Cui bono?

Identifying credible sources in incredible times

Summary

Climate change has become a political topic and is therefore vulnerable to fake news. Whenever confronted with a source of information you should ask yourself: Cui bono - Who profits?

Science should follow educational purposes, but especially when dealing with political topics, scientific findings can be diverted. Thus always take care that your sources have quality assuring measures trying to guarantee that they are based on facts instead of assumptions or opinions – which means that social media never is a credible source.

Figure 1: Fake news is not just a recent phenomenon...

Definitions

Fake news
Information which is not based on actual (scientific) facts but intentionally and verifiably false. It is used to manipulate the audience in favour or against a certain ideology, organisation or person. Fake news are mostly known in political contexts but affect all kinds of sectors including science. [1,3]

They are not to be confused with misinformation, which does not necessarily have to have a manipulatory character[3].

Credibility
The extent to which a source is recognised as reliable knowledge, instead of being a set of random information or politically influenced. The credibility of a scientific source is always associated with the researcher's or the organisation's credibility[5].

Fake news, the media and climate science

Climate change is a politicised and polarised issue with various groups having financial and ideological motivations to undermine scientific credibility by questioning the existence of a scientific consensus about human-made climate change[5,6]. The inherent uncertainties and discussions of the scientific discourse make it easy to divert the public discussion towards arguments supporting ideological or fincancial interests[5].

If such fake news are published by people with a high coverage (figure 2), the mistrust of the general public against science is raising. Thus scientists are constantly forced to rebut false information and emphasize the existence of a scientific consensus about human-made climate change[6] as well as encouraging politics to take action.

Figure 2: A twitter post of probably the world's most famous climate change denier[8].

The amount of fake news mentioned in the media has increased during the last years[2] and social media is the main source[1] - especially when it comes to political topics such as climate change. In social media everyone can become a publisher without the need to prove expertise[3]. Instead, expertise is associated with frequent posts about the same topic[4] or based on personal relationships[1,5].

People tend to prefer information confirming their preexisting beliefs and gather in corresponding social groups, which leads to a bias of the information they receive on social media. It makes them vulnerable for certain types of fake news[1].

Credibility checklist

Being able to evaluate the credibility of a given source is crucial. We are going to provide some criteria you can use for such an evaluation as well as an (extraordinary bad) example source on which we performed a credibility check.

What is the origin of the source? When found at the university's library, or via an online platform that you can access with your university account, the source should have a certain standard[7] (but be careful anyhow).

✗ *The example (figure 4) was found on the website of the "Oregon Petition" demanding the US not to sign the Kyoto Protocol.*

What do we know about the author? Does the source even have one? Has he/her published in that field before? What kind of institution does he/her work for? [7]

✗ *The author Arthur B. Robinson is a conservative scientist and politician, working for a privately funded institute that is known for being politically influenced.*

Does the article seem to be manipulative? Is emotional language used? How controversial are the statements?

✗ *Other studies are used to justify a political opinion.*

Is background information available? What do we know about the quality assuring process of the platform? Has the article been cited in a quality journal?

✗ *No information on quality assurance or citations to be found.*

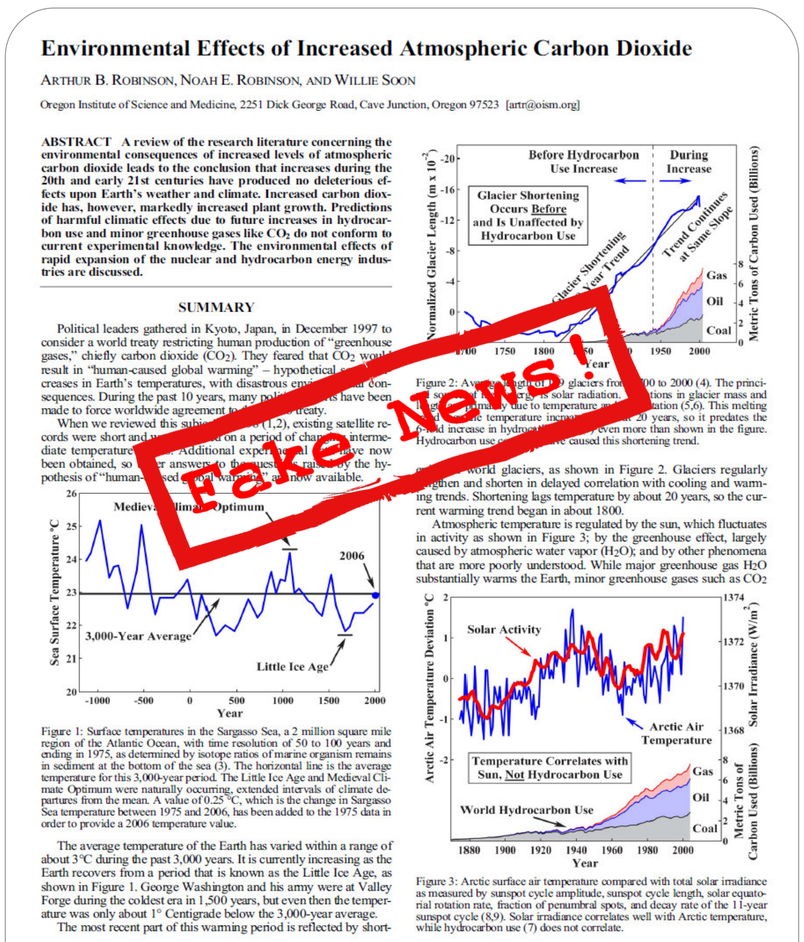

Figure 4: This article[10] was found on the website of the Oregon Petition from 1999, demanding from the US government not to sign the Kyoto Protocol because the existence of climate change is not proven. The petition claimed to be signed by 31.000 scientists, which accounted as prove for the lack of a scientific consensus about the existence of human made climate change[9]. It was published in the Journal of American Physicians and Surgeons, which is known for promoting various scientifically discredited research hypotheses.

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