

# One Man Explains Why WWII Aircraft Were Protected The Wrong Way, And It's An Important Example Of "Survival Bias"

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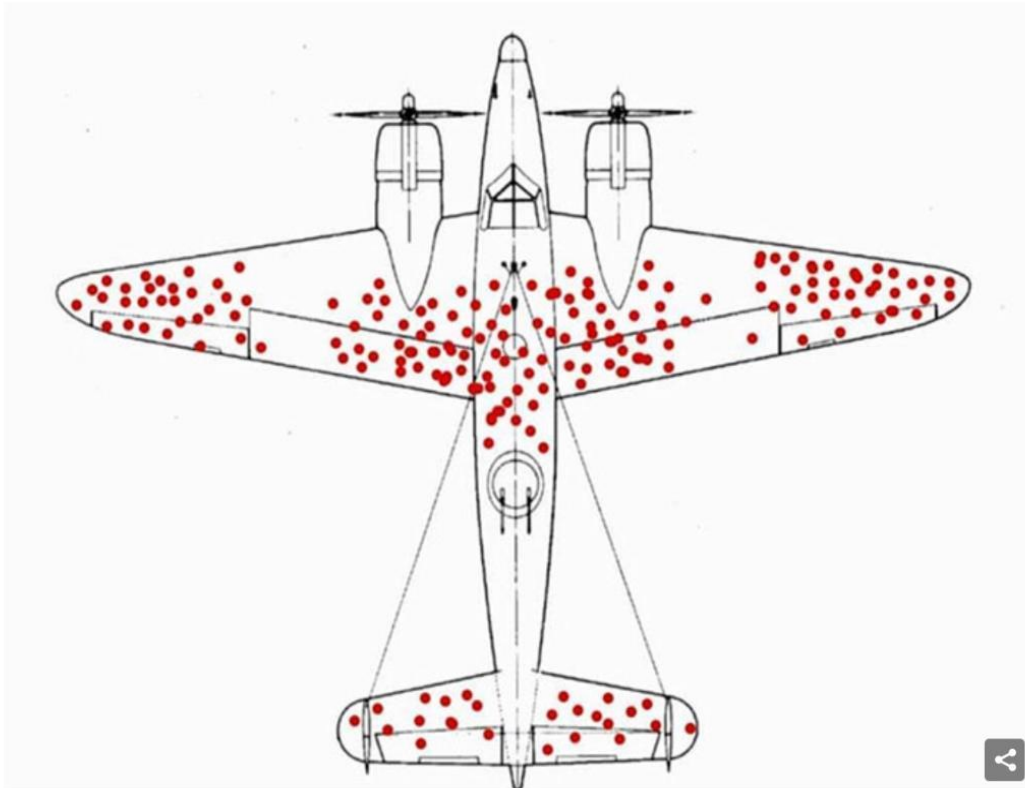
During WWII, countries had to solve many mathematical and strategic tasks to succeed in winning and surviving war. One of those problematic assignments was to find ways of improving military aircraft so they would be more resistant to enemy fire. While statisticians struggled to find the best way to protect the planes, one man named Abraham Wald had a genius idea that is implemented in many places to this day. Unfortunately, not everyone agreed with him back then.

**During WWII, a group of statisticians had a difficult task to solve**



They were asked to evaluate and determine which parts of the aircraft needed to be up- armored to minimize the damage from enemy fire and lower the numbers of the airplane crash.

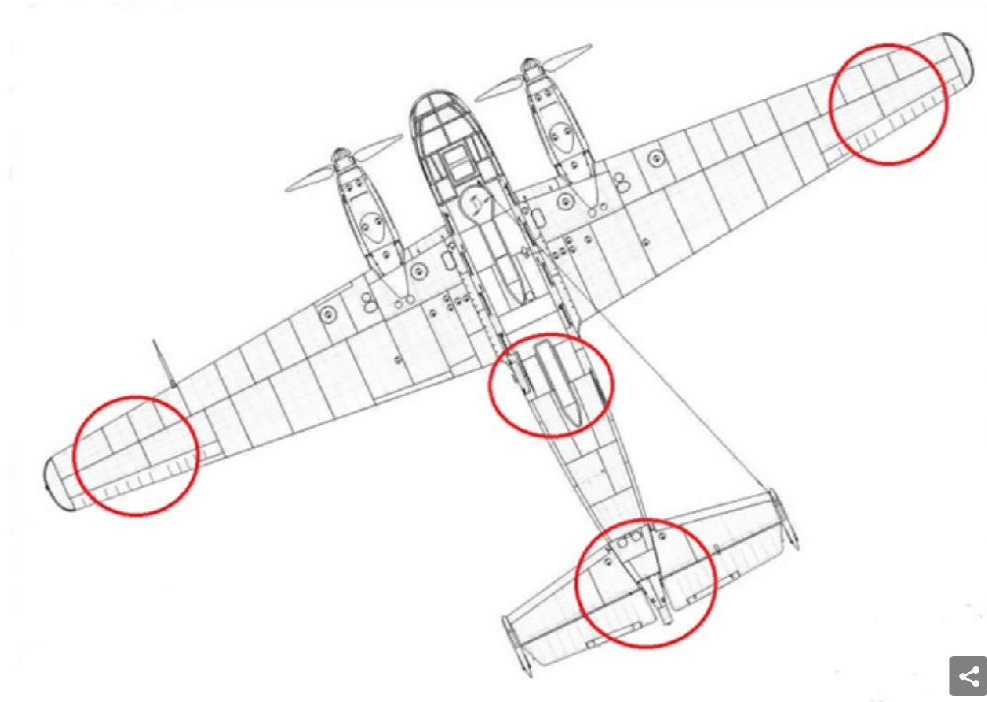
**So, the Navy received a diagram that showed all of the places the planes were usually damaged the most**



Quickly after receiving this statistics formula, the engineers had to tackle a new task – finding new ways to protect these most commonly damaged areas.

**But one man named Abraham Wald completely disagreed with the plan**

## What Abraham Wald found was a logical error known as Survival Bias



Writer Rishabh Nahar perfectly explains the “Survival Bias” theory in his article, “It is a tendency to focus on the survivors rather than whatever you would call a non-survivor depending on the situation. After any event that leaves behind survivors, the non-survivors are often destroyed or removed. If the failure becomes invisible, then naturally, we will focus on the success.”

According to him, this logical error is still rather popular in modern society. For example, when we talk about developing new business, we often list similar business models that already succeeded. Then we point out the difficulties that these businesses endured to avoid the same mistakes. What this type of thinking makes us forget is that there are tons of similar business models that didn’t make it. We should consider what are the reasons they are not in the market anymore instead of trying to fix and improve models that were already successful. So if we look back at what Wald was offering the Navy, it is to consider that aircraft with crucial damage did not make it back home and that they are only looking at the survivors. That’s why the importance of statistics is the same as the people reading it.

**Many people were impressed by Wald’s idea and the impact it had**