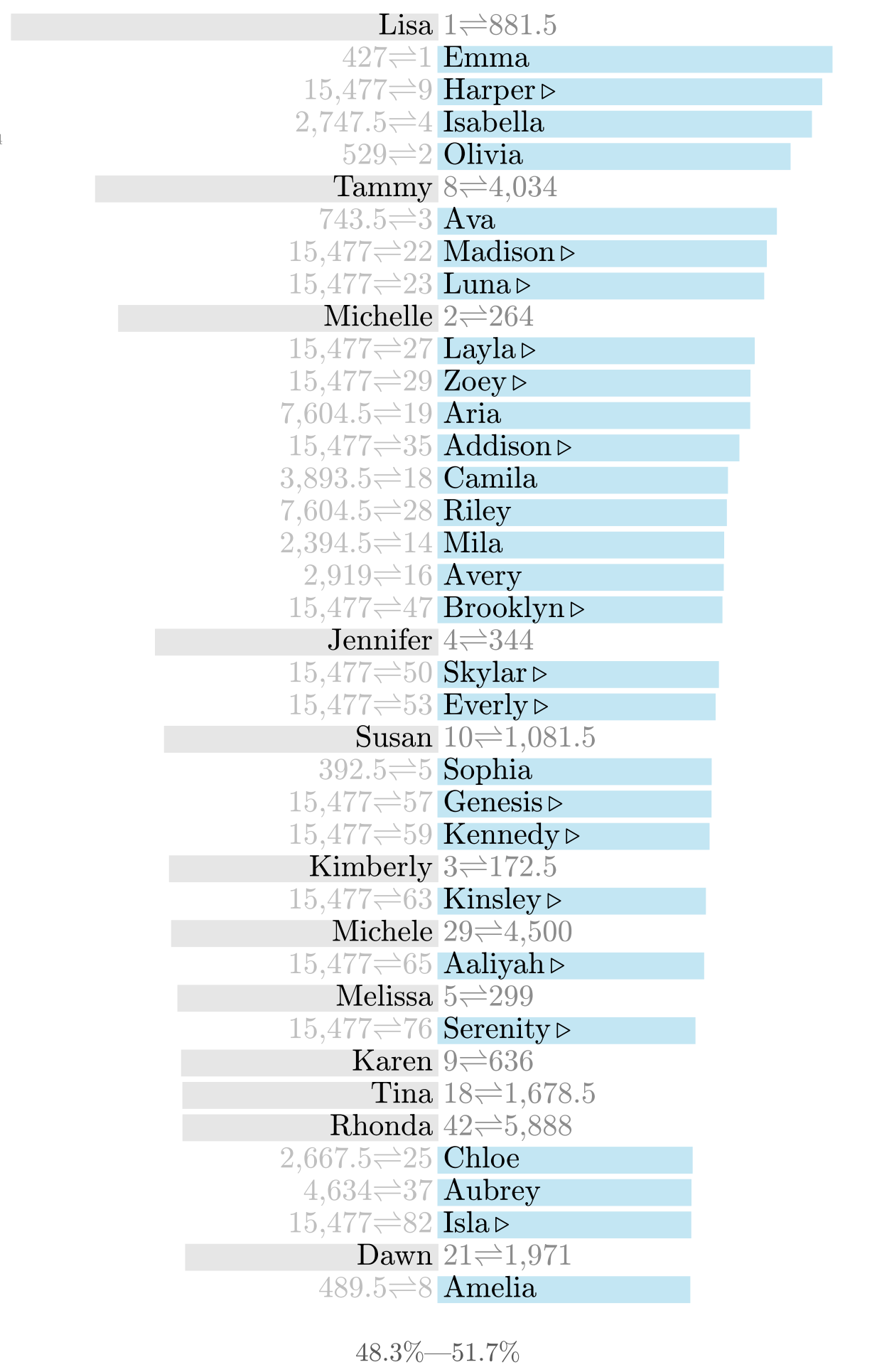
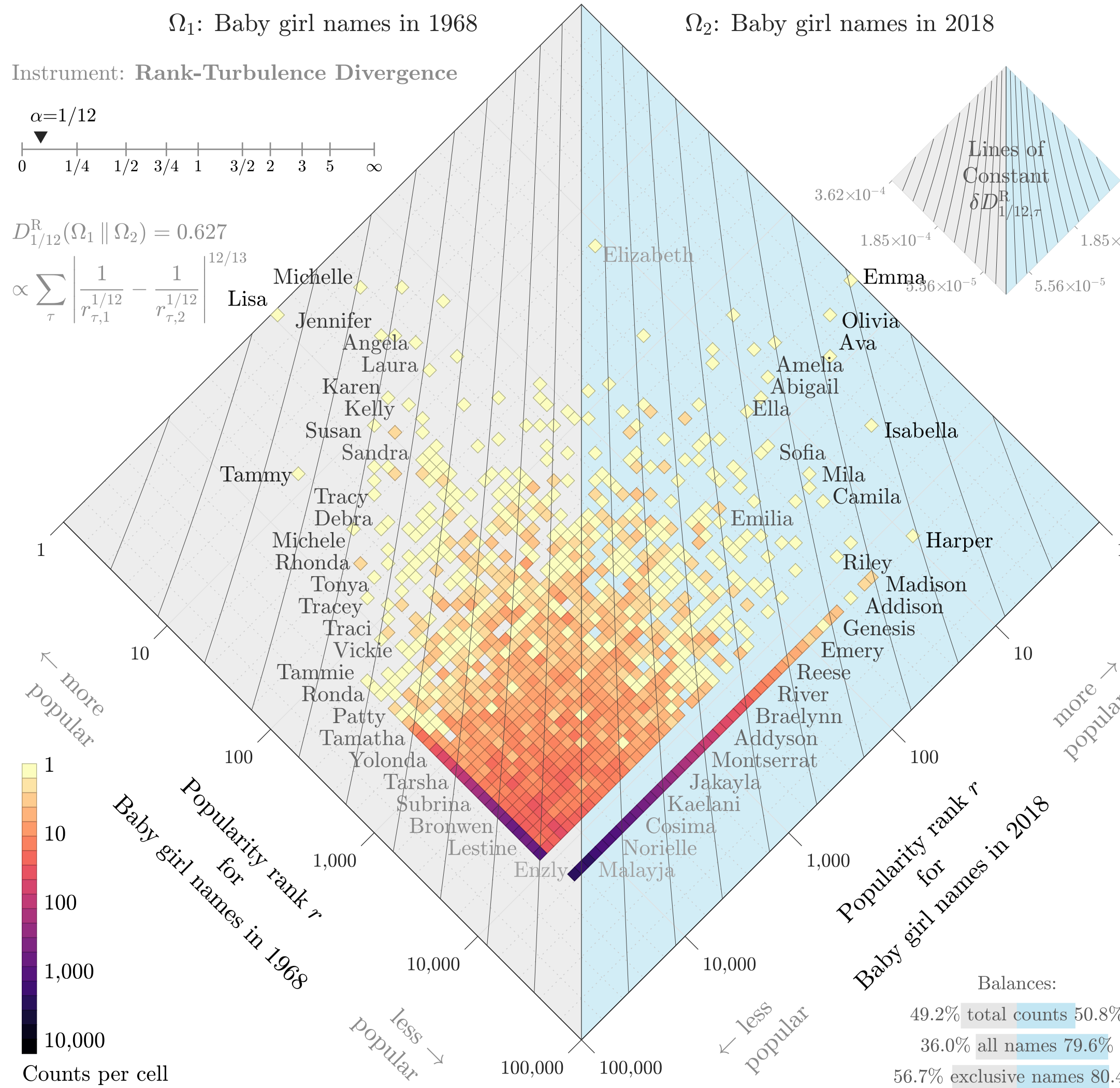
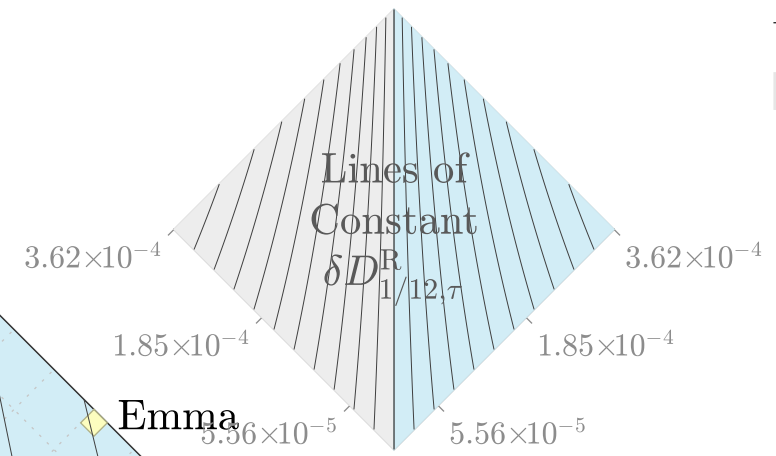
Divergence contribution $\delta D_{1/12,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$$D_{1/12}^R(\Omega_1 \parallel \Omega_2) = 0.627$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/12}} - \frac{1}{r_{\tau,2}^{1/12}} \right|^{12/13}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

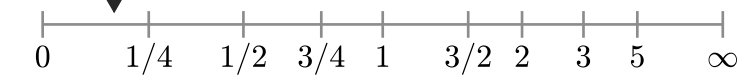
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{1/6,\tau}^R$ (%)

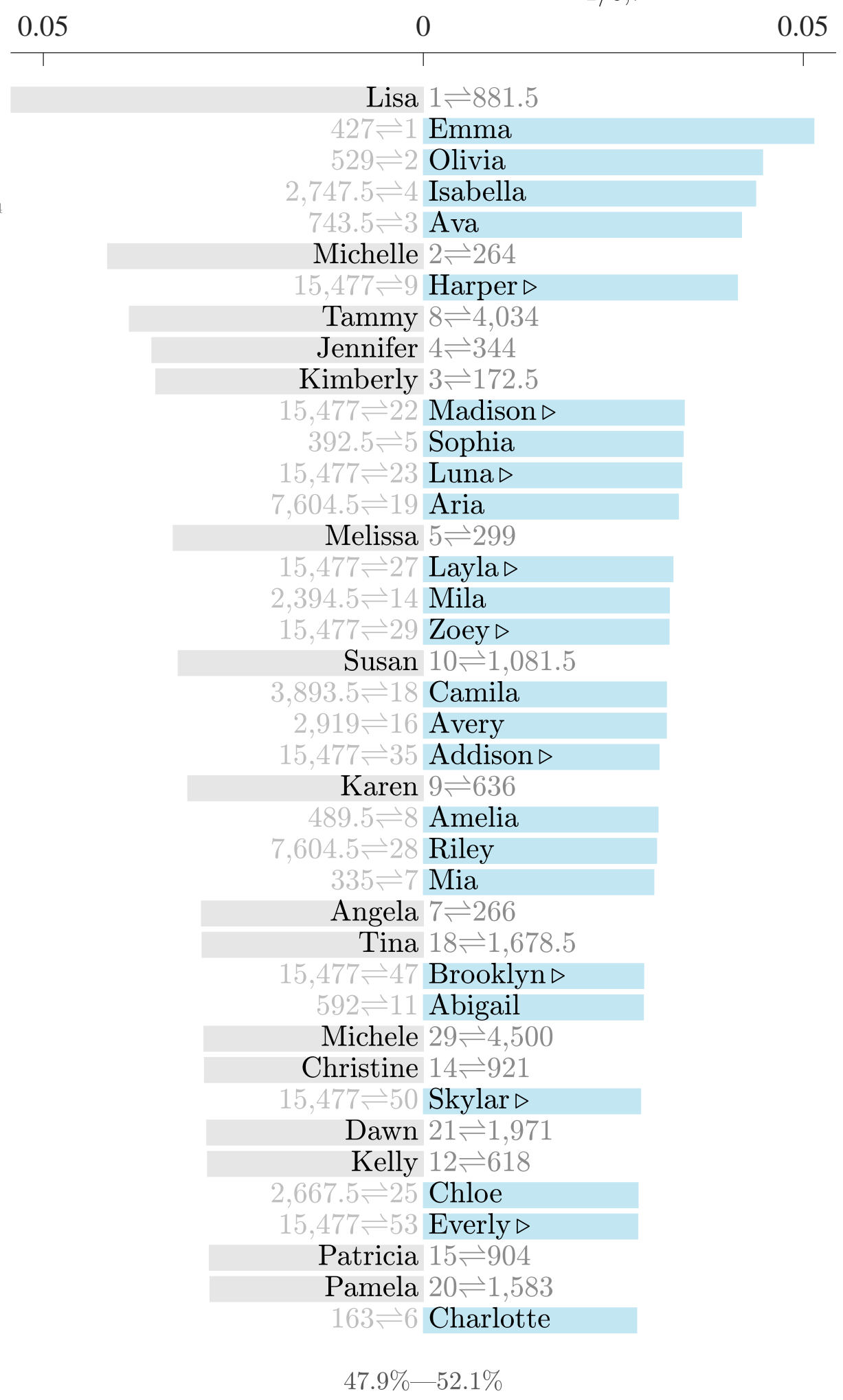
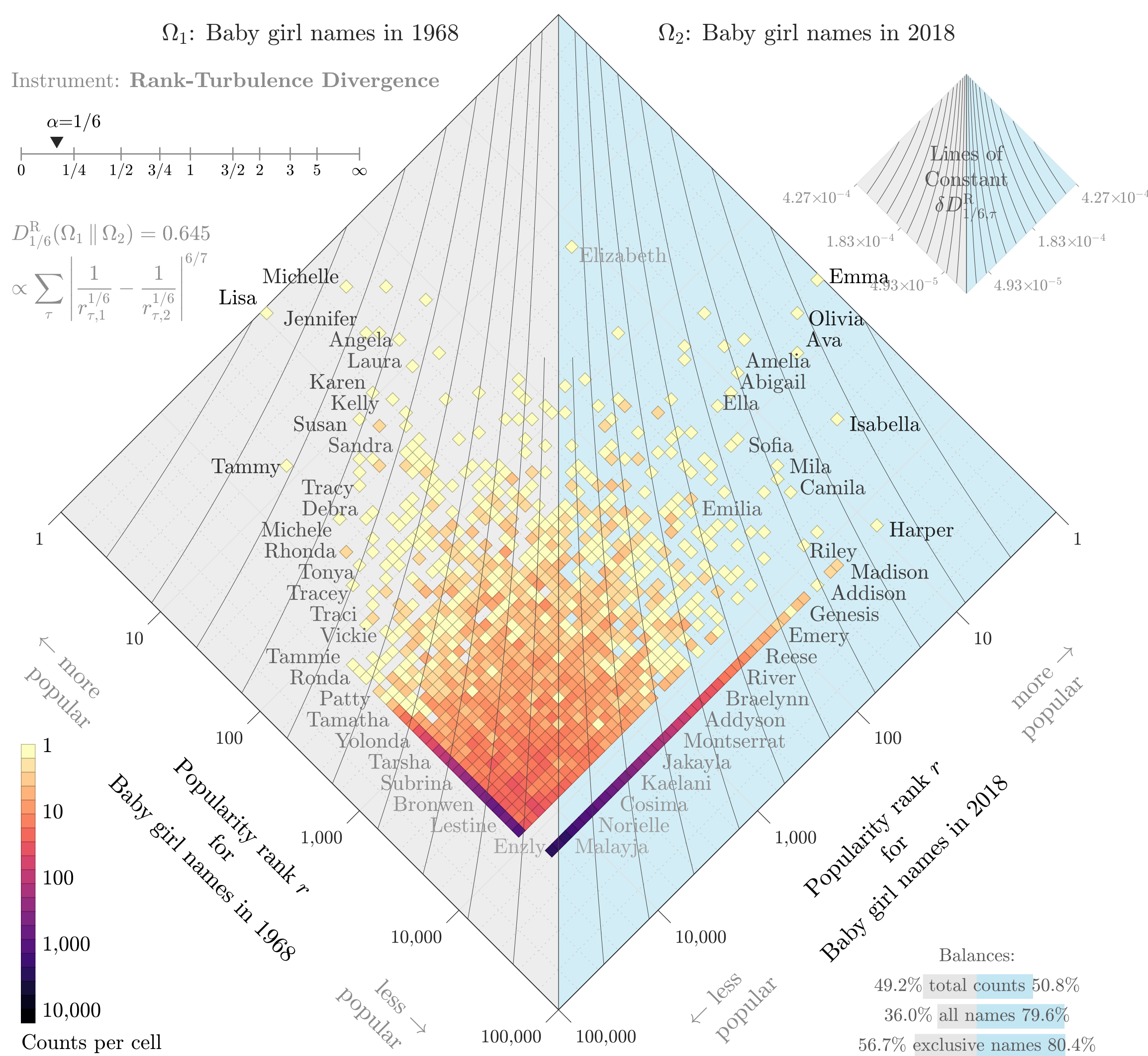
Instrument: Rank-Turbulence Divergence

$\alpha=1/6$



$$D_{1/6}^R(\Omega_1 \parallel \Omega_2) = 0.645$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/6}} - \frac{1}{r_{\tau,2}^{1/6}} \right|^{6/7}$$



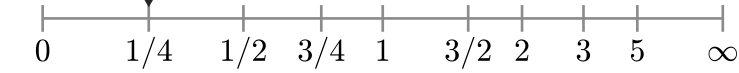
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{1/4,\tau}^R$ (%)

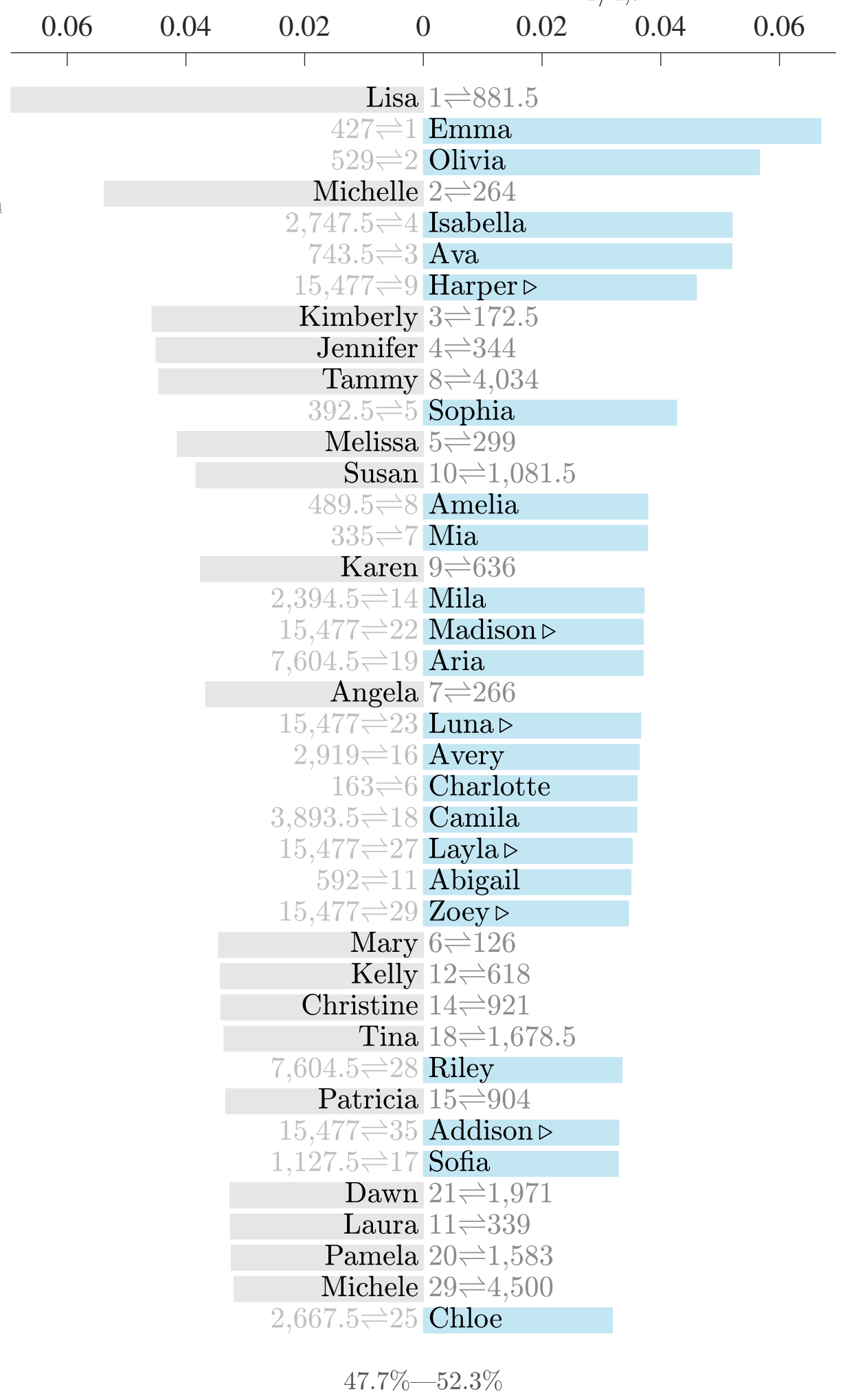
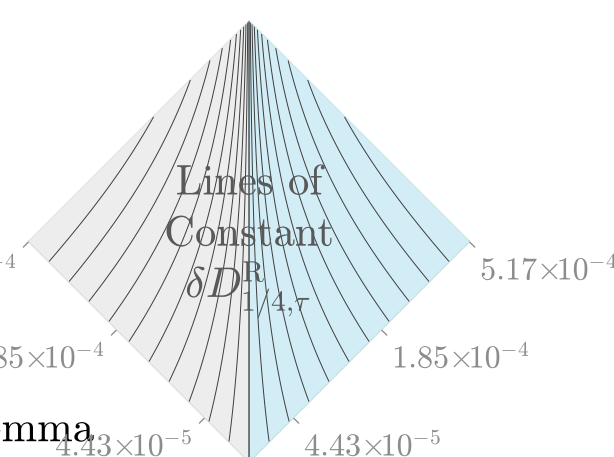
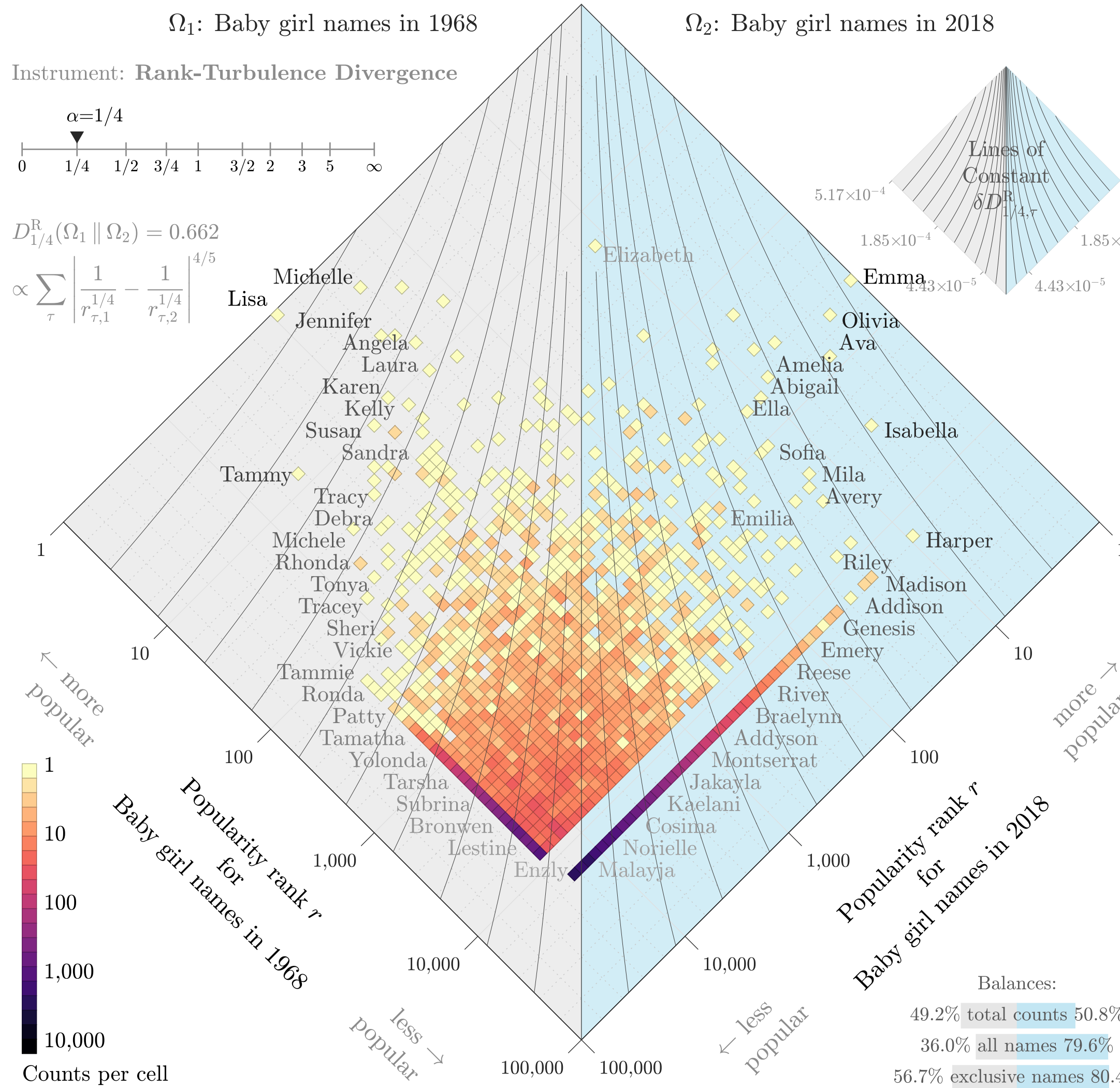
Instrument: Rank-Turbulence Divergence

$\alpha=1/4$



$$D_{1/4}^R(\Omega_1 \parallel \Omega_2) = 0.662$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/4}} - \frac{1}{r_{\tau,2}^{1/4}} \right|^{4/5}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

47.7%—52.3%

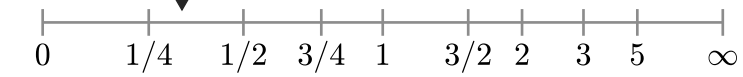
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{1/3,\tau}^R$ (%)

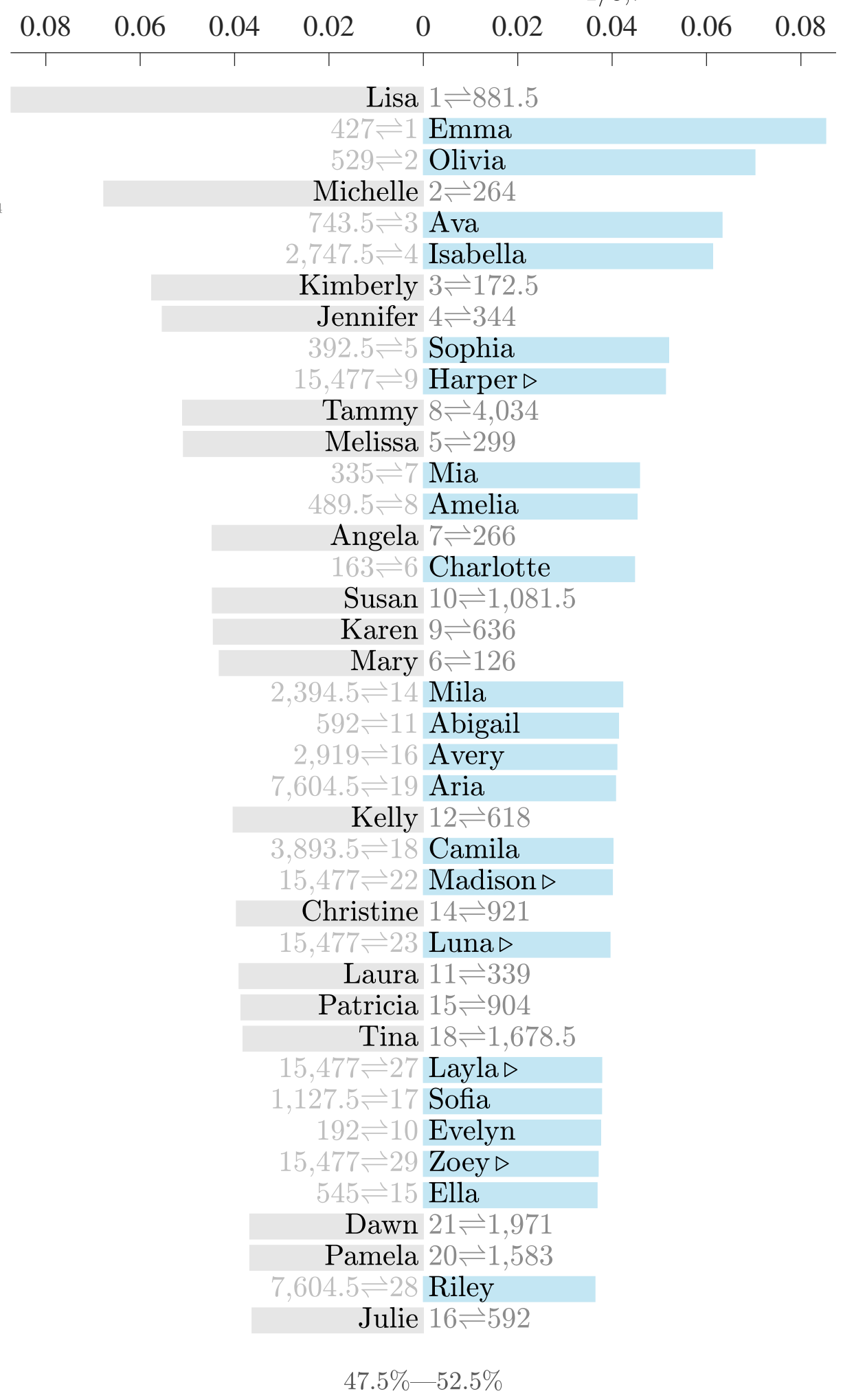
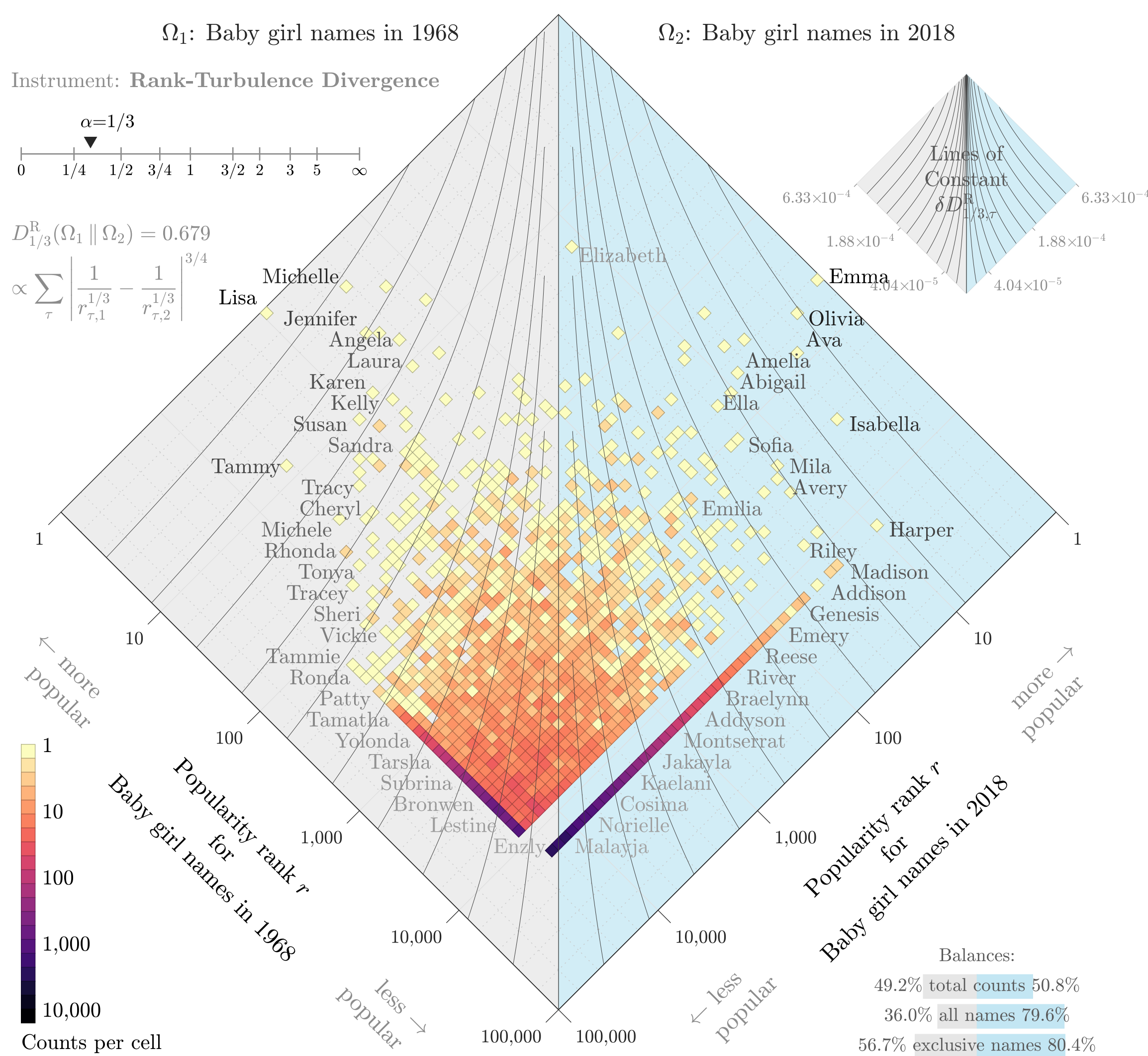
Instrument: Rank-Turbulence Divergence

$\alpha=1/3$



$$D_{1/3}^R(\Omega_1 \parallel \Omega_2) = 0.679$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/3}} - \frac{1}{r_{\tau,2}^{1/3}} \right|^{3/4}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

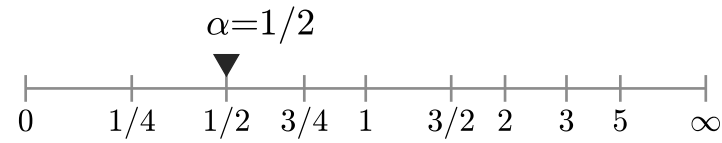
47.5%—52.5%

Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

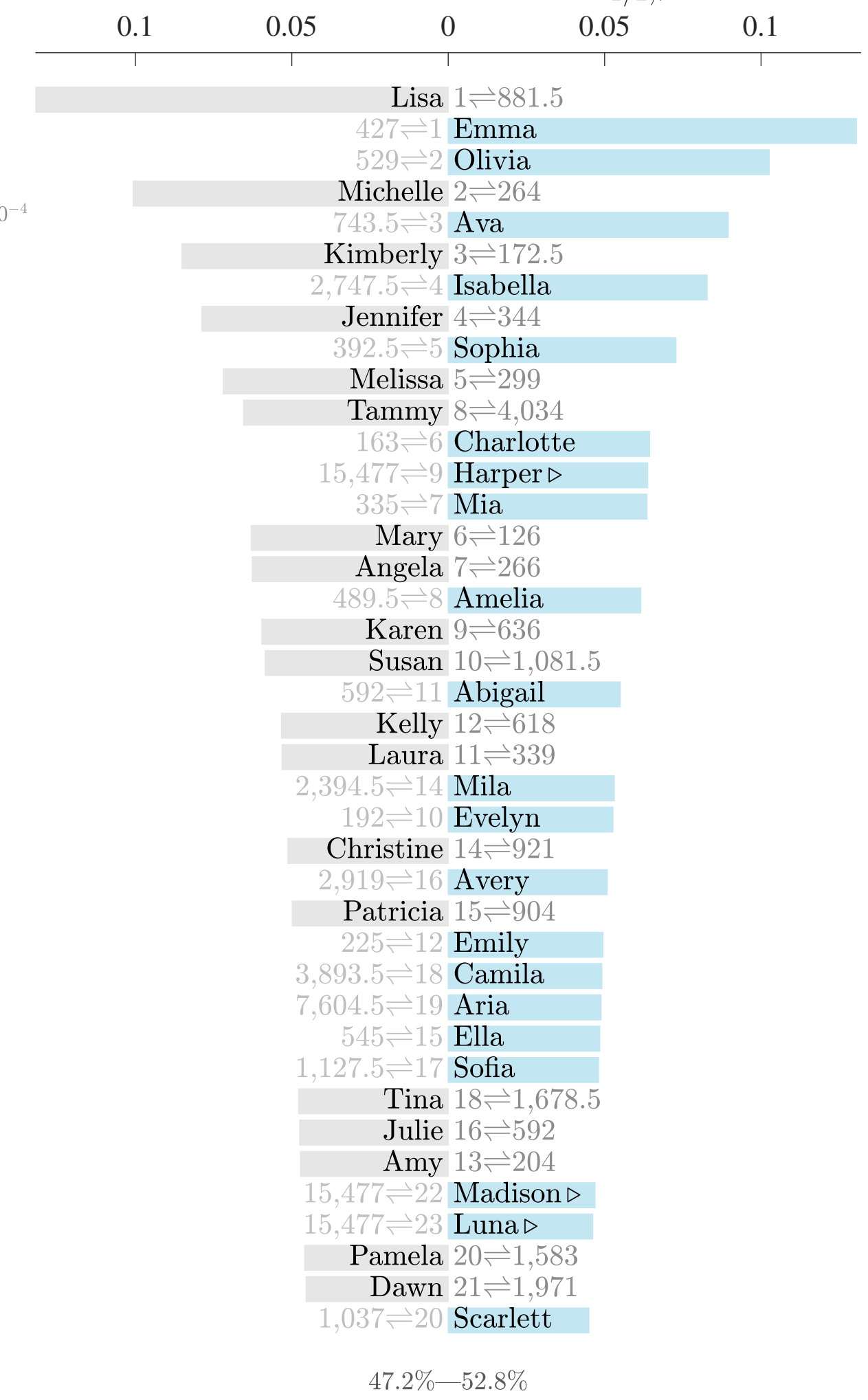
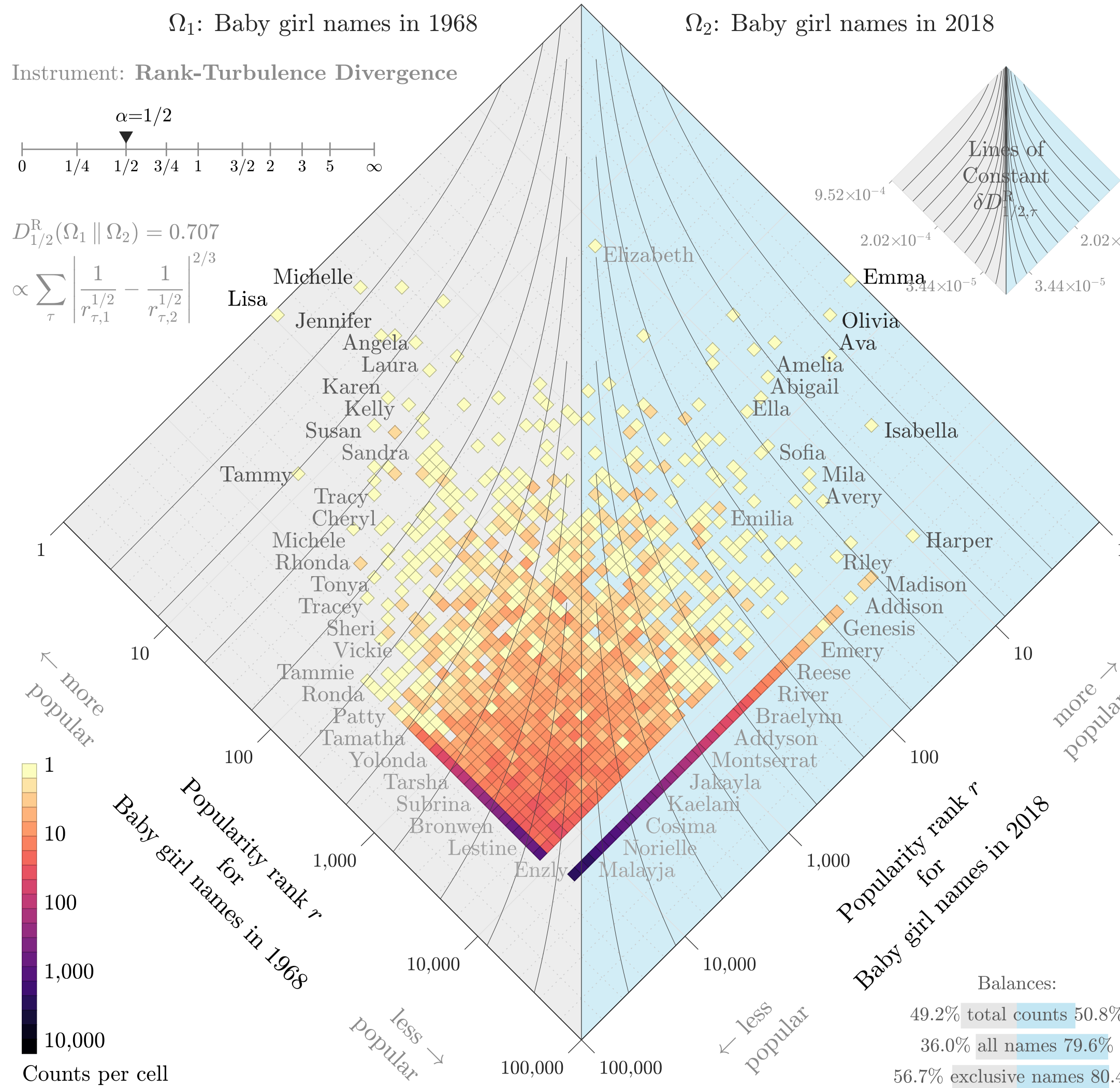
Divergence contribution $\delta D_{1/2,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$$D_{1/2}^R(\Omega_1 \parallel \Omega_2) = 0.707$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/2}} - \frac{1}{r_{\tau,2}^{1/2}} \right|^{2/3}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

47.2%—52.8%

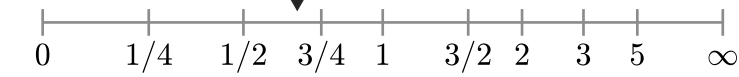
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{2/3,\tau}^R$ (%)

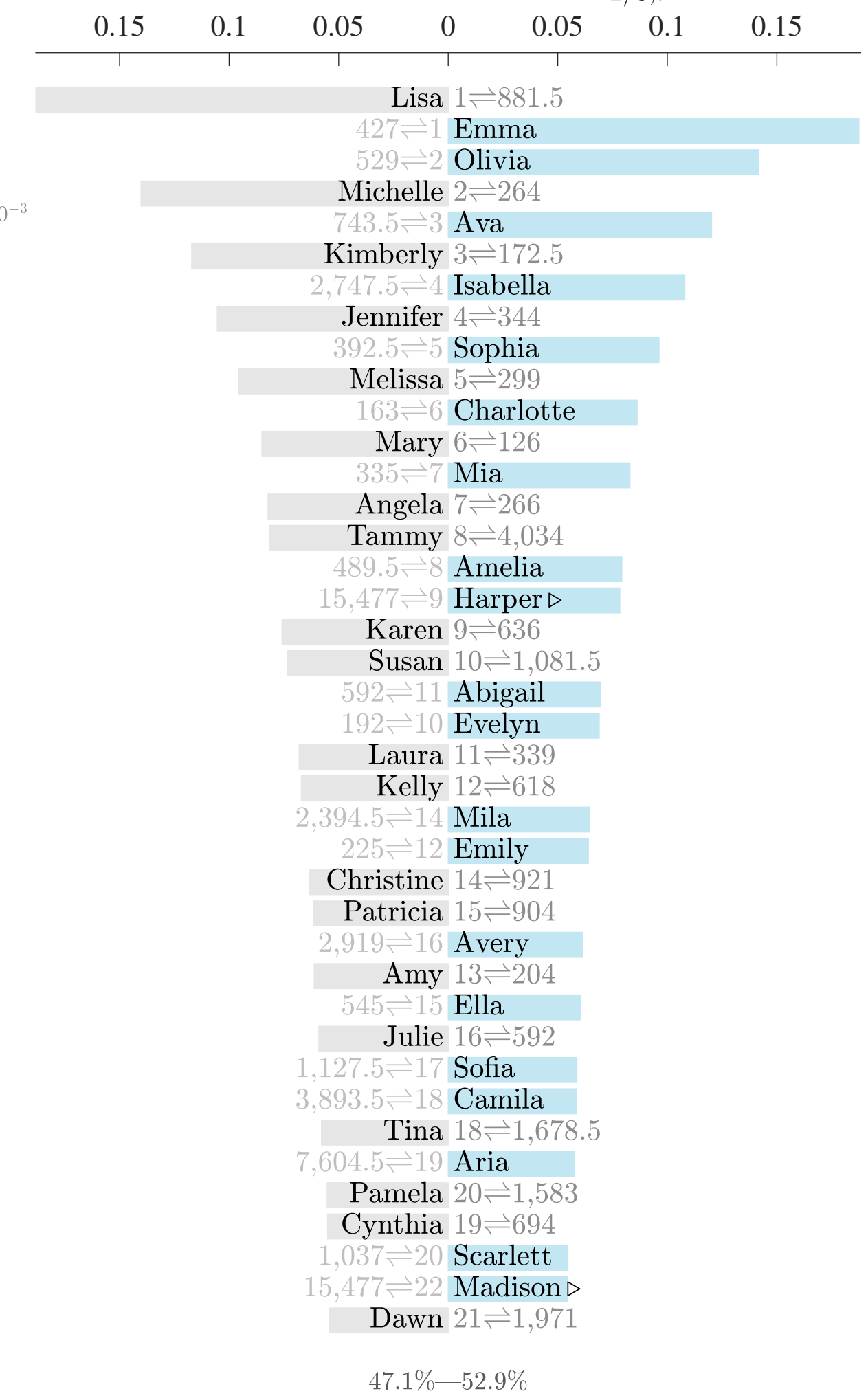
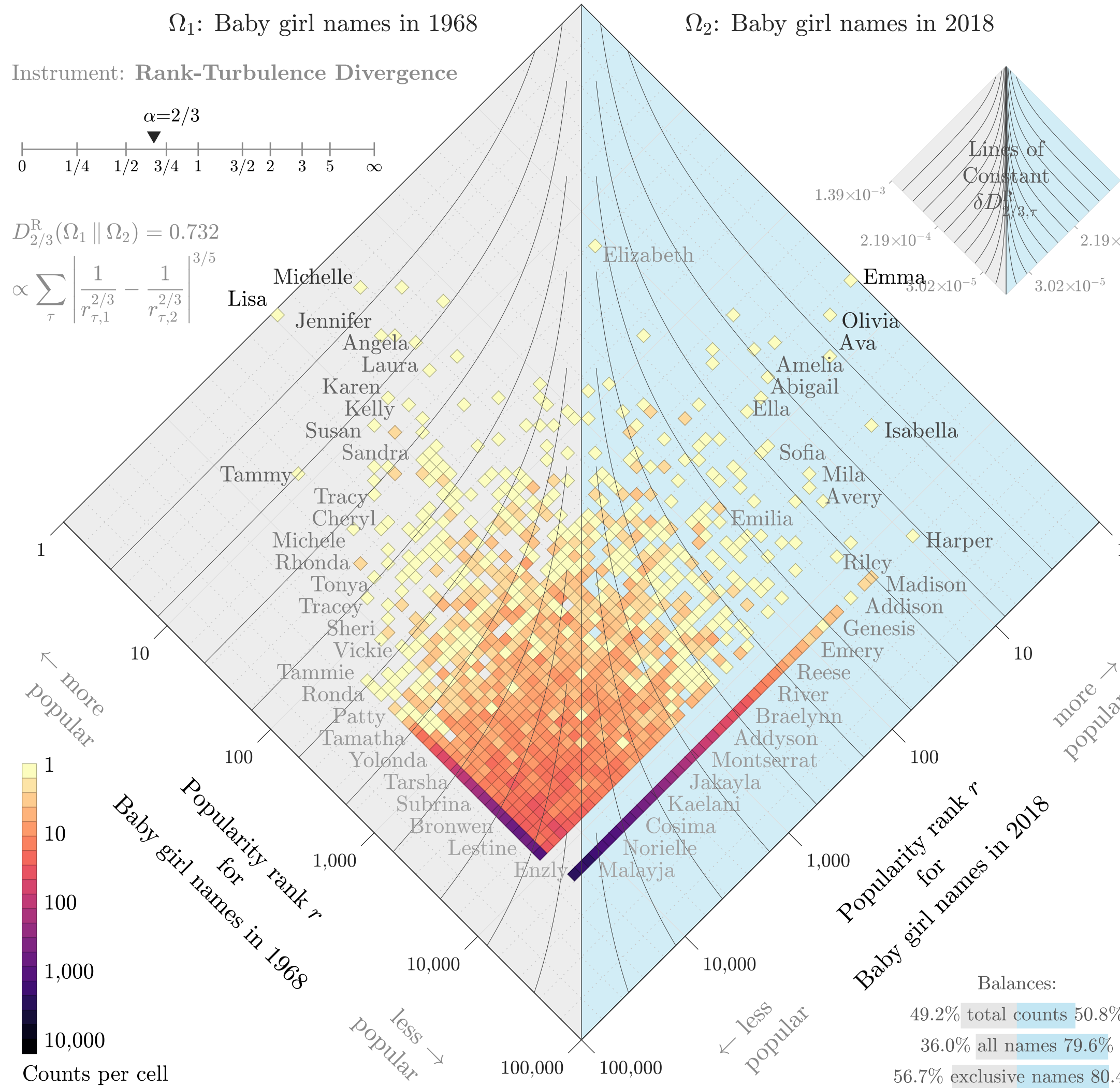
Instrument: Rank-Turbulence Divergence

$\alpha=2/3$



$$D_{2/3}^R(\Omega_1 \parallel \Omega_2) = 0.732$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{2/3}} - \frac{1}{r_{\tau,2}^{2/3}} \right|^{3/5}$$



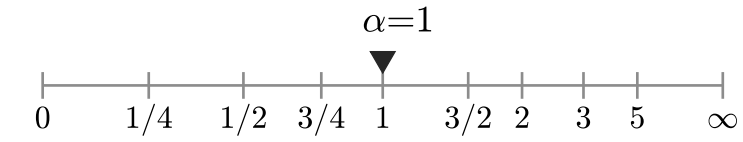
Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

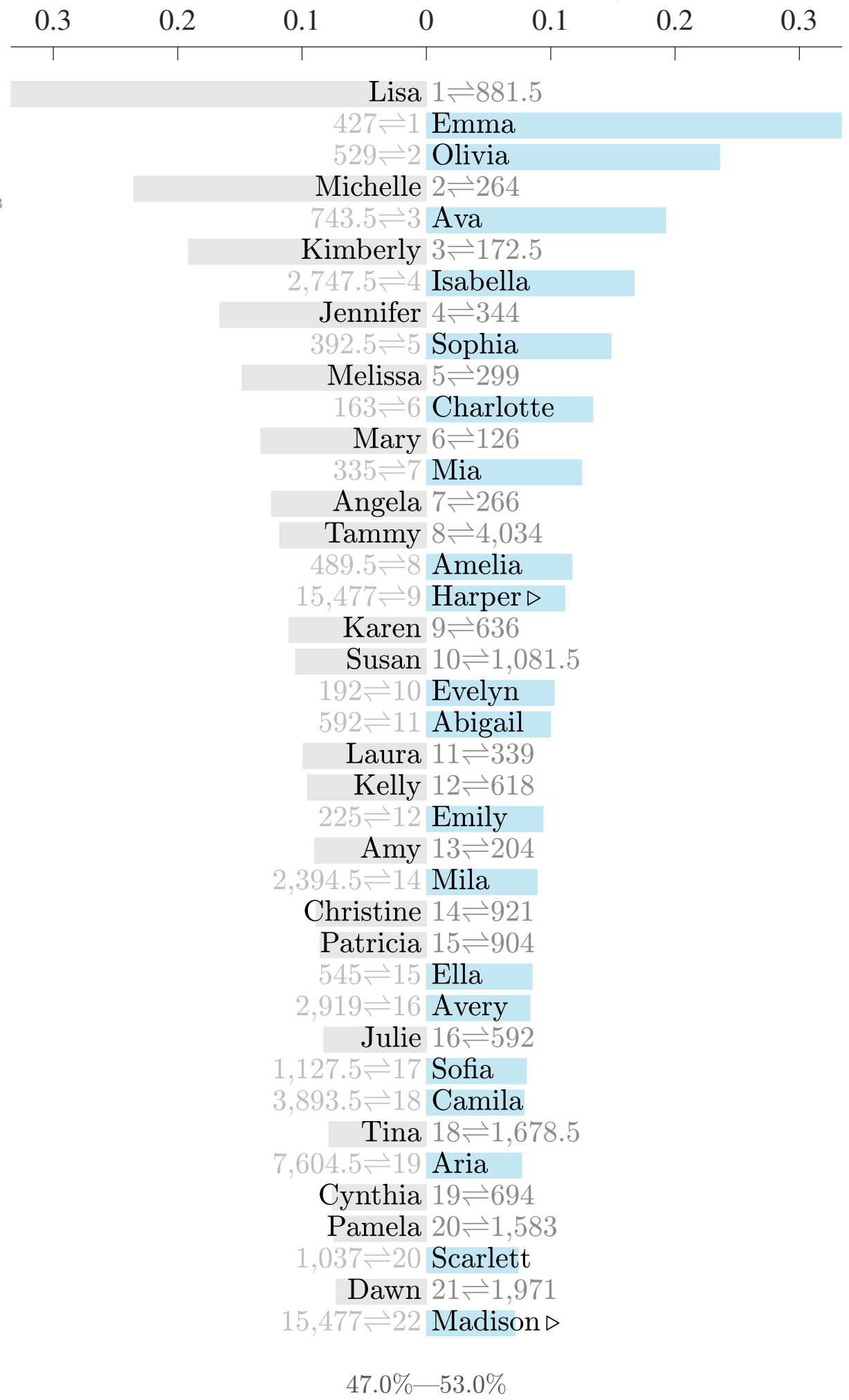
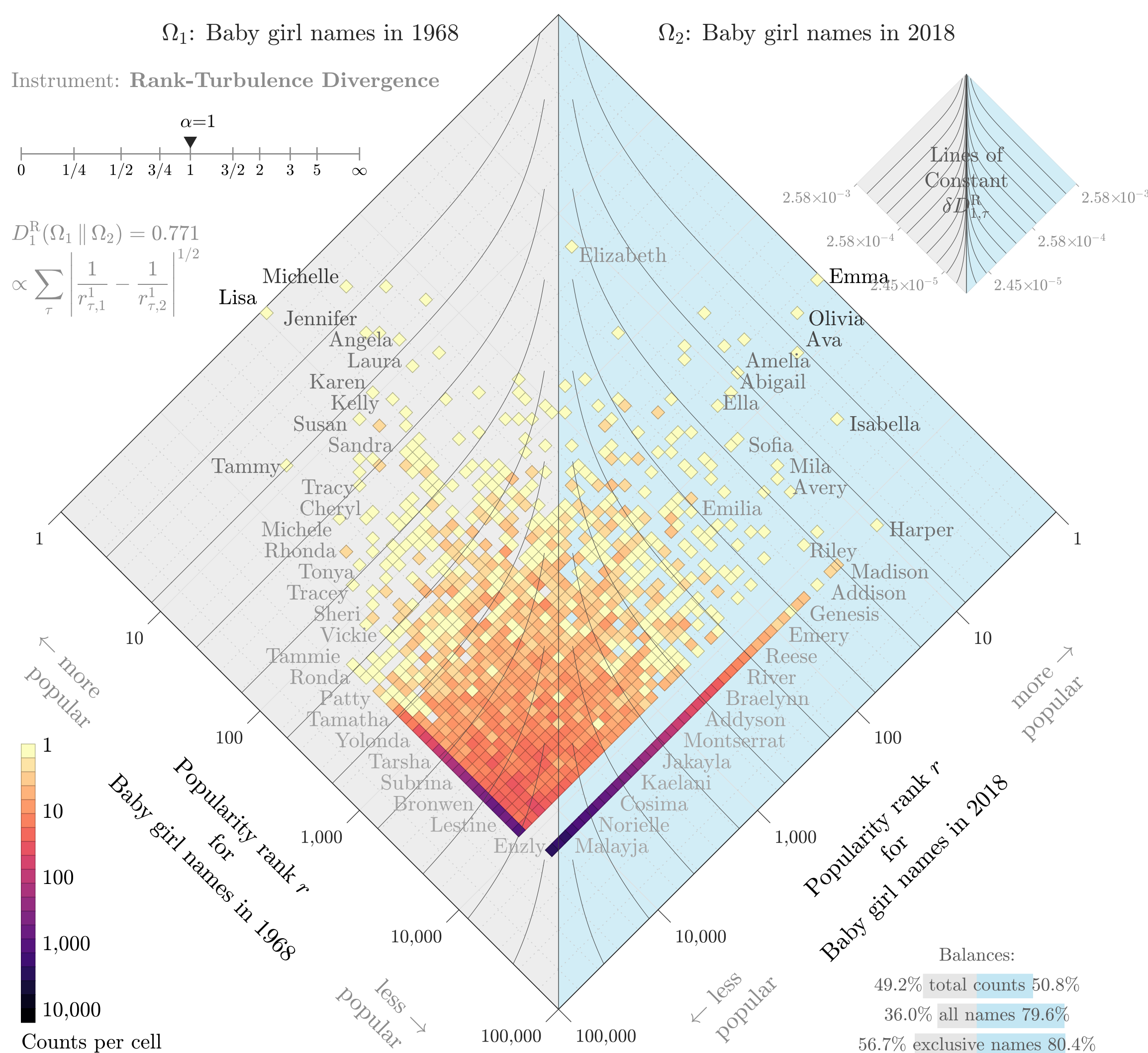
Divergence contribution $\delta D_{1,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$$D_1^R(\Omega_1 \parallel \Omega_2) = 0.771$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^1} - \frac{1}{r_{\tau,2}^1} \right|^{1/2}$$



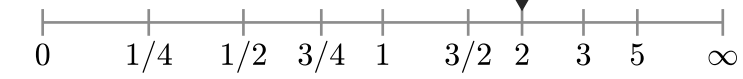
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{2,\tau}^R$ (%)

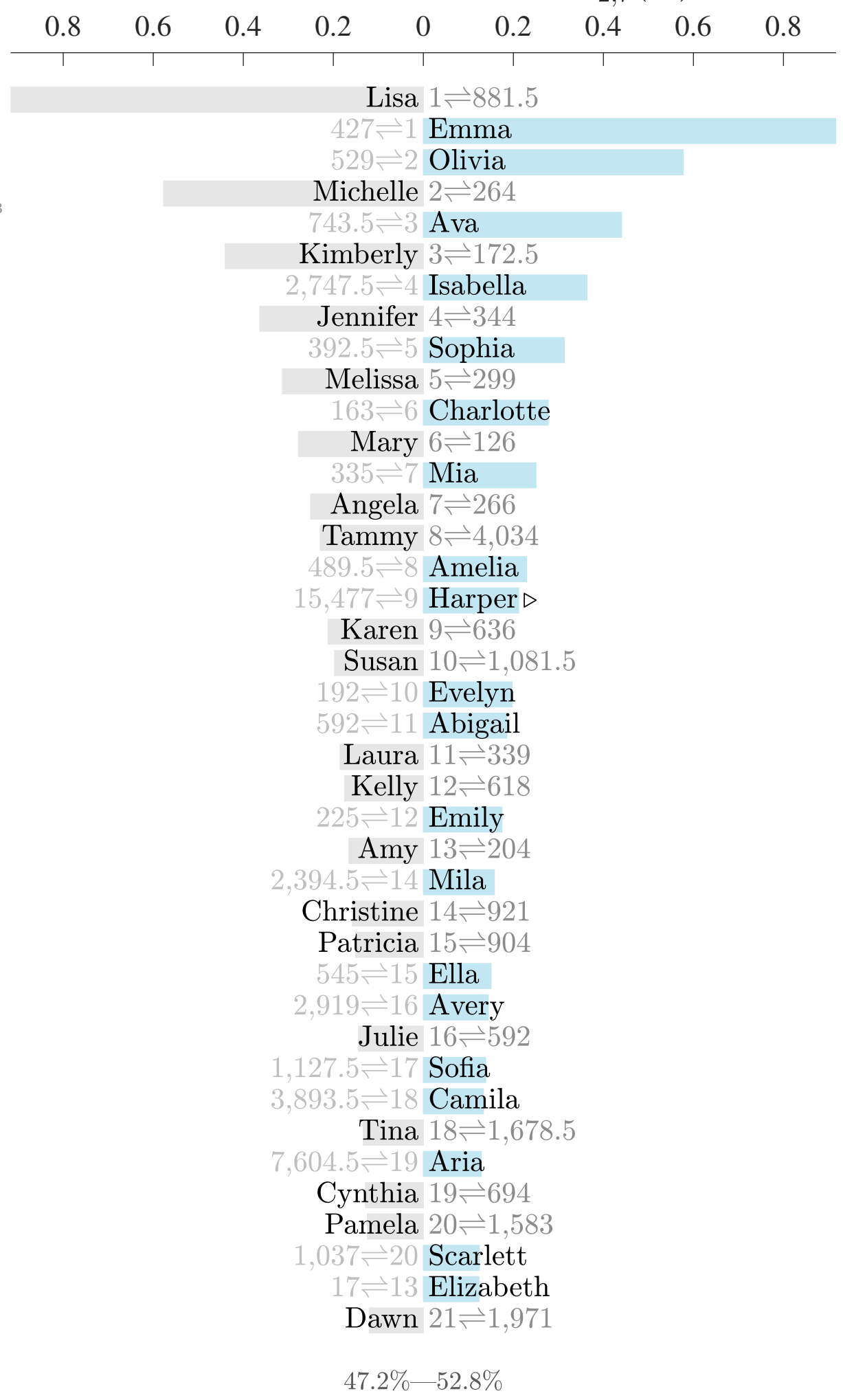
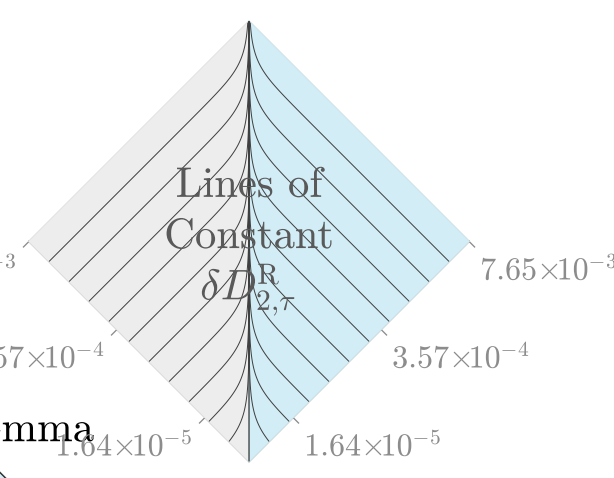
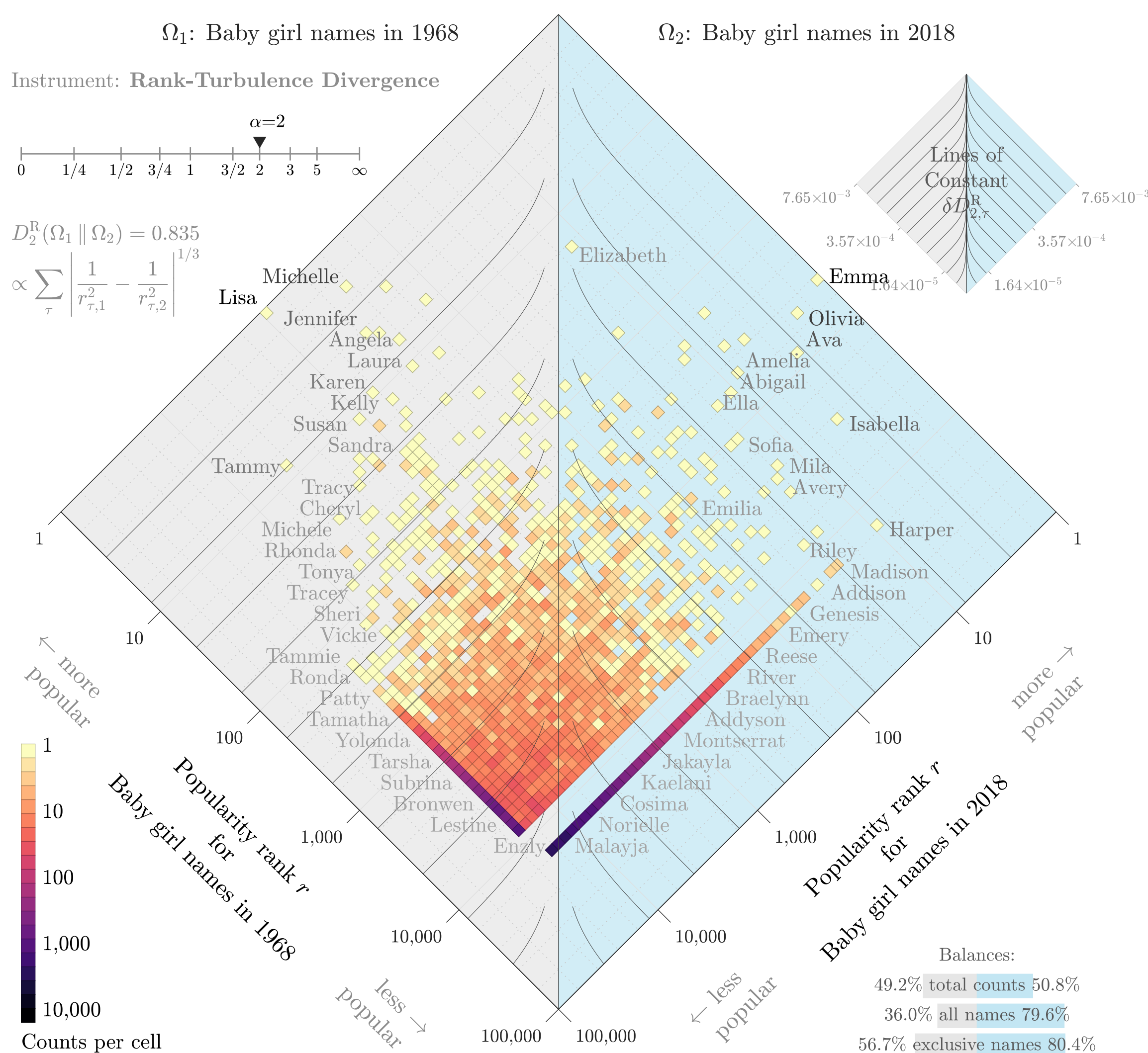
Instrument: Rank-Turbulence Divergence

$\alpha=2$



$$D_2^R(\Omega_1 \parallel \Omega_2) = 0.835$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^2} - \frac{1}{r_{\tau,2}^2} \right|^{1/3}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

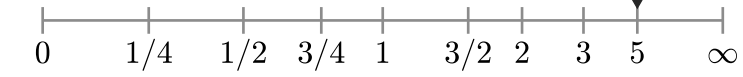
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{5,\tau}^R$ (%)

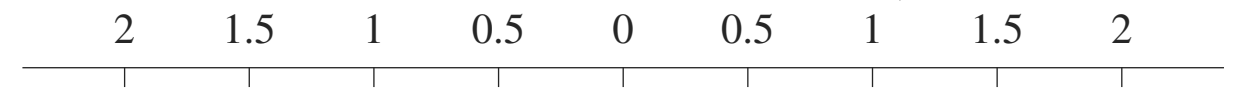
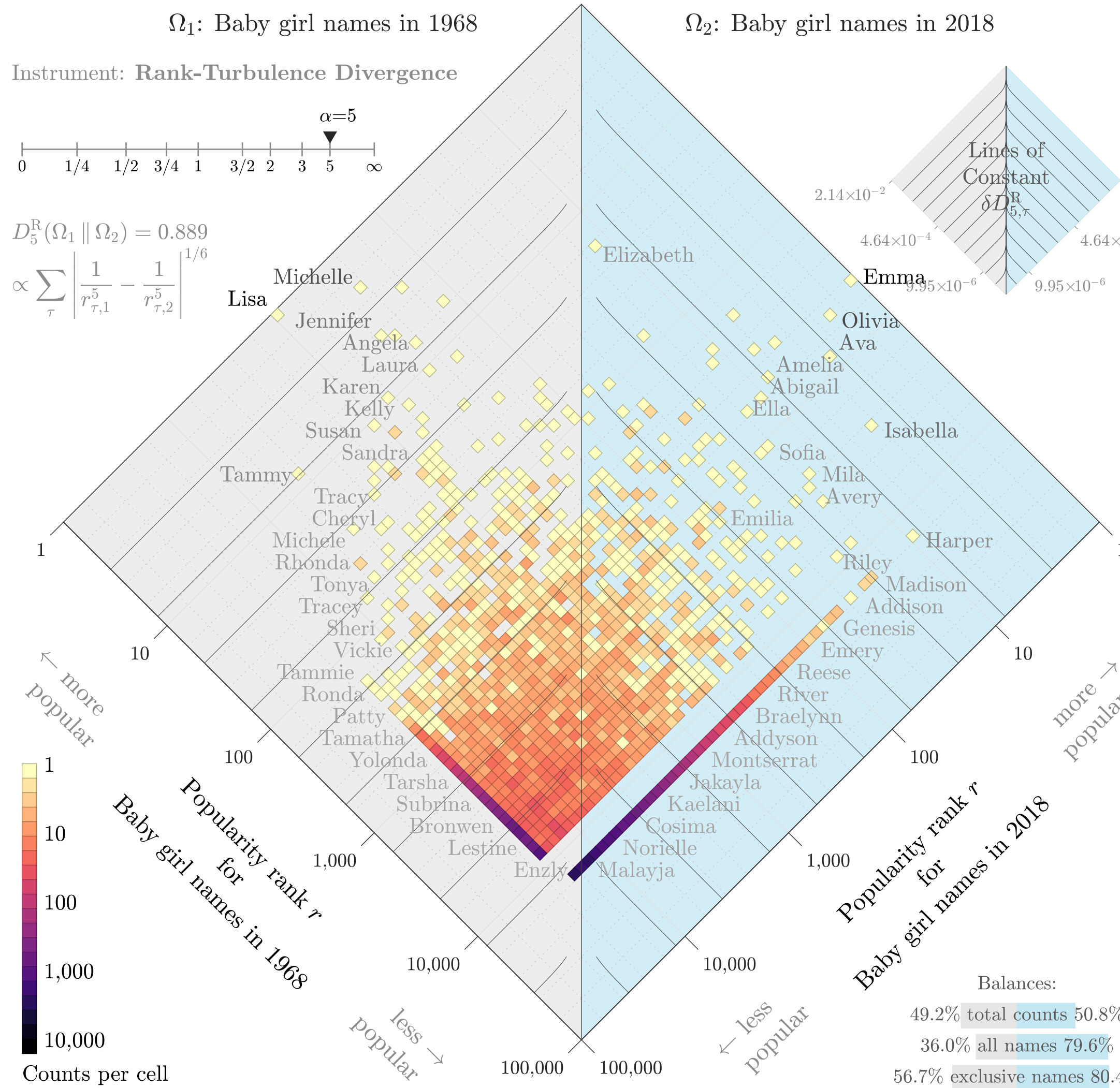
Instrument: Rank-Turbulence Divergence

$\alpha=5$



$$D_5^R(\Omega_1 \parallel \Omega_2) = 0.889$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^5} - \frac{1}{r_{\tau,2}^5} \right|^{1/6}$$



Lisa	1	⇒	881.5
427	⇒	1	Emma
529	⇒	2	Olivia
Michelle	2	⇒	264
743.5	⇒	3	Ava
Kimberly	3	⇒	172.5
2,747.5	⇒	4	Isabella
Jennifer	4	⇒	344
392.5	⇒	5	Sophia
Melissa	5	⇒	299
163	⇒	6	Charlotte
Mary	6	⇒	126
335	⇒	7	Mia
Angela	7	⇒	266
Tammy	8	⇒	4,034
489.5	⇒	8	Amelia
15,477	⇒	9	Harper
Karen	9	⇒	636
Susan	10	⇒	1,081.5
192	⇒	10	Evelyn
592	⇒	11	Abigail
Laura	11	⇒	339
Kelly	12	⇒	618
225	⇒	12	Emily
Amy	13	⇒	204
17	⇒	13	Elizabeth
2,394.5	⇒	14	Mila
Christine	14	⇒	921
Patricia	15	⇒	904
545	⇒	15	Ella
2,919	⇒	16	Avery
Julie	16	⇒	592
1,127.5	⇒	17	Sofia
3,893.5	⇒	18	Camila
Tina	18	⇒	1,678.5
7,604.5	⇒	19	Aria
Cynthia	19	⇒	694
Pamela	20	⇒	1,583
1,037	⇒	20	Scarlett
Dawn	21	⇒	1,971

Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%

48.0%—52.0%

Counts per cell

← more popular
 Popularity rank r
 Baby girl names in 1968
 1
 10
 100
 1,000
 10,000
 100,000
 less → popular

more → popular
 Popularity rank r
 Baby girl names in 2018
 1
 10
 100
 1,000
 10,000
 100,000
 ← less popular

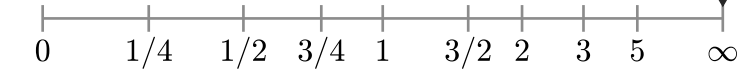
Ω_1 : Baby girl names in 1968

Ω_2 : Baby girl names in 2018

Divergence contribution $\delta D_{\infty, \tau}^R$ (%)

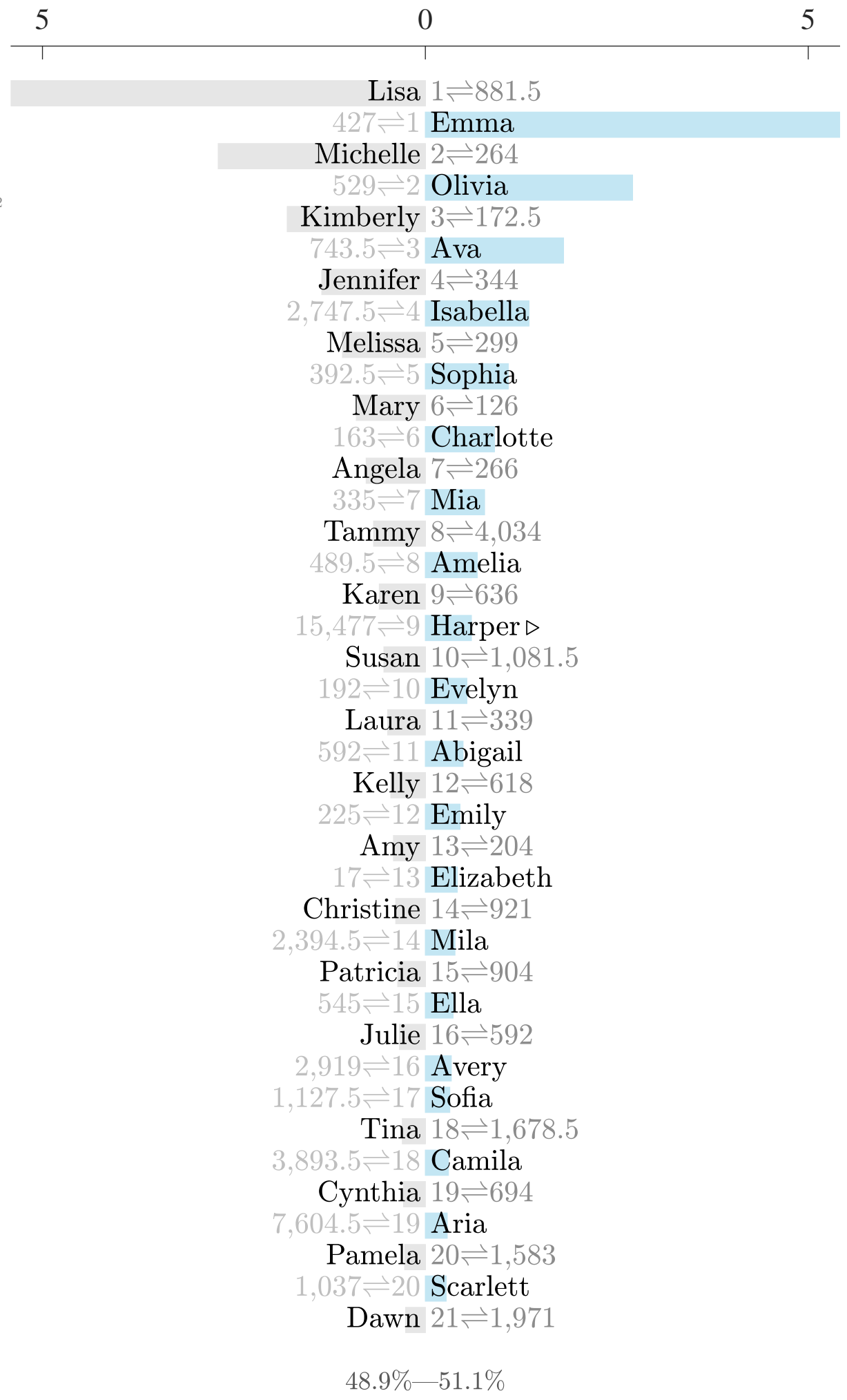
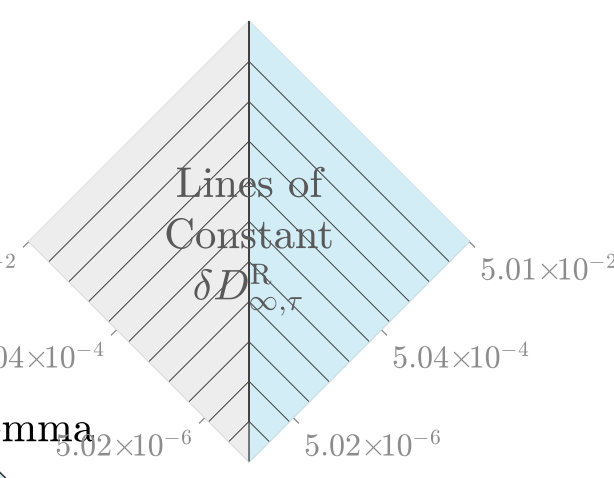
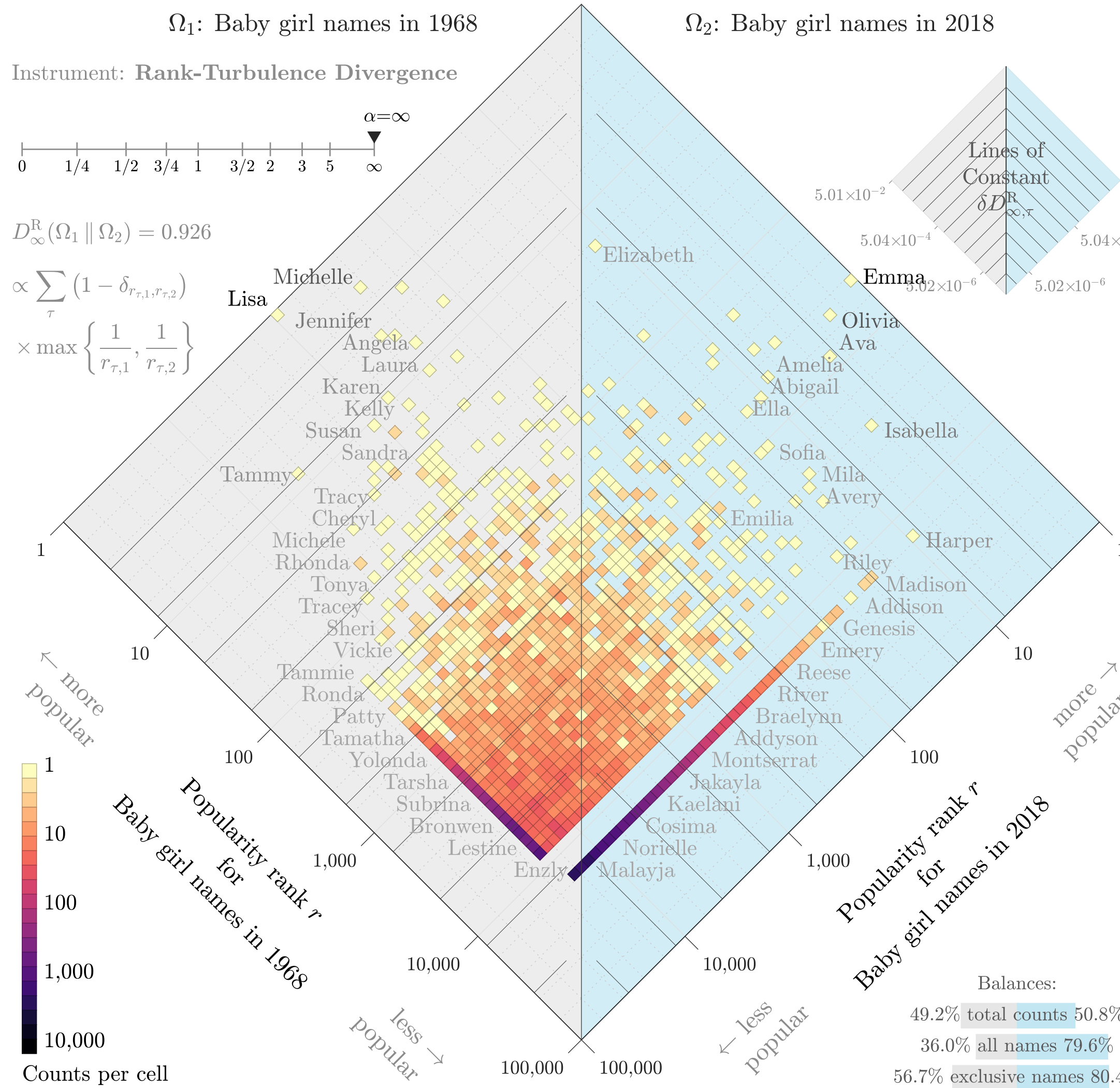
Instrument: Rank-Turbulence Divergence

$\alpha = \infty$



$$D_{\infty}^R(\Omega_1 \parallel \Omega_2) = 0.926$$

$$\propto \sum_{\tau} (1 - \delta_{r_{\tau,1}, r_{\tau,2}}) \times \max \left\{ \frac{1}{r_{\tau,1}}, \frac{1}{r_{\tau,2}} \right\}$$



Balances:
 49.2% total counts 50.8%
 36.0% all names 79.6%
 56.7% exclusive names 80.4%