

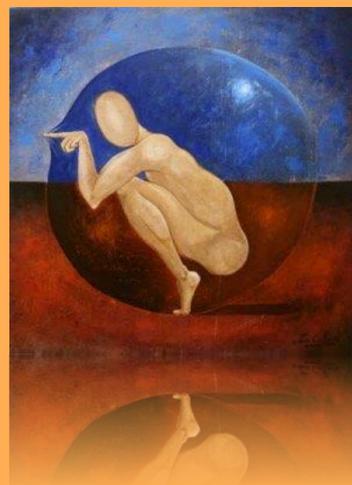
Bias Chosen and Bias Learnt:

The Dangers of Personalised Algorithms and Priming

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Introduction

Search engines, like Google and Bing, use algorithms, ranking methods, and other systems to filter, file, and arrange search results in orders that best suit our individual needs and preferences, in the end giving us the information we want, but perhaps not what we need. This creates something called a Filter Bubble, which is the state in which every passive user exists. Then as we allow our search results to be filtered for use we become primed to act in a way that is dictated by the information and responses we receive as search results, whether they be good, bad or just popular opinion.



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Research Purpose

This study argues that personalized algorithms are creating bias. It also argues that this bias coupled with priming poses a significant and immediate danger to our increasingly globalized world.

This danger is caused through:

- Our inability to recognize priming when it occurs
- Preferences are instinctively given to the search results on the first page, biasing us against minority or dissenting opinion,
- Lack of information and the presence of priming, which causes us to make and act upon highly uninformed decisions.
- Ranking systems going beyond helpful Jeeves to dangerously misleading our sense of belonging, group approval, and familiarity causing us to become biased, echo chambers of not right but popular opinions

Priming and Bias

Priming: Is the assimilation of ideas through sub-conscious association that then dictates the way we act. The most famous examples of priming are those done in the late 1990's. A group of students were given 7 scrambled sentence containing words implying patience. Another group was given a selection of sentences of words associated with patience. Then the students were placed in a situation where they had to interrupt. In every case, the students who were primed with impatience interrupted, while, of the "patient ones," 80% never interrupted a fantastically boring conversation. In a more recent Swiss study, the researchers examined priming's effect on political views. They discovered that priming retrieves biased information that has already been stored in our subconscious. We then act upon this information.

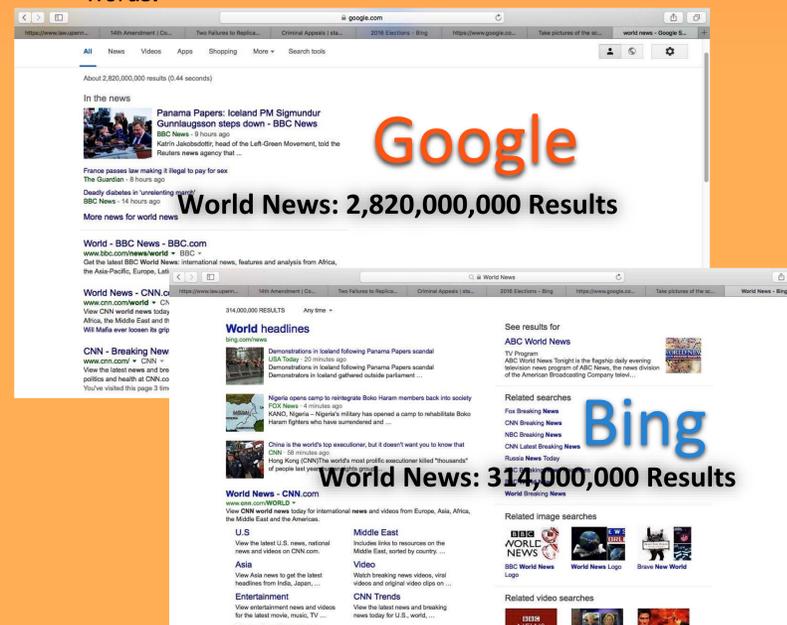
Search Engine Bias: The results we get from our search engine are those that are either the most popular or the most similar to what we have already viewed.

Methods

The purpose of the pilot study is to observe if there is a significant amount of deviation in search engine returns per user.

This will be done through experiments that explore the degree of deviation in each search.

- Experiment will compare the number of search results. See the pictures below
- Experiment will compare the top five hits, because research shows that order is more critical in influencing consumers than titles.
- I will compare the various possible priming messages which can be found on the website pages. For instance when one searches the word "illegal" what are the related searches. If related words are "immigrant," "drugs," "marijuana" then I will examine the possibly harmful primed response to those words.



Search Engine Bias (continued): These results are gathered using our friends list, our search preferences, the most popular sites on the internet related to the subject we searched, and our internet location. Studies have shown that we rank the importance or value of a search result based on its rank on the page, which means that top results will receive most of our attention. This puts us in a filter bubble of the most popular ideas. When we hear a dissident view we tend to dismiss it. Take the vaccine debate, people on both sides are ignorant of the other positions, and unwilling to concede any points not from knowledge of the others view, but from bias.

Expected Results

- Priming causes marked behavioural changes.
- The effect of bias and priming on a passive viewer in an increasingly globalized society can cause dangerous, irrational polarization.
- The results can decrease the flow of ideas
- Because we give more importance to the first page of results, bias will prevent the free flow of minority or dissenting ideas



Significance

John Stuart Mill says that knowledge is gained through the free exchange of ideas, and the internet is meant to be a conduit of such ideas, which is why it is very important that we recognise the possibility of priming and the presence of search engine bias. It is important to know that popular ideas do not mean right ideas. We can break our filter bubbles.

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