

# Before and After Personalization

Kathrin Passig

Personalization algorithms are often portrayed in a negative light ...



... maybe especially so in German newspapers. But as Eli Pariser, the author of the “Filter Bubble” book, is American, I think this is not just a German problem.

Basically all objections can be classified in two main categories: a) The concept of personalization algorithms is okay, but all current **implementations suck**.

# implementations suck

Personalization algorithms only supply us with more of what we already feel comfortable with and will never confront us with anything new. Abuse and manipulation are too easy, algorithms cater to the companies' interests, not to the users', and they are utterly intransparent, so we'll never know. All these problems, as far as they actually exist (which I think is the case for some but not all of them) could be fixed.

This is different for the concerns that belong to category b): All current implementations suck because the **concept of personalization algorithms is wrong**.

# the concept sucks

It will either never work, or it will work just fine but make us all miserable. Society will become increasingly fragmented when everyone lives in their own personalized information universe, and personalization will be the end of serendipity. The algorithms are inscrutable even to their developers, and we'll all be slaves to the machine.

There are, of course, some problems with these objections. There is **no “neutral” arrangement** ...



# neutral arrangement is impossible

... of search results or options. The designer or developer always has to make a decision what to prioritize.

And there is no consensus at all on which items are more important than others. Mark Zuckerberg is frequently quoted with his squirrel comparison: ...

# squirrel vs. Africa

“A **Squirrel** Dying In Your Front Yard May Be More Relevant To Your Interests Right Now Than People Dying In Africa”. When people hear this, they usually think “of course people dying in Africa are more important”. But it’s not so easy. What’s more important, millions of war-related deaths in Africa or millions of traffic-related deaths somewhere else? What about a death in your family?

# squirrels might be important

What if the **squirrel** was only the first sign of a new squirrel flu pandemic?

Another problem is: What are the alternatives we compare personalization to? One comparison is the old, non-personalized internet that journalists often yearn for. But going back to that stage wouldn't help. The non-personalized **mainstream was just another filter bubble**.

# mainstream == filter bubble

The only difference being that you were in a filter bubble that was shared by a lot of people.

Another comparison is the claim that human recommendations are a better fit than recommendations generated by a machine. But **human recommendations are often bad matches**, too.



# human recommendations are bad, too

We like the social act of recommending something or being on the receiving end of a personal recommendation. There is nothing wrong with this social interaction, it's fine if you like it.

friendly interaction  
≠  
helpful recommendation

We just **shouldn't confuse it** with the actual quality of the recommendation.

To the serendipity complaint I'd say that **serendipity is everywhere**.

# serendipity is everywhere

If some people only make serendipitous discoveries outside the web, it is because they *live their lives* outside the web. They have all kinds of habits and infrastructure in their lives that promote serendipity, like: browsing bookstores. But you have to **make an effort** ...

# make an effort

... for example leave your house once in a while, meet new people, or subscribe to a newspaper. It's exactly the same on the web. As the author Steven Johnson said: "people who think the Web is killing off serendipity are not using it correctly". I don't like the phrase "using it correctly", because I don't think there is a "correct" way of using it, but I'd say they are not making an effort, or they don't know how to.

Probably the most important problem: There is a **general lack of understanding** ...



... as to how these algorithms actually work. For example, many algorithms account for changing interests and preferences. To the algorithm, what you did last summer is not as relevant as what you did last week. But people don't usually know that and will write long newspaper articles about evil algorithms that never show us anything new and will render our world narrow and boring. This is not the fault of the public.

# your own fault

It is **the fault of developers and designers**. You can't simply assume that users will accept your authority and believe that you know what is best for them. With the sole exception of Amazon almost no one out there gives any kind of explanation of what their algorithms are doing, let alone give people options to fine-tune the results. And even with Amazon there is a LOT of room for improvement

Which brings me to the question: **Why are personalization algorithms unpopular?**

# why so unpopular?

Apart from what I just said, that it is your own damn  
fault ...



# 3 reasons

... the **3 main reasons** are:  
a) We like to imagine ourselves as ...

“we are all individuals!”

... **unique individuals**. We don't like to be confronted with the predictability of our preferences and desires, our similarity to others.  
b) There is a traditional belief in objective measures of quality and importance instead of personal preferences; the belief that ...

“some tastes are  
better than others”

... “**some tastes are better than others**”. Especially if those tastes happen to be yours.  
And the last reason: Humans simply have different preferences ...

some like machines,  
some don't

... for **different kinds of authorities**. Some prefer algorithms because they're supposed to be more neutral, others prefer human experts.

But I think there's one aspect that is missing from the debate. Of course it is true that companies want your personal data for simple money and advertising reasons. ...

# greed is not the only reason

But that is **not the only reason** why personalization algorithms exist.

These algorithms are one possible solution for a **very old problem**:

# an old problem

... the problem of information overload. People have been complaining - and thinking - about this a lot longer than we usually realize. Vannevar Bush did **in 1945** ...

# **“As We May Think” (Vannevar Bush, 1945)**

when he wrote that we are “bogged down by a growing mountain of research. The investigator is staggered by the findings and conclusions of thousands of other workers—conclusions which he cannot find time to grasp, much less to remember, as they appear.” In 1680 ...



“horrible masse de livres”  
(Leibniz, 1680)

... Gottfried Wilhelm **Leibniz** **complained** about the horrible mass of books that kept growing and growing.

“... confusing and harmful  
abundance of books ...”  
(Gesner, 1545)

The Swiss naturalist **Conrad Gesner** in **1545** wrote about the “confusing and harmful abundance of books”. There were several hundred thousand scrolls in the library of Alexandria. People probably were complaining even back then.

So this is neither a new problem, nor is there reason to believe that it will be solved in our lifetime or, for that matter, anybody else’s. But there is always some **temporary relief**.

# temporary relief ...

The printed encyclopaedia was one coping strategy, so were all kinds of reference works, dictionarys, alphabetical indexes. Remember that all these things had to be invented.

Of course there were problems with ALL of these solutions. Printed encyclopaedias are expensive and become obsolete quickly, and the main problem is: After a while, these patches **are no longer as helpful as they used to be.**

# ... is temporary.

Information overload comes back, and it feels worse than ever.

Some of you are old enough to remember the 1990s. You might even remember the ...

# World Before Google

... World Before Google.  
This ...



... is **what it looked like**. And while it was better than having no search engines at all, it wasn't very good. By the second half of the nineties, people were complaining a lot, because with the early search engines and directories, results were pretty bad. And they were growing worse as the internet multiplied in size.

Then came **Google**.



The relief was huge. They had solved the problem of bad search results with the help of an idea that had actually been around for a while. The scientists among you probably know the **impact factor (IF)**.



# impact factor (IF)

I'm not going to go into the details now, but it was invented in the 1950s by Eugene Garfield, who was trying to reduce information overload for scientists. The impact factor helps you identify some of the more important journals in your field so you can then just read those. The idea is fairly similar to the **Google PageRank** algorithm.

# Google PageRank

In fact, several scientists proposed what was almost exactly the Google algorithm as a solution to *their* problems with scientific publications ...

# L. Katz, 1953

# Pinski and Narin, 1976

and **then again in 1976.**

But of course, the Google happiness didn't last. The internet grew, and only a few short years later ...

“this sucks!  
do something!”

... people were **complaining about information overload** again.

The problem will not go away. Someone has to find a **new temporary fix** ...

# new fix needed

... for this old  
problem.

# personalization?

**Personalization** might be it. If it improves a lot.

But personalization is just one possible fix. **There might be others.**



# there might be others

It might be worthwhile to think about those other possibilities. All these strategies cannot be scaled indefinitely: You can't simply have larger and larger encyclopedias or more and more alphabetical indexes. The next step always comes from another, unexpected direction, it may be at right angles to the existing strategies or be on a different level.

Even if personalization is what we will go with, it is quite likely, I'd say: almost certain, that after a while ...

# diminishing returns

... it will become **less and less helpful**. We will realize that even if our new tools only serve us perfect results, the ones that are ...



... most relevant to our  
interests ...

too. much.  
interesting. stuff.

... even in this perfect world **there will be too much interesting, relevant, important stuff out there.**

other strategies  
might be out there

The alternatives to personalization as well as the new temporary fix that will come after personalization **might already be out there**. The idea for Google's PageRank algorithm had been published for almost fifty years when Google started to use it. If you manage to ...

**\$\$\$! €€€!**

find this future concept, it might be make you as rich as Larry Page and Sergey Brin. Start looking. Thank you.

# Thank you!

[kathrin.passig.de](http://kathrin.passig.de)

Twitter: [@kathrinpassig](https://twitter.com/kathrinpassig)