

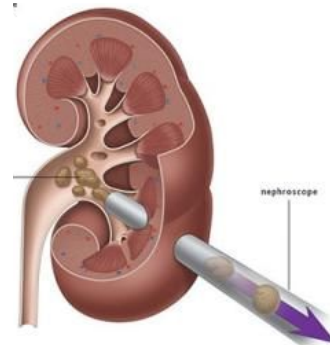
Falacias con los datos

Paradoja de simpson

En un estudio se compararon los porcentajes de éxito de la extracción de cálculos renales según el método utilizado.



Cirugía Abierta	Nefrolitotomía percutánea
78%	83%





Paradoja de simpson

El estudio concluía que lo mejor era la nefrolitotomía percutánea.

Sin embargo, partiendo el dataset de otra forma lo que se puede ver es distinto.

<https://www.bmj.com/content/309/6967/1480.full>

Paradoja de simpson

	Cirugía Abierta	Nefrolitotomía percutánea
Piedra <2cm	93%	83%
Piedra >=2cm	73%	69%

Lo que sucede es que los datos que se tienen son de tratamientos reales, en donde a más grande la piedra más chances hay de ir a cirugía.

Paradoja de simpson

	Cirugía Abierta	Nefrolitotomía percutánea
Piedra <2cm	93%	83%
Piedra >=2cm	73%	69%

No es que la cirugía sea peor, sino que se le suelen asignar los casos más complejos.



Paradoja de simpson: Solución?

Podemos agarrar a la mitad de los pacientes y arbitrariamente elegirlos al azar un tratamiento.

En medicina esto sería bastante polémico, pero sirve para muchos otros casos en donde hacer este tipo de pruebas no mata a nadie. Esto se llama **validación cruzada**.

Una versión parecida en tiempo

Somos wikipedia, tenemos un cartelito que dice donar.



The screenshot shows the Wikipedia homepage with a prominent "DONAR" (Donate) button. The page layout includes a top navigation bar with links like "Main Page", "Talk", "Read", "View source", "View history", and a search bar. Below the navigation bar, there's a "Welcome to Wikipedia" message and a "DONAR" button. The main content area is divided into several sections: "From today's featured article" (highlighting Tropical Storm Bill), "In the news" (listing recent events like the America's Cup and oil truck explosion), "Ongoing" (listing recent deaths), "On this day..." (listing historical events), and "Did you know..." (listing interesting facts). The page also features a sidebar with links to various Wikipedia projects and a footer with the Wikipedia logo and tagline.

Una versión parecida en tiempo




The screenshot shows the Wikipedia homepage with the following elements:

- Header:** Wikipedia logo, "The Free Encyclopedia", and a search bar.
- Navigation:** Links for Main Page, Talk, Read, View source, View history, and a TW dropdown menu.
- Welcome Message:** "Welcome to Wikipedia, the free encyclopedia that anyone can edit. 5,432,562 articles in English."
- Donar Button:** A prominent red button labeled "DONAR".
- From today's featured article:** A section titled "Tropical Storm Bill" with an image of a storm and text describing its path and impact.
- In the news:** A section listing recent events, including the America's Cup, an oil truck explosion, cholera in Yemen, and bombings in Pakistan.
- Ongoing:** A section for "Recent deaths" listing Michael Bond, Gordon Wilson, Maria Mutagamba, and Gabe Pressman.
- On this day...:** A section for "June 29" listing historical events, including the Ottoman Empire's defeat of the Albanians and the original Globe Theatre's destruction.
- Did you know...:** A section with trivia, including the red-headed pine sawfly and George Baldanzi.
- Footer:** Links for "In other projects" including Wikimedia Commons, MediaWiki, Meta-Wiki, and Wikispecies.

Somos wikipedia, tenemos un cartelito que dice donar.

A alguien se le ocurre hacerlo rojo.

Una versión parecida en tiempo



The screenshot shows the Wikipedia homepage from 2003. At the top, there's a search bar and navigation links like 'Main Page', 'Talk', 'Read', 'View source', 'View history', and 'TW'. A large red button labeled 'DONAR' (Donate) is prominent. The main content area features a 'From today's featured article' section with a photo of a tropical storm and text about Tropical Storm Bill. Below this is a 'Part of the 2003 Atlantic hurricane season series' link. To the right, there's an 'In the news' section with a list of recent events, including the America's Cup and an oil truck explosion. Further down, there's an 'Ongoing' section with 'Recent deaths' and 'On this day...'. At the bottom, there's a 'Did you know...' section with trivia about pine sawflies and George Baldanzi.

Somos wikipedia, tenemos un cartelito que dice donar.

A alguien se le ocurre hacerlo rojo.

Las donaciones aumentan 5%.

Una versión parecida en tiempo



The screenshot shows the Wikipedia homepage from 2003. At the top, there's a navigation bar with links like 'Main Page', 'Talk', 'Read', 'View source', 'View history', and a search box. Below this is a large 'DONAR' button. The main content area is divided into several sections: 'From today's featured article' (highlighting Tropical Storm Bill), 'In the news' (listing recent events like the America's Cup and oil truck explosion), 'Ongoing' (recent deaths), 'On this day...' (June 29), and 'Did you know...' (trivia about pine sawflies and George Baldanzi). The left sidebar contains various links for navigation and community involvement.

¿Cómo sabemos si fue gracias al cambio del botón o por otra razón?

A/B testing

Usuarios “A”, 50% del tráfico



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From today's featured article



Tropical Storm Bill hit the Gulf Coast of the United States in the summer of 2003. The second storm of that Atlantic hurricane season, Bill developed from a tropical wave on June 29 to the north of the Yucatán Peninsula. It slowly organized as it moved northward, and reached a peak of 60 mph (95 km/h) shortly before making landfall in south-central Louisiana. It produced a moderate storm surge, causing tidal flooding. In Montegut in the southeastern portion of the state, a levee was breached, flooding many homes, and in Florida, two swimmers drowned. As Bill accelerated to the northeast, moisture from the storm, combined with cold air from an approaching cold front, produced an outbreak of 34 tornadoes. Moderate winds and wet soil combined to topple trees onto houses and power lines, leaving hundreds of thousands without electric power. By the time Bill became extratropical on July 2, it was responsible for four deaths and around \$50 million in damage. **(Full article...)**

Part of the *2003 Atlantic hurricane season* series, one of Wikipedia's featured topics.

Recently featured: White-naped xenoparis • The Well of Loneliness • Japanese aircraft carrier Jun'yō
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Did you know...

- that larvae of the **red-headed pine sawfly** (pictured) are gregarious, and when they have defoliated a tree, move as a group to a neighbouring one?
- that American trade unionist **George Baldanzi** worked out of



In the news

- In sailing, the **America's Cup** concludes with Team New Zealand defeating Oracle Team USA.
- **An oil truck explosion** in Ahmedpur East, Pakistan, kills at least 150 people and injures more than 100 others.
- The World Health Organization estimates that 200,000 people in Yemen have been **infected with cholera**.
- At least 10 people are killed and more than 90 others are missing following a **landslide** in Sichuan, China.
- In Pakistan, at least 80 people are killed and more than 200 others are injured in **multiple bombings** in Quetta and Parachinar.
- The cricket teams of **Ireland** and **Afghanistan** are awarded Test status by the ICC.

Ongoing

Recent deaths: Michael Bond • Gordon Wilson • Maria Mutagamba • Gabe Pressman

On this day...

June 29

- 1444 – In their rebellion against the Ottoman Empire, Albanians led by Skanderbeg routed the Ottoman forces in the **Battle of Torvioli**.
- 1613 – The original **Globe Theatre** in London burned to the ground after a cannon employed for special effects misfired during a performance of William Shakespeare's *Henry VIII* and ignited the



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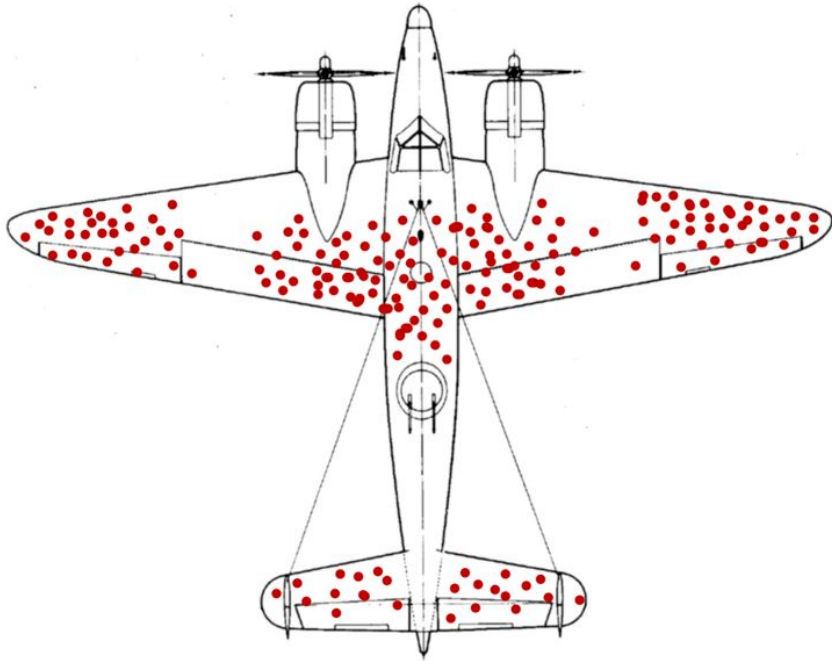
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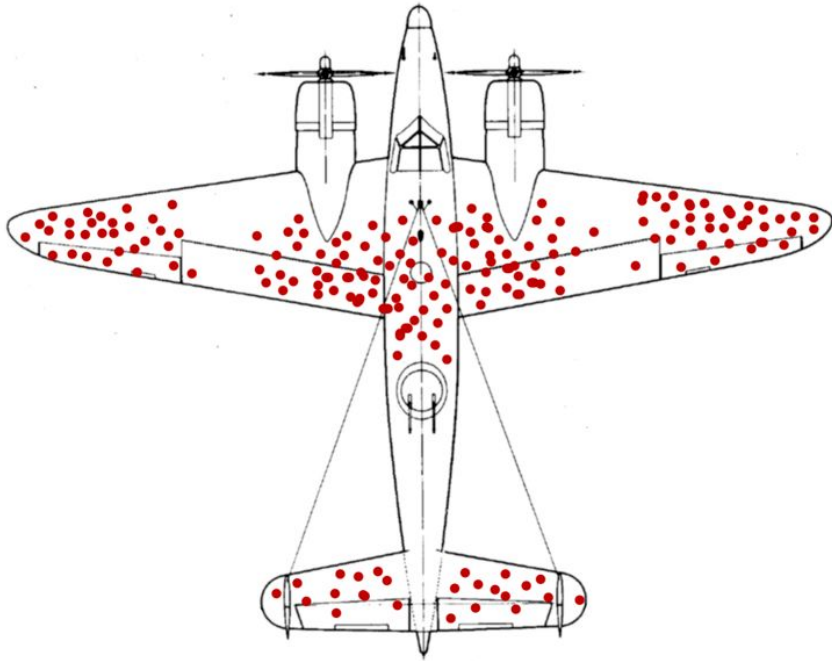
Sesgo de supervivencia



Estados Unidos de cara a la segunda guerra mundial analiza los aviones que vuelven del combate.

Concluye que debe reforzarlos en donde más se dañaron.

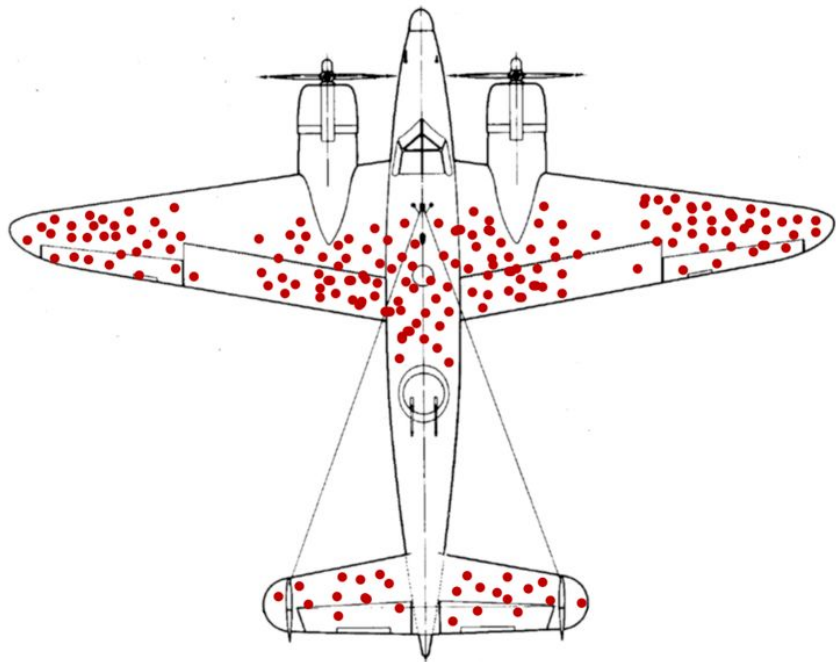
Sesgo de supervivencia



Resulta que estaban dañados en todos los lugares que no son críticos, porque pudieron volver.

Alguien nota esto y indica que en realidad se debe reforzar los lugares en donde no vemos daños de los que volvieron.

Sesgo de supervivencia: Fix



Siempre hay que preguntarnos, ¿cuál es el origen de nuestros datos?