

Web Literacy for Student Fact-Checkers

by Mike Caulfield



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PART I

FOUR STRATEGIES AND A HABIT

1. Why This Book?

The web is a unique terrain, substantially different from print materials, and yet too often attempts at teaching information literacy for the web do not take into account both the web's unique challenges and its unique affordances.

Much web literacy we've seen either gets students to look at web pages and think about them, or teaches them to publish and produce things on the web. While both these activities are useful, neither addresses real problems students confront evaluating the information that streams to them daily. For these daily tasks, students don't need long lists of questions to think about while gazing at web documents. They need concrete strategies and tactics for tracing claims to sources and for analyzing the nature and reliability of those sources.

The web gives us many such strategies and tactics and tools, which, properly used, can get students closer to the truth of a statement or image within seconds. For some reason we have decided not to teach students these specific techniques. As many people have noted, the web is both the largest propaganda machine ever created and the most amazing fact-checking tool ever invented. But if we

haven't taught our students those capabilities is it any surprise that propaganda is winning?

This is an unabashedly practical guide for the student fact-checker. It replaces (or perhaps supplements) generic information literacy with the specific web-based techniques that can get you closer to the truth on the web more quickly.

We will show you how to use date filters to find the source of viral content, how to assess the reputation of a scientific journal in less than five seconds, and how to see if a tweet is really from the famous person you think it is or from an impostor.

We'll show you how to find pages that have been deleted, figure out who paid for the web site you're looking at, or whether the weather portrayed in that viral video actual matches the weather in that location on that day. We'll show you how to check a Wikipedia page for recent vandalism, and how to search the text of almost any printed book to verify a quote. We'll teach you to parse URLs and scan search result blurbs so that you are more likely to get to the right result on the first click. And we'll show you how to avoid baking confirmation bias into your search terms.

In other words, we'll teach you web literacy by showing you the unique opportunities and pitfalls of searching for truth on the web. Crazy, right?

This is the instruction manual to reading on the modern internet. We hope you find it useful.

2. Four Strategies

What people need most when confronted with a claim which may not be 100% true is *things they can do to get closer to the truth*. They need something we have decided to call strategies.

Strategies represent intermediate goals in the fact-checking process. They are associated with specific tactics. Here are our strategies:

- **Check for previous work:** Look around to see if someone else has already fact-checked the claim or provided a synthesis of research.
- **Go upstream to the source:** Go “upstream” to the source of the claim. Most web content is not original. Get to the original source to understand the trustworthiness of the information.
- **Read laterally:** Read laterally.¹ Once you get to the source of a claim, read what other people say about the source (publication, author, etc.). The truth is in the network.
- **Circle back:** If you get lost, or hit dead ends, or find yourself going down an increasingly

1. We are indebted to researcher Sam Wineburg for this language.

confusing rabbit hole, back up and start over knowing what you know now. You're likely to take a more informed path with different search terms and better decisions.

In general, you can try these strategies in sequence, and at each stage if you find success your work might be done.

When you first see a claim you want to check, your first move might be to look to see if sites like Politifact, or Snopes, or even Wikipedia have researched the claim. (Check for previous work).

If you can't find previous work on the claim, the real work begins. It starts by trying to trace the claim to the source. If the claim is about research, can you find the journal it appeared in? If the claim is about an event, can you find the news publication in which it was originally reported? (Go upstream).

Maybe you get lucky, and the source is something known to be reputable — some recognizable source such as the journal *Science*, or the newspaper *The New York Times*. Again, if so, you can stop there. If not, you're going to need to *read laterally*, finding out more about this source you've ended up at. Is it trustworthy? (Read laterally).

And if at any point you fail — if the source you find is not trustworthy, complex questions emerge, or the claim turns out to have multiple sub-claims — then you circle back, and start a new process. Rewrite the claim. Try a new search of fact-checking sites, or find an alternate source. (Circle back).

3.

Building a Fact-Checking Habit by Checking Your Emotions

In addition to our strategies we'll introduce one more word of advice: *Check your emotions*.

This isn't quite a strategy (like "go upstream") or a tactic (like using date filters to find the origin of a fact). For lack of a better word we are calling it a habit.

The habit is simple. When you feel strong emotion — happiness, anger, pride, vindication — and that emotion pushes you to share a "fact" with others, STOP. Above all, it's these things that you must fact-check.

Why? Because you're already likely to check things you know are important to get right, and you're predisposed to analyze things that put you an intellectual frame of mind. But things that make you angry or overjoyed, well... our record as humans are not good with these things.

As an example, we might cite this tweet which recently crossed my Twitter feed:



Ron Hogan
@RonHogan



The Nazis murdered Sen. Schumer's great-grandmother, and most of her children.

Trump's father was arrested at a Ku Klux Klan rally.

Bradd Jaffy @BraddJaffy
Trump: "I noticed Chuck Schumer yesterday with fake tears" over immigration ban/refugees; "I'm gonna ask him who is his acting coach"

RETWEETS 55,682 LIKES 61,985

You don't need to know that much of the background here to see the emotionally charged nature of this. President Trump had insulted Chuck Schumer, a Democratic Senator from New York, saying tears that Schumer shed during a statement about refugees were "fake tears". This tweet reminds us that that Senator Schumer's great grandmother died at the hands of the Nazis, which could explain Schumer's emotional connection to the issue of refugees.

Or does it? Do we actually know that Schumer's great-grandmother died at the hands of the Nazis? And if we are not sure this is true, should we really be retweeting it?

Our normal inclination is to ignore verification needs when we strongly react to content, and researchers have found that content that causes strong emotions (both positive and negative) spreads the fastest through our social networks.¹ Savvy activists and advocates utilize this flaw of

ours, getting past our filters by posting material that goes straight to our heart.

Building new habits requires that we identify “pegs” on which to hang those habits. So use your emotions as a reminder — as a trigger for your fact-checking habit. If every time content you want to share makes you feel rage, or laughter, or ridicule, or, sorry to say, a heartwarming buzz — spend 30 seconds fact-checking you’ll do pretty well.

1. See [What Emotion Goes Viral the Fastest?](#) by Matthew Shaer.

PART II

LOOK FOR PREVIOUS WORK

4. How to Use Previous Work

When fact-checking a particular claim, quote, or article, the simplest thing you can do is to see if someone has already done the work for you.

This doesn't mean you have to accept their finding. Maybe they assign a claim “four Pinocchios” and you would rate it three. Maybe they find the truth “mixed” but honestly it looks “mostly false” to you.

But regardless of the finding, a reputable fact-checking site or subject wiki will have done much of the leg work for you — tracing claims to their source, identifying the owners of various sites, and linking to reputable sources for counterclaims. And that legwork — no matter what the finding — is probably worth ten times your intuition. If the claims and the evidence they present ring true to you — or if you have built up a high degree of trust the site — then you can treat the question as closed. But even if you aren't satisfied, you can start your work from where they left off.

Constructing a Query to Find Previous Fact-Checking

You can find previous fact checking by using the “site”


option in search engines such as Google and Duck Duck Go to search known and trusted fact checking sites for a given phrase or keyword. For example, if you see this story:

Home About Archives Advertise Facebook Twitter YouTube

MORE HYPOCRISY: Obama Banned all Iraqi Refugees for 6 Months in 2011 – Liberals SAID NOTHING!

Jim Hoft Jan 28th, 2017 1:40 pm — 88 Comments

Protests erupted at JFK's terminal 4 on Saturday after incoming refugees were detained by customs and border patrol agents following Trump's executive order temporarily banning refugees from 7 Muslim countries.



Then you might use this query, which checks a couple known fact-checking sites for the keywords 'obama iraqi refugee ban 2011'. Let's use the Duck Duck Go search engine to do this:

obama iraqi visa ban 2011 site:snopes.com site:politifact.com

Here's what we get back for results:



obama iraqi visa ban 2011 site:snopes.com site:politifact.com



Web Images Videos

All Regions ▾ Anytime ▾

Showing results from: snopes.com × politifact.com × All Results

Did President **Obama** Ban Muslims from Entering the United ...

... back in **2011** when Barack **Obama** banned **Iraqi** refugees for six months the far ... **[2011 Iraqi "ban"]** ... Miriam. "U.S. Sued By Its **Iraqi** Helpers Over **Visa** ...

S snopes.com/president-obama-ban-muslims-2011/

Why comparing **Trump's** and **Obama's** immigration restrictions is ...

... My policy is similar to what President **Obama** did in **2011** when he banned ... blanket **ban** on visitors. **Obama**, ... by **Obama**, revising the United States' **visa** ...

PF politifact.com/truth-o-meter/statements/2017/jan/30/dona...

Snopes Search: did **obama** ban muslims in **2011**

Did President **Obama** Ban Muslims from Entering the United ... Comparisons between a **2011 Obama** administration slowdown on processing **Iraqi** ... **Visa** Declined ...

S snopes.com/search/?q=did+obama+ban+muslims+in+2011#!

Were the 7 nations identified in Donald **Trump's** travel **ban** ...

... were the seven nations that are identified in **Trump's** travel **ban** pegged by the **Obama** ... **2011**. They must have a **visa** ... Iraq, Libya, Somalia and ...

PF politifact.com/wisconsin/statements/2017/feb/07/reince-p...

You can see the search [here](#). You see that work has already been done in this area — in fact, the first result from Snopes answers our question pretty fully. Remember to follow best search engine practice — scan the results, looking at the URLs and the blurbs to find the best result to click in the returned result set.

There are similar syntaxes you can use in Google, but for various reasons this particular search is easier in Duck Duck Go.

Let's look at another claim — this one from the President. This claim is that police officer deaths increased 56 percent from 2015 to 2016. Here it is in context:

can to help you meet those demands. That includes a zero tolerance policy for acts of violence against law enforcement. We all see what happens. We all see what happens and what's been happening to you. It's not fair.

We must protect those who protect us. The number of officers shot and killed in the line of duty last year increased by 56 percent from the year before. Last year, in Dallas, police officers were targeted for execution -- think of this. Who ever heard of this? They were targeted for execution.

From a Trump speech

So let's ramp it up with a query that checks four different fact-checking sites:

officer deaths 2016 increased 56 percent from 2015
site:factcheck.org site:snopes.com site:politifact.com
site:www.washingtonpost.com/news/fact-checker/

This gives us back a helpful array of results. The first, from the Washington Post, actually answers our question directly, but some of the others provide some helpful context as well:



officer deaths in 2016 increased 56 percent from 2015 site:factcheck.org site

[Web](#) [Images](#) [Videos](#)

All Regions ▾ Anytime ▾

Showing results from: [factcheck.org](#) × [snopes.com](#) × [politifact.com](#) × [www.washingtonpost.com/news/fact-checker/](#) × [All Results](#)

Trump's claim that the number of officer deaths in 2016 ...

Trump's claim that the number of **officer deaths in 2016 increased 56 percent from 2015** ... and the percentage of **officers** killed by gunfire in **2016** was the ...

[wp](https://washingtonpost.com/news/fact-checker/wp/2017/02/09/trumps-cl-...) <https://washingtonpost.com/news/fact-checker/wp/2017/02/09/trumps-cl-...>

Are Black Police Officers More Likely to Kill Black People ...

... On 20 September **2016**, ... **percent** of the **officers** were ... In encounters that ultimately resulted in the **death** of an unarmed person in **2015**, ...

[S](https://snopes.com/black-police-officers-likely-kill-black-p-...) [snopes.com/black-police-officers-likely-kill-black-p...](https://snopes.com/black-police-officers-likely-kill-black-p-...)

Killed in the Line of Duty - factcheck.org

Donald Trump says there has been "a substantial rise in the number of **officers** killed in ... a **44 percent** increase in **officers** shot and killed so ... **56.25** under ...

[fc](https://factcheck.org/2016/07/killed-in-the-line-of-duty/) factcheck.org/2016/07/killed-in-the-line-of-duty/

Are most job-related deaths of police caused by traffic ...

... using information on **officer deaths** reported by its field offices, ... (**18.8 percent**) and traffic pursuit ... Even when you take the **2016** police **officer** shootings ...

[wp](https://washingtonpost.com/news/fact-checker/wp/2016/07/12/are-most-...) <https://washingtonpost.com/news/fact-checker/wp/2016/07/12/are-most-...>

Going to the Washington Post site we find out that this claim is for all intents and purposes true. We don't need to go further, unless we want to.

5. Fact-checking Sites

Some Reputable Fact-Checking Organizations

The following organizations are generally regarded as reputable fact-checking organizations focused on U.S. national news:

- [Politifact](#)
- [Factcheck.org](#)
- [Washington Post Fact Checker](#)
- [Snopes](#)
- [Truth be Told](#)
- [NPR Fact-Check](#)
- [Lie Detector](#) (Univision, Spanish language)
- [Hoax Slayer](#)

Respected specialty sites cover niche areas such as climate or celebrities. Here's a few examples:

- [Climate Feedback](#)
- [SciCheck](#)
- [Quote Investigator](#)

There are many fact-checking sites outside the U.S. Here is a small sample.

- [FactsCan](#) (Canada)
- [TrudeauMetre](#) (Canada)
- [El Polígrafo](#) (Mexico)
- [The Hound](#) (Mexico)
- [Guardian Reality Check](#) (UK)
- [BBC Reality Check](#) (UK)
- [Channel 4 Fact Check](#)
- [Full Fact](#) (UK)

6. Wikipedia

Wikipedia is broadly misunderstood by faculty and students alike. While Wikipedia must be approached with caution, especially with articles that are covering contentious subjects or evolving events, it is often the best source to get a consensus viewpoint on a subject. Because the Wikipedia community has strict rules about sourcing facts to reliable sources, and because authors must adopt a neutral point of view, articles are often the best available introduction to a subject on the web.

The focus on sourcing all claims has another beneficial effect. If you can find a claim expressed in a Wikipedia article, you can almost always follow the footnote on the claim to a reliable source. Scholars, reporters, and students all can benefit from using Wikipedia to quickly find authoritative sources for claims.

As an example, consider a situation where you need to source a claim that the Dallas 2016 police shooter was motivated by hatred of police officers. Wikipedia will summarize what is known about his motives, but, more importantly, will source each claim, as follows:

Chief Brown said that Johnson, who was [black](#), was upset

about recent police shootings and the Black Lives Matter movement, and “stated he wanted to kill white people, especially white officers.”^{[4][5]} A friend and former coworker of Johnson’s described him as “always [being] distrustful of the police.”^[6i] Another former coworker said he seemed “very affected” by recent police shootings of black men.^[64] A friend said that Johnson had [anger management](#) problems and would repeatedly watch video of the 1991 beating of [Rodney King](#) by police officers.^[85]

Investigators found no ties between Johnson and international terrorist or domestic extremist groups.^[66]

Each footnote leads to a reliable source. The article as a whole contains over 160 footnotes. If you are researching a complex question, starting with the resources and summaries provided by Wikipedia can give you a substantial running start on an issue.

PART III

GO UPSTREAM

7. Go Upstream to Find the Source

Our second strategy, after finding previous fact-checking work, is to “go upstream”. We move to this strategy if previous fact-checking work was insufficient to our needs.

What do we mean by “go upstream”?

Consider this claim on the conservative site The Blaze:

Report: US Government Ethics director approved controversial Trump tweets

Kaitlyn Schallhorn © December 30, 2016 4:02 pm



Getty Images/Drew Angerer

34

Follow

f SHARE

🐦 TWEET



Controversial tweets from the U.S. Office of Government Ethics that praised President-elect Donald Trump were approved by Director Walter M. Shaub personally, the Daily

Is that true?

Of course we can check the credibility of this article. Who is the author? What is the site? When was it last revised?

We'll do some of that, eventually. But it would be ridiculous to do it on this page. Why? Because like most news pages on the Web, this one provides no original information. It's just a rewrite of an upstream page. We see the indication of that here:

Controversial tweets from the U.S. Office of Government Ethics that praised President-elect Donald Trump were approved by Director Walter M. Shaub personally, [the Daily Dot reported Friday](#).

Through a Freedom of Information Act, [the Daily Dot](#) reported that Shaub sent an email ordering an OGE official to post the tweets. The series of tweets posted Nov. 30 applauded Trump for his supposed efforts to alleviate conflicts of interest with his businesses.

All the information here has been collected, fact-checked (we hope!), and written up by The Daily Dot. It's what we call "reporting on reporting". There's no point in evaluating The Blaze's page.

So what do we do? Our first step is to go upstream. Go to the original story and evaluate it. When you get to the Daily Dot, then you can start asking questions about the site or the source. And it may be that for some of the information in the Daily Dot article you'd want to go a step further back and check their primary sources. But you have to start there, not here.

8. Identifying Sponsored Content

Our warning to “go upstream” before evaluating claims is particularly important with sponsored content. For instance, a lot of time on a site you’ll see “headlines” like these, which I pulled from a highly regarded technology magazine:

The screenshot shows the Network World website interface. At the top left is the Network World logo with the URL networkworld.com. At the top right is a 'SIGN IN' button. Below the navigation bar is a blue banner that says 'YOU MIGHT LIKE' and 'Ads by Performance'. The main content area is a grid of ten article thumbnails, each with a small image and a headline. The first article in the top row is titled 'Lawmakers Concerned About Insane Military Scope Released To' and features a yellow highlight on the word 'Scope'. The second article is 'Ken Fisher's Firm Has Come Up with 99 Tips for Retirement'. The third is 'Why Doctors in the Know No Longer Prescribe Metformin'. The fourth is 'CBS2 News Reports Meal Service Is Cheaper Than Grocery'. The fifth is 'The Do's And Don'ts Of Scalp Psoriasis'. The second row contains '1 Weird Trick That Freeze Your Face Into', 'Dell EMC patches critical flaws in VMAX', 'Virtual Superman: How Six Flaws added more', 'Tech shines at new Vikings Stadium', and 'How This App Can Teach You Spanish In'.

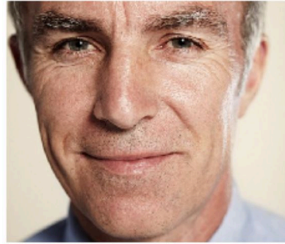
Look at the headline in the upper left corner. Are lawmakers really concerned about this insane military scope? Maybe. But note that *Network World* is not making this claim. Instead, the ZeroTac Tactical Scope company is making the claim. It’s an ad, served from another site into this page in a way that makes it look like a story.

YOU MIGHT LIKE



Lawmakers Concerned About Insane

ZeroTac Tactical Scope



Ken Fisher's Firm Has Come Up with 99 Tips

Fisher Investments



Why Do the Kn Longer


Vibrant Hea



Sponsored content isn't always purely an advertisement. Sometimes it provides helpful information. This piece below, for example, is an in-depth look at some current industry trends in information technology.

Home > Datacenters

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By **Paul Miller** | Follow
OCT 31, 2016



The source of this article is not *InfoWorld*, but the technology company Hewlett Packard, and the piece is written by a VP of Hewlett Packard, with no *InfoWorld* oversight. (Keep an eye out on the web for articles that have a “Sponsored” indicator above or below them — they are more numerous than you might think!)

You can see how this is not just an issue with political news, but will be an issue in your professional life as well. If you go to work in a technology field and portray this article to your boss as “something I read on *InfoWorld*”, you’re doing a grave disservice to your company. Portraying a vendor-biased take as a neutral *InfoWorld* take is a mistake you might come to regret.

9. Activity: Spot Sponsored Content

Rank the following news sources on how much sponsored content you believe their pages will feature: CNN, BuzzFeed, Washington Post, Huffington Post, Breitbart, New York Times.

Individually or in groups, visit the following pages and list all sponsored content you see, tallying up the total amount on each page. Then rank the sites from most sponsored content to least.

1. <http://www.cnn.com/2017/02/10/politics/russia-dossier-update/index.html>
2. <http://money.cnn.com/news/>
3. <http://www.vox.com/polyarchy/2017/2/10/14569306/congress-shut-off-phones>
4. <https://www.buzzfeed.com/tylerkingkade/laura-dunns-campus-rape-fight>
5. https://www.washingtonpost.com/powerpost/a-gift-and-a-challenge-for-democrats-a-restive-active-and-aggressive-base/2017/02/11/e265dd44-efef-11e6-b4ff-ac2cf509efe5_story.html
6. <http://www.huffingtonpost.com/entry/yale->

calhoun-college-grace-
hopper.us_589f792ce4b094a129eb8a0?tiall3di&

7. <http://www.breitbart.com/video/2017/02/11/japan-condemns-n-korea-missile-launch-trump-u-s-stands-behind-japan-100-percent/>
8. <https://www.nytimes.com/2017/02/11/us/state-republican-leaders-move-swiftly.html?>

Did the ranking surprise you at all?

10. Understanding Syndication

Syndication — the process by which material from one site is published automatically to another site — creates related kinds of upstream issues. Consider this New York Times web page:

The screenshot shows a news page layout with several columns. On the left, under the 'EUROPE' section, there are three articles: 'Germany's Latest Best Seller? A Critical Version of 'Mein Kampf'' by Melissa Eddy, 'Italian Inmates Sip, Smell and Taste Their Way to Rehabilitation' by Sara Pappalardo, and 'ISIS Claims Responsibility for Istanbul Nightclub Attack' by Timarango. In the middle column, a yellow banner reads 'NEWS FROM A.P. AND REUTERS'. Below it are three articles: 'UK Stock Market Hits Record as Manufacturers Win Business' by AP, 'The Latest: Lebanon Bids Farewell to Istanbul Victims' by Reuters, and 'Inmates Involved in Brazil Prison Massacre to Be Transferred' by AP. At the bottom of this column is 'Severe Bolivian Drought Hurts Crops, Threatens Capital' by AP. On the right, there is a Twitter feed for @NYTIMESWORLD ON TWITTER with a 'FOLLOW' button. Below the Twitter feed is a video player for 'WORLD Several German Victims in Istanbul Shooting' with a 'PLAY VIDEO' button and a duration of 1:12. The video player shows a scene with people in a dark setting.

We see a set of stories on the left (“Germany’s Latest Best Seller”, “Isis Claims Responsibility”) written by New York Times staff, but also a thin column of stories (“UK Stock Market Hits Record”) which are identified as being from the Associated Press.

You click through to a page that’s on the New York Times site, but not by the New York Times:

EUROPE

UK Stock Market Hits Record as Manufacturers Win Business

By THE ASSOCIATED PRESS JAN. 3, 2017, 7:30 A.M. E.S.T.



LONDON — Britain's main stock index hit a record closing high Tuesday as a survey showed manufacturers gaining business from the slide in the value of the pound since the country's decision in June to leave the European Union.

The FTSE 100 index ended the day 0.5 percent higher at 7,177.89, slightly down on its earlier all-time high of 7,205.21.

If you are going to evaluate the source of this article, your evaluation will have little to do with the New York Times. You're going to focus on the reporting record of the Associated Press.

People get this wrong all the time. One thing that happens occasionally is that an article critical of a certain politician or policy suddenly disappears from the New York Times site, and people claim it's a plot to rewrite the past. "Conspiracy!" they say. "They're burying information!" they say. A ZOMG-level freakout follows.

It always turns out that the article that disappeared is a syndicated article. AP articles, for example, are displayed on the site for a few weeks, then "roll off" and disappear from the site. Why? Because the New York Times only pays the Associated Press to show them on the site for a few weeks.

You'll also occasionally see people complaining about a story from the New York Times, claiming it shows a New York "liberal bias" only to find the story was not even writ-

ten by the New York Times, but by the AP, or Reuters, or some other syndicator.

Going upstream means following a piece of content to its true source, and beginning your analysis there. Your first question when looking at a claim on a page should be “Where did this come from, and who produced it?” The answer quite often has very little to do with the website you are looking at.

Tracking the Source of Viral Content

In the examples we've seen so far, it's been straightforward to find the source of the content. The *Blaze* story, for example, clearly links to the *Daily Dot* piece so that anyone reading their summary is one click away from confirming it with the source. The *New York Times* makes apparent that the syndicated content is from the Associated Press; if you wanted to check the credibility of the source you could easily do that.

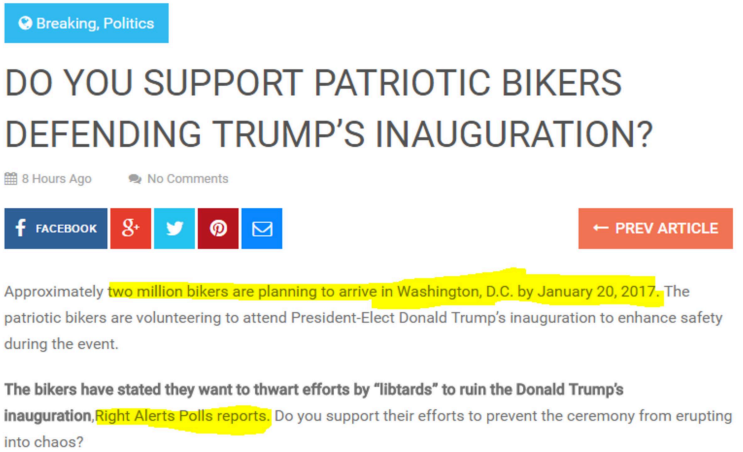
This is good internet citizenship. Articles on the web that repurpose other information or artifacts should state their sources, and, if appropriate, link to them. This matters to creators, because they deserve credit for their work. But it also matters to readers who need to check the credibility of the original sources.

Unfortunately, many actors on the web are not good citizens. This is particularly true with so-called “viral” content — material that spreads very quickly as hundreds or thousands of people share it.

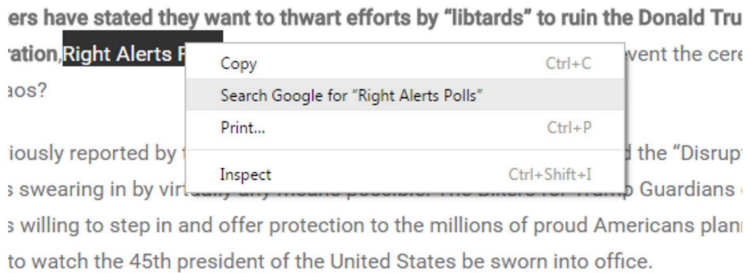
When that information travels around a network, people often fail to link to sources, or hide them altogether.

For example, here is an interesting claim that two million bikers are going to show up for President-elect Trump's inauguration. Whatever your political persuasion, that would be a pretty amazing thing to see.

But the source of the information — *Right Alerts Polls* — is not linked.



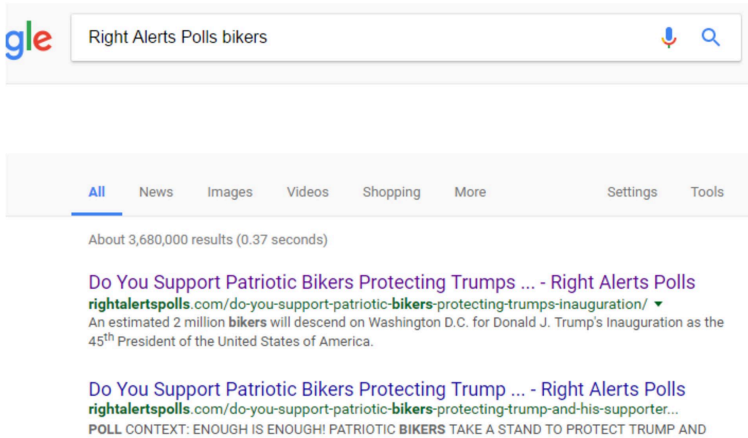
Here's where we show our first trick. Using the Chrome web browser, select the text "Right Alerts Polls". Then right-click your mouse (control-click on a Mac), and choose the option to search Google for the highlighted phrase.



It will execute a search for "Right Alerts Polls". (Remem-

ber this right-click action — it’s going to be the foundation of a lot of stuff we do.)

To find the story, add “bikers” to the end of the search:



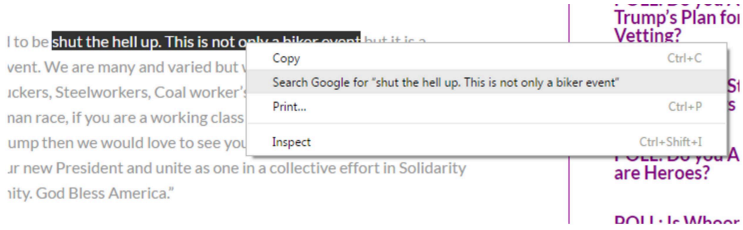
We find our upstream article right at the top. Clicking through, however, we find that this article doesn’t tell us where the information is coming from either. However, it does have an extended quote from one of the Two Million Bikers organizers:

From the 2 Million Bikers to DC

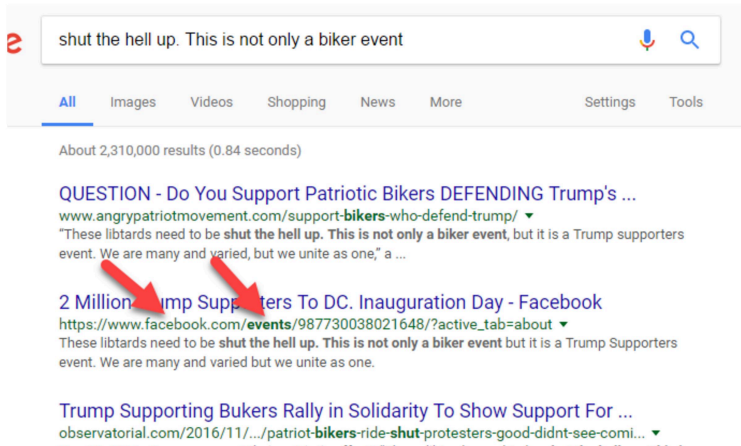
“ “These libtards need to be shut the hell up. This is not only a biker event but it is a Trump Supporters event. We are many and varied but we unite as one. Christian, Veterans, Bikers, Truckers, Steelworkers, Coal worker’s, Preachers, Fast food workers, all Colors on the human race, if you are a working class American and you support Mr. President Donald Trump then we would love to see you there. Our main objective is to show our Love for our new President and unite as one in a collective effort in Solidarity Brotherhood and Unity. God Bless America.”

So we just repeat our technique here, and select a bit of text from the quote and right-click/control-click. What we want is to figure out where this quote came from, and

searching on this small but unique piece of it should bring it close to the top of the Google results.



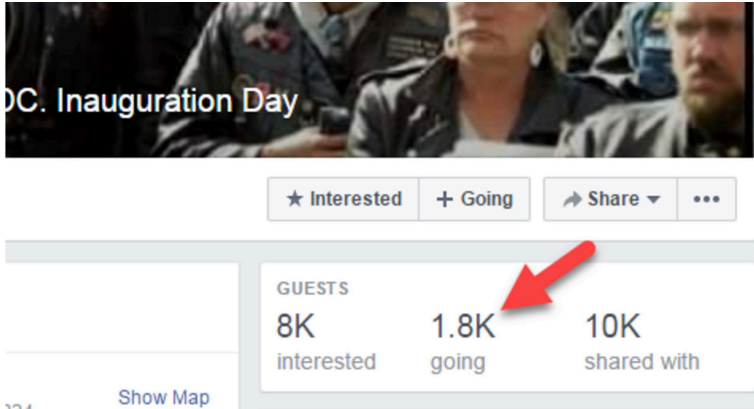
When we do that we see that there are dozens of articles covering this story, using the the same quote and sometimes even the same headline. But one of those results is the actual Facebook page for the event, and if we want a sense of how many people are committing, then this is a place to start.



This also introduces us to another helpful practice — when scanning Google results (or Bing results, or Duck-DuckGo results) novices scan the titles. Pros scan the URLs beneath the titles, looking for clues as to which sources are best. (Be a pro!)

So we go to the Two Million Biker Facebook event

page, and take a look. How close are they to getting two million bikers to commit to this?



Well...it looks like about 1,800. That's nothing to sneer at — organizing is hard, and people have lives to attend to. Getting people to give up time for political activity is tough. But it's pretty short of the "two million bikers" most of these articles were telling us were going to show up.

When we get into how to rate articles on the DigiPo site as true or false, likely or unlikely, we'll talk a bit about how to write up the evaluation of this claim. Our sense is the rating here is either "Mostly False" or "Unlikely" — there are people planning to go, that's true, but the importance of the story was based around the scale of attendance, and all indications seem to be that attendance is shaping up to be about a tenth of one percent (0.1%) of what the other articles promised. Importantly, we would have learned none of this had we

decided to evaluate the original page. We learned this by going upstream.

12. Tracking the Source of Viral Photos

One of the more viral types of content on the World Wide Web is photography. It is also some of the most difficult to track upstream to a source. Here's a picture that showed up in my stream the other day:



OK, so what's the story here? To get more information, I pull the textual information off the image and throw it in a Google search:

shopper upset over double-parked car abc action news

All News Images Videos Shopping More Settings Tools

About 2,830,000 results (0.57 seconds)

Shopper upset over double-parked car - YouTube
<https://www.youtube.com/watch?v=9QU7zqdr7IY> ▼
2 days ago - Someone didn't appreciate this bad parking job in Oregon, and decided to box it in with shopping carts. ... The ABC Action News app brings you the latest trusted news and information. ... ABC Action News, WFTS, covers local news in Tampa Bay and Florida.

Double-parked car blocked with shopping carts - FOX 13 News
www.fox13news.com/trending/224946987-story ▼
1 day ago - We've all been there. You're in the midst of holiday shopping and the parking lots are full.
Missing: aetien
You visited this page on 12/22/16.

This brings me to a YouTube video that tells me this was taken “outside a Portland, Oregon Walmart” and has been shared “hundreds of times since yesterday”. So back to search. This next result shows you why you always want to look past the first result:

Google shopping carts double-parked portland or

All Shopping Images Maps News More Settings Tools

About 153,000 results (0.97 seconds)

Top stories

Double-parked car blocked with shopping carts | FOX 13 Tampa Bay
 FOX 13 News, Tampa Bay · 1 day ago

→ More for shopping carts double-parked portland or

Double-parked car blocked with shopping carts | FOX 13 Tampa Bay
www.fox13news.com/trending/224946987-story
 1 day ago · We've all been there. You're in the midst of holiday **shopping** and the **parking** lots are full. You visited this page on 12/22/16.

Shopper upset over double-parked car - YouTube
<https://www.youtube.com/watch?v=9QU7zqdr7IY>
 2 days ago · Uploaded by ABC Action News
 Someone didn't appreciate this bad **parking** job in Oregon, and decided to box it in with **shopping carts** ...
 Missing: peatland
 You've visited this page 2 times. Last visit: 12/22/16

Driver Double Parks, Gets Instant Karma (Photo) - America Now
www.americanow.com/story/society/.../driver-double-parks-gets-instant-karma-photo
 10 hours ago · A Walmart shopper who **double parked** got a dose of karma when ... showing the car clearly parked in two spots outside of a **Portland**, Maine, Walmart. ... angry shopper -- was a series of **shopping carts** completely blocking it.

Photo of car surrounded by shopping carts at Walmart goes viral | WGME
wgme.com/news/local/photo-of-car-surrounded-by-shopping-carts-goes-viral
BIDDEFORD (WGME) — A photo of a car taking up two **parking** spots surrounded by **shopping carts** at the ... Matthew Mills of Old Orchard Beach took the picture of the **parking** lot justice ... Eight arrested in South **Portland** prostitution sting.

Which one of these items should I click? Again, the idea here is to get “upstream” to something that is closer to the actual event. One way to do that is to find the earliest post, and we’ll use that in a future task. But another way to get upstream is to get closer to the event in space. Think about it — who is more likely to get the facts of a local story correct — the local newspaper or a random blog?

So as I scan the search results I’m looking at the URLs. *Fox 13 News* has it in “trending”. *AmericaNow* has it in the “society” section.

But the WGME link has the story in a “news/local/” directory. This is interesting, because the other site said it happened in Oregon, and here the location is clearly Maine. But this URL pattern is a strong point in its favor.

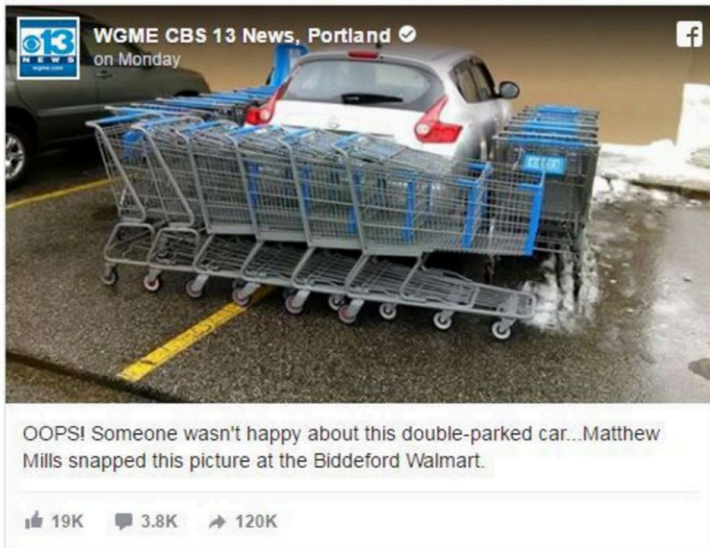
Further indications here that it might be a good source is that we see in the blurb it mentions the name of the photographer “Matthew Mills”. The URL plus the specificity of the information tell us this is the way to go.

This takes me to what looks like the news page where it went viral, which embeds the original post.

BIDDEFORD (WGME) -- A photo of a car taking up two parking spots surrounded by shopping carts at the Biddeford Walmart has been shared all over the country.

Matthew Mills of Old Orchard Beach took the picture of the parking lot justice Sunday afternoon.

CBS 13 posted it Monday morning, and it went viral.



We see here that the downstream news report we found

first had a bunch of things wrong. It wasn't in Portland, Oregon — it was in Biddeford, which is near Portland, Maine. It hasn't been shared “hundreds of times” — it's been shared hundreds of thousands of times. And it was made viral by a CBS affiliate, a fact that ABC Action News in Tampa doesn't mention at all.

OK, let's go one more step. Let's look at the Facebook page where Matthew Mills shared it. Part of what we want to see is whether it was viral before CBS picked it up or not. I'd also like to double check that Mills is really from the Biddeford area and see if he was responsible for the shopping carts or just happened upon this scene.

The news post does not link back to the original, so we search on Matthew Mills again, and see some news outlets mentioning the original caption by Mills: “This guy got a lesson in parking”.



That's not the same as the caption that the news station put up — maybe it's what Mills originally used? We pump “got a lesson in parking” Matthew Mills into Facebook, and bingo: we get the original post:

Facebook search results for "got a lesson in parking" Matthew Mills. The search bar shows the query and the name "Matthew Mills". The navigation bar includes "Top", "Latest", "People", "Photos", "Videos", "Shop", "Pages", "Places", and "Group".

POSTED BY

- Anyone
- You
- Your Friends
- Your Friends and Groups
- ... Choose a Source...


TAGGED LOCATION

- Anywhere
- Camas, WA
- Boston, MA
- ... Choose a Location...


DATE POSTED

- Anytime
- 2016
- 2015
- 2014
- ... Choose a Date...


Links

 Shoppers get revenge on car taking up two spaces
 BIDDEFORD, Maine -- A visitor to a Wal-Mart in Maine took...
 kdvr.com
 2 hours ago · 247 shares

Public Posts

 **Matthew Mills**
 December 18 at 11:22am · Biddeford, ME · 🌐

This guy got a lesson in parking Hahah biddo walmart

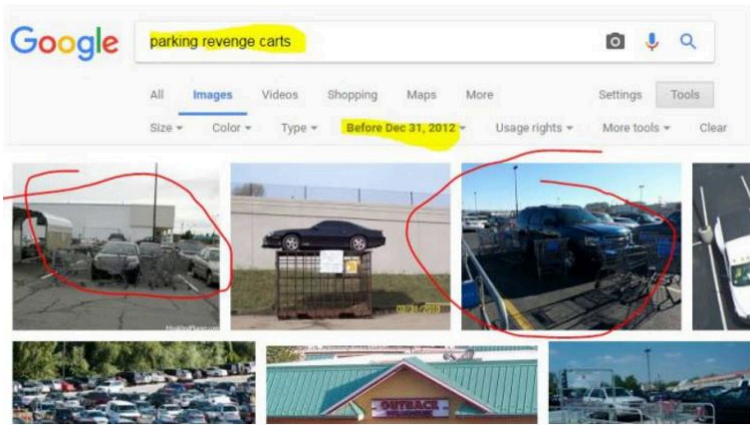


And here's where we see something unpleasant about news organizations. They cut other news organizations out of the story, every time. So they say this has been shared hundreds of times because in order to say it has been shared hundreds of thousands of times they'd have to mention it was popularized by a CBS affiliate. So they cut CBS out of the story.

This practice can make it easier to track something down to the source. News organizations work hard to find the original source if it means they can cut other news organizations out of the picture. But it also tends to distort how virality happens. The picture here did not magically become viral — it became viral due, largely, to the reach of WGME.

Incidentally, we also find answers to other questions in the Matthew Mills version: he took the picture but didn't arrange the carts, and he really is from Old Orchard Beach.

Just because we're extra suspicious, we throw the image into Google Image to see if maybe this is a recycled image. Sometimes people take old images and pretend they are theirs — changing only the the supposed date and location. A Google Reverse image search (see below) shows that It does not appear to be the case here, although in doing that we find out this is a very common type of viral photo called a “parking revenge” photo. The specific technique of circling carts around a double-parked car dates back to at least 2012:



When we click through we can see that the practice was popularized, at least to some extent, by Reddit users. See for instance this post from December 2012:

• 10 Mill... wait... what? OK.
14 Million Subscribers!



reddit

FUNNY **comments**

New "Subreddit Of The Month": /r/justgirlythings/

This is an archived post. You won't be able to vote or comment.

 1730 

Great parking job... (i.imgur.com)
submitted 4 years ago by I_Love_Poopin
160 comments share

all 160 comments

sorted by: **best** ▼

▲ [-] **SinisterDash** 166 points 4 years ago

So that's it. It's part of a parking revenge meme that dates back at least four years, and popularized by Reddit. This particular one was shot by Matthew Mills in Biddeford, Maine, who was not the one who circled the carts. And it became viral through the re-share provided by a local Maine TV station.

13. Using Google Reverse Image Search

most of the time finding the origin of an image on Twitter is easy. Just follow the links. For instance, take the chart in this tweet from Twitter user @NinjaEconomics. Should you evaluate it by figuring out who @NinjaEconomics is?

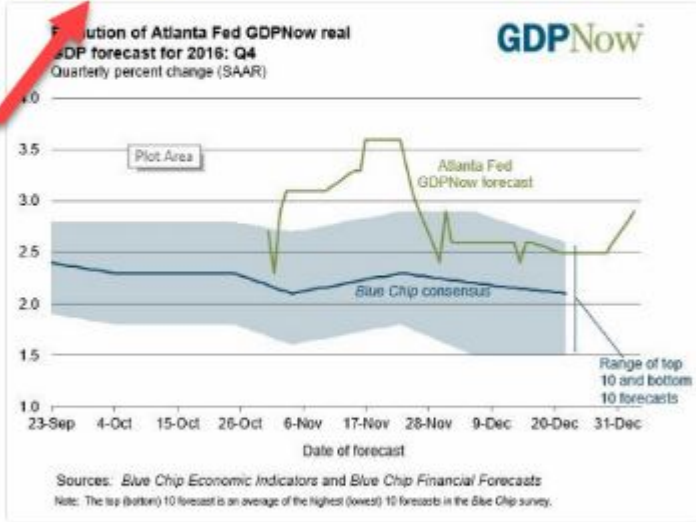


Ninja Economics
@NinjaEconomics



Following

On January 3, the #GDPNow model forecast for real GDP growth in Q4 2016 is 2.9%
goo.gl/Abqchm



RETWEETS
6

LIKES
5



3:00 PM - 3 Jan 2017



Nope. Just follow that link to the source. It's usually the last part of a tweet.

If you do follow that link, the chart is there, with a bunch more information about the data behind it and how it was produced. It's from the Atlanta Federal Reserve, and it's the Fed — not @NinjaEconomics — that you want to evaluate.

But sometimes people will post a photo that has no source, as this person does here:



So we have questions.

First, is this actually a National Geographic photographer?

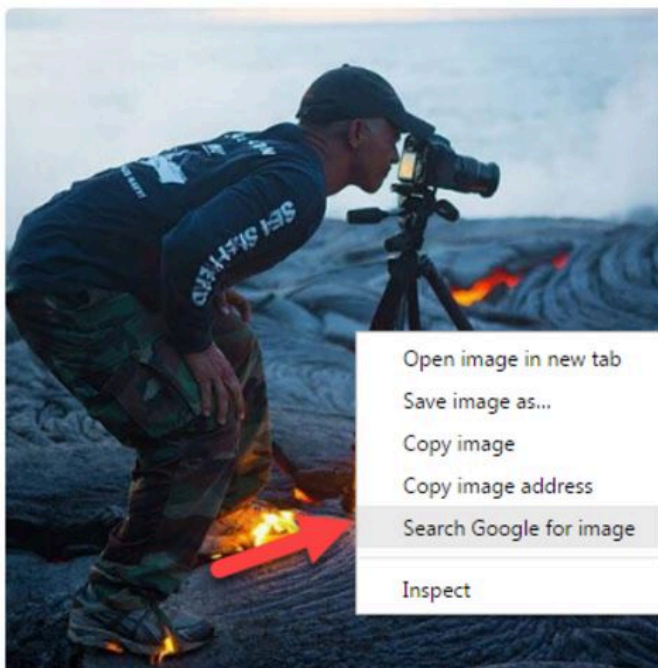
More importantly, is this real? Is that lava so hot that it will literally set a metal tripod on fire? That seems weird, but we're not lava experts.

There's no link here, so we're going to use reverse image search. If you're using Google Chrome as a browser (which you should be for this class) put the cursor over the photo and right-click (control-click on a Mac). A "context menu" will pop up and one of the options will be "Search Google for image."



dead boyfriend
@unsmokable

the life of a national geographic pho

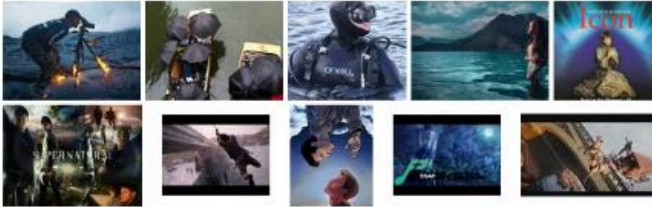


(For the sake of narrative simplicity we will show solutions in this text as they would be implemented in Chrome. Classes using this text are advised to use Chrome where possible. The appendix contains notes about translating these tactics to other browsers, and you can of course search the web for the Firefox and Safari corollaries.)

When we reverse search this image we find a bunch of pages that contain the photo, from a variety of sites. One of the sites returned is Reddit. Reddit is a site that is

famous for sharing these sorts of photos, but it also has a reputation for having a user base that is very good at spotting fake photos.

Visually similar images



Report images

Pages that include matching images

In the heat of the moment : pics - Reddit



https://www.reddit.com/r/pics/comments/.../in_the_heat_of_the_moment/ ▼
1600 × 1066 - Jan 28, 2014 - A place to share photographs and pictures. Feel free to post your own, but please read the rules first (see below), and note that we are not a ...

Mind Blowing Images of the Planet With Live On - Page 2 of 2 ...



<https://www.outdoorrevival.com/news/mind-blowing-images-of-the-.../2>
640 × 426 - Aug 26, 2015 - IN THE HEAT OF THE MOMENT. kawika-singson-standing-on-lava-shoes-tripod-on-. Photograph of KAWIKA SINGSON | Taken by Chris Hirata.

similar image search for post: When you want the perfect shot. [PIC ...



karmadecay.com/r/woahdude/.../when_you_want_the_perfect_shot_pic/

Moment.. - YohYoh.com Showcase online and Promote



www.yohyoh.com/tags/moment.. ▼
481 × 320 - An Extremely Dedicated Photographer In The Heat Of The Moment.. Tag it. Add your own tag. Login, click on the image in inner page, fill the form and save.

When we go to the Reddit page we find there is an argument there over whether the photo is fake or not. But again, Reddit is not our source here — we need to go further upstream. So we click the link in the Reddit forum that says it's real and get [taken to an article](#) where they actually talk to the photographer:

This is an archived post. You won't be able to vote or comment.

743



In the heat of the moment (i.imgur.com)
submitted 2 years ago by gabberc
54 comments share

all 54 comments

sorted by: **best**

[-] **WhiteRun** 107 points 2 years ago

It's fake.

permalink embed

load more comments (10 replies)

[-] **weezerc78** 36 points 2 years ago

...Hey man

permalink embed

[-] **prickinthewall** 18 points 2 years ago

Looks real to me


permalink embed

load more comments (3 replies)

That brings us to one of the original stories about this photo:

Hot Lava Sets Adventurous Photographer's Feet on Fire

By Katie Hosmer on July 15, 2013

LIKE MY MODERN MET ON FACEBOOK  Like 1.6M

GET OUR WEEKLY NEWSLETTER



Now we could stop here, and just read the headline. But all good fact-checkers know that headlines lie. So we read the article down to the bottom:

For this particular shot, Singson says, “Always trying to be creative, I thought it would be pretty cool (hot!) to take a lava pic with my shoes and tripod on fire while photographing lava.”

This may be a bit pedantic — but I still don’t know if this was staged. Contrary to the headline the photographer doesn’t say lava made his shoes catch on fire. He says he wanted to take a picture of himself with his shoes on fire while standing on lava

So did his shoes catch on fire, or did he set them on fire? I do notice at the bottom of this page though that this is just a retelling of an article published elsewhere — it’s not this publication who talked to the photographer! It’s a similar situation to what we saw in an earlier chapter, where *The Blaze* was simply retelling a story that was investigated by *The Daily Dot*.



[Kawika Singson's website](#)

via [PetaPixel]



In webspeak, “via” means you learned of a story or photo from someone else. In other words, we still haven’t gotten to the source. So we lumber upstream once again, to the PetaPixel site from whence this came.. When we go

upstream to that site, we find an addendum on the original article:

Update on 7/17/13: [Hawaii News Now confirms](#) that this was done as a stunt:

“The photo is real, but the flames are not the result of spontaneous combustion. “The flames on the tripod and my shoes did not start because of the lava” Singson freely admits. “It’s like if you put your shoe in a hot frying pan, it will not catch fire right away”.

Singson used an accelerant to start the flames then had his buddy snap the shot. The reason? “It’s just something I wanted for my Facebook cover photo”.

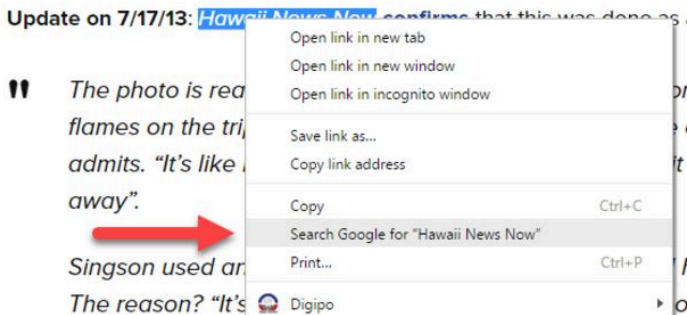
So a local news outfit has confirmed the photographer did use an accelerant. The photograph was staged. Are we done now?

Not quite. You know what the next step is, right?

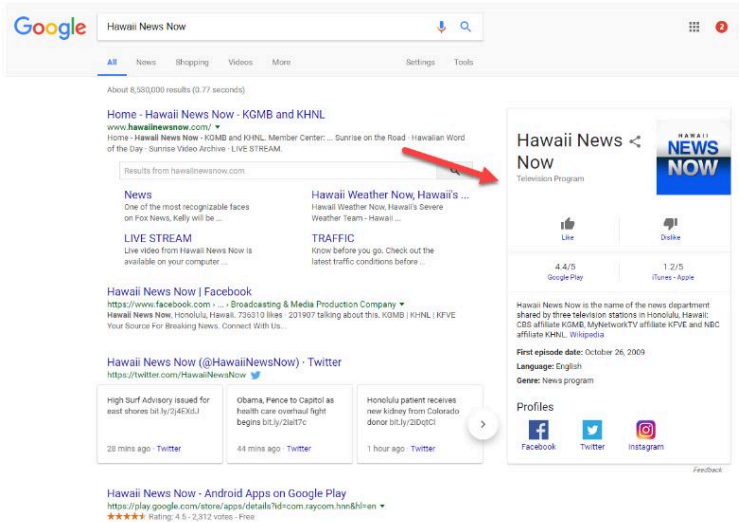
Go upstream to Hawaii News Now!

So we do that, we click the link, and we find the quote is good. And I like Hawaii News Now for another reason — they are a local news service, and so they know a bit about lava fields. That’s probably why they asked the question no one else seemed to ask: “Is that really possible?”

Finally, let’s find out about Hawaii News Now. We start by selecting Hawaii News Now and using our Google search option:



And what we get back is pretty promising: there's a Google Card that comes up that tells us it's bona fide local news program from a CBS affiliate in Hawaii.



And honestly, you could stop there. We've solved this riddle. The photographer was really on hot lava, which is impressive in itself, but used some accelerant (such as lighter fluid) to set his shoes and tripod on fire. Additionally, the photo was a stunt, and not part of any naturally occurring National Geographic shoot. We've traced the story back to its source, found the answer, and got confirmation on the authoritative nature of the source.

We're sticklers for making absolutely sure of this, so we're going to go upstream one more time, and click on the Wikipedia link to the article on the Google card to make sure we aren't missing anything, but we don't have to make you watch that. We'll tell you right now it will turn out fine.

In this case at least.

14.

Filtering by Time and Place to Find the Original

As we've mentioned above, going upstream often is a journey through time and space. The original story is also the *first* story, and as we saw with the Hawaiian news show, local sources often have special insights into stories.

There are specific tactics we can use with Google other search engines to help us find original material more quickly.

The following photo is another photo that Twitter users have identified as another “National Geographic photographer” photo. Is it?



A Google Reverse Image Search finds the photo, suggesting the best search term is “birds attacking people.”



This suggestion is based on the fact that the pages where this photo shows up often contain these words (“birds attacking people”).

Pages that include matching images

Dangerous Birds - Top 10 Birds That Could Kick Your Ass - Toptenz.net



www.toptenz.net/top-10-birds-that-could-kick-your-ass.php ▼

1920 × 1080 - Jan 3, 2009 - However, not all **birds** are cute, and not all of them are nice, so to speak. There are hundreds of dangerous **birds** that could **attack a human**, and ...

Bird attack, Birds and People on Pinterest



<https://www.pinterest.com/pin/146718900333659923/> ▼

236 × 213 - It doesn't surprise me that some animals **attack people** unless you are familiar with them and their behavior, it's normal, they are wild, but some of them, like ...

Bird attack, Birds and People on Pinterest



<https://www.pinterest.com/pin/146718900333658599/> ▼

236 × 213 - Isaiah 35 The wilderness and the parched land will exult, And the desert plain will be joyful and blossom as the saffron. 2 Without fail it will blossom; it will rejoice ...

Bird attack, Birds and People on Pinterest



<https://www.pinterest.com/pin/146718900333658634/> ▼

236 × 213 - See more about Bird attack, Birds and People. ... When **Birds Attack People** - jesad.com. Save Learn more at jesad.com · Animals AahSmile AnimalsAnimals ...

Top 7 Best Eagle Attacks (GRIZZLY,KANGAROO...& MAN) HD ...

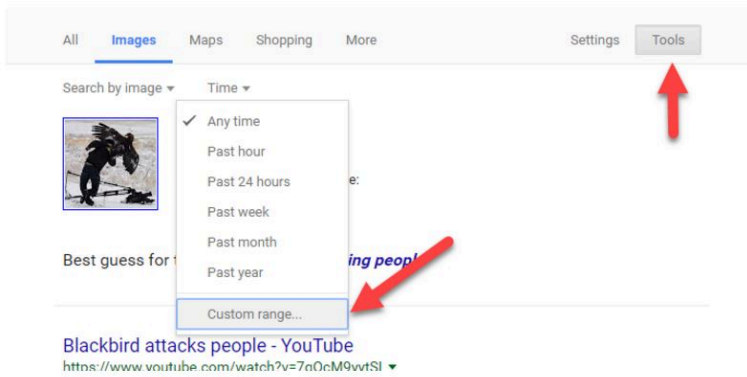


<https://www.youtube.com/watch?v=EwTul9-HGu8> ▼

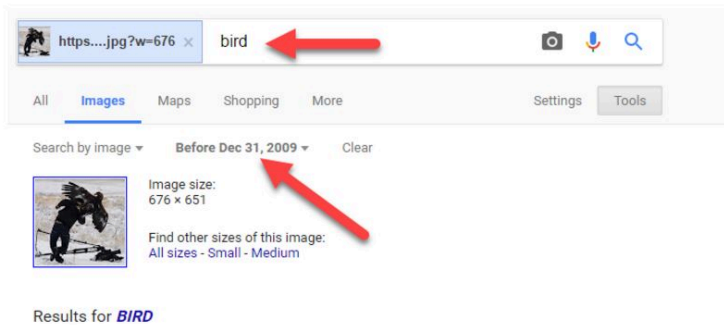
1920 × 1080 - Jun 15, 2014 - More Eagle **attacks** and Animal Videos: Top 7 Best Eagle **Attacks**... (Etc) - Duration: 10:39. **Bird Song 2** 8,647,685 views. 10:39. Abnormally ...

We can modify that search, however. Let's return only the older pictures.

We do that by clicking the “Tools” button and then using the “Time” dropdown to select “Custom range”. This should filter out some of the posts that merely include this in slideshows.



We pick a date in the past to see if we can filter out the newer photos. While we're at it we remove the "Birds attacking people" search and replace it with "bird", since the other phrase sounds like a title for a slideshow with many of these sorts of photos in it. The original isn't likely to be on a page like that; the slideshows come later in the viral cycle:



Why 2009? We have to pick something. For viral photos I usually find 2009 or 2010 a good starting point. If you don't find any results with that parameter, then you go higher, to

a year like 2012. If you find too many results, then change the search to something like 2007.

Here we get a much better set of results. Instead of a list of “When Birds Attack” slideshows, we get a set of results talking about this *specific* photo. One of the results stands out to me.

Pages that include matching images

Fat Kid At Camp | Fuck you, cameraman...I'm a bird!



fatkidatcamp.com/2009/12/20/sunday.../fuck-you-cameraman-im-a-bird/ ▼
640 × 626 - Dec 18, 2009 - Fuck you, cameraman...I'm a bird! Posted On: December 18, 2009
By: Fat Kid Comments: (0). Fuck you, cameraman...I'm a bird! dead bug crime scene.

Good reasons why you shouldn't mess with nature - Sharenator



www.sharenator.com/Good_reasons_why_not_to_fk_with_nature/ ▼
500 × 489 - Jan 1, 2010 - bird attack11 - good reasons why you shouldn't mess with nature · polar bear attack · polar bear chase · ulizv - good reasons why you shouldn't mess with nature.

Got too close to the hawk :(- PentaxForums.com



www.pentaxforums.com › ... › Off-Topic Forums › General Talk ▼
Dec 22, 2009 - 15 posts - 8 authors
500 × 489 - And as the poster said, these are trained... so its more like the camera man pissed off the hunter rather than the bird itself. Rest of the photos. Kazakhstan Eagle ...

For all you falconers out there... - LotusTalk - The Lotus Cars ...



www.lotustalk.com › ... › Community › Other ▼
Dec 23, 2009 - 10 posts - 9 authors
500 × 489 - The speck got larger and larger, until you could see the bird in a full dive. It hit the ...
The bird didn't attack the photographer, he attacked the videographer.

This third result looks most promising for two reasons:

1. The poster of the “Got to close to the hawk” result seems to know a bit more about the situation, noting “these birds are trained”.
2. It mentions “Kazakhstan Eagle”. That’s a name of a type of bird, but it’s also a place, and if we could confirm this took place in Kazakhstan, there will be other ways to trace this back to the original. Remember — going upstream is about getting closer in time to the original, but also can mean getting closer in space.

Luckily when we go to that page it links us in the comments to a page that has the set of shots that the photographer was taking, as well as a shot of this cameraman being attacked from another angle.



Kazakhstan Eagle Hunt

Last updated 14:13 07/12/2009



A hunting golden eagle attacks a cameraman

« Previous Next » Reuters 10 of 11

It's a series of photos from a hunting competition in Chengelsy Gorge, Kazakhstan. The eagle attacking him is tame and trained, but for some reason attacked him anyway. So this is real; it's not photoshopped or staged. At the same time it's not a National Geographic photographer. We could pursue it further if we wanted, but we'll stop here.

While this process takes some time to explain, in prac-

tice it can be done in about 90 seconds. Here's a YouTube video that shows what this looks like in practice.

<https://www.youtube.com/watch?v=XRqiuFt-paQ>

(Note that as long as you are careful with confirmation bias, you can replace search term “bird” with a term like “fake” to find pages claiming the image is fake and see what evidence they present.)

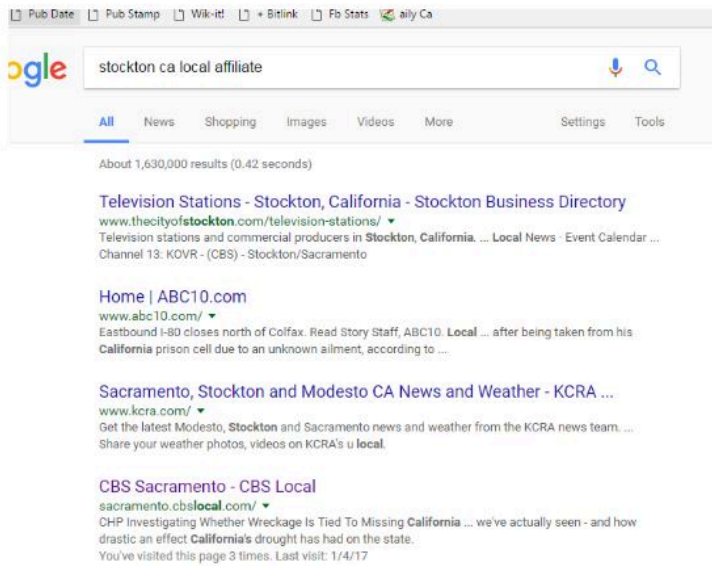
Going local is also useful for other sorts of events. Here is text from a story that ran in many right-wing blogs, under headlines such as “Teen Girls Savagely Beaten By Black Lives Matter Thugs”:

Two white teenage girls and their mother were attacked during the protests in Stockton last Friday. The young girls were transported to the hospital by police after being viciously beaten by Black Lives Matter supporters, but one of the attackers will soon face criminal charges for his role in the assault.

The two teenage girls said they were viciously attacked by more than a dozen male and female protesters as they were leaving a restaurant. As they were leaving the restaurant, they were approached by a group of protesters chanting “*Black Lives Matter.*”

The headlines and the language used in those posts were often inflammatory and racist, but is there a really story under this? Or is the story fake?

There's many ways we can go about this, but for a local event like this you would expect some local coverage. So to go upstream here, one option is to go local. In this case we look to see what news organizations cover the area, by typing in ‘stockton ca local affiliate’:



Then we go to one of those sites, and look for the news, typing in ‘teenage girls black lives matter’:



And in doing that we find that the [event did happen](#). But the facts, if you follow that link, are more complex than most of the tertiary coverage will convey.

There’s plenty to argue about concerning the event. But by going to the local source we can start with a cleaner version of the facts. This isn’t to say that local news is always reliable, but in a sea of spin and fakery, it’s not a bad place to start for coverage and confirmation of local events.

Activity: Trace Viral Photos Upstream

These two photos have been attributed to National Geographic shoots as well, by the same tweeter we mention above. Find out where these photos were taken and whether they were staged or otherwise faked. For bonus points, get the name of the photographers (or videographers) pictured and if the shoot was associated with National Geographic.

We put the photos below. If you are reading this on the web, go to it. If you are reading this book in PDF form you'll have to go [find them at the Hapgood blog](#), to use your Google Reverse Image Search right-click action.

Bearing It

The first one is easy. Is this real, or fake? And are these National Geographic photographers or not? Is the bear real?



Swan Song

This second one is a lot harder. But is this real or fake? If real, can you find the name of the photographer in the swan and his nationality? If fake, can you show a debunking of it?



Truck Bomb

This next one is political. It was shared by a Twitter user who claimed it was a picture of an Irish Republican Army bombing. To paraphrase the poster “This is London in 1993 after an IRA truck bomb. We didn’t ban Irish people or Catholics”. The poster making a comparison to recent moves to ban travel from Muslim countries in the U.S.

Question: Is this a picture of a 1993 London truck bombing? If so, how many people died and/or were injured? And what was the response?



PART IV

READ Laterally

16. What “Reading Laterally” Means

Time for our second strategy: good fact-checkers read “laterally”, across many connected sites instead of digging deep into the site at hand.

When you start to read a book, a journal article, or a physical newspaper in the “real world” you already know quite a bit about your source. You’ve subscribed to the newspaper, or picked it up from a newsstand because you’ve heard of it. You ordered the book from Amazon or purchased it from a local bookstore because it was a book you were interested in reading. You choose a journal article either because of the quality of the journal article or because someone whose expertise and background you know cited it. In other words, when you get to the document you need to evaluate, the process of getting there has already given you some initial bearings.

Compared to these intellectual journeys, web reading is a bit more like teleportation. Even after following a source upstream, you arrive at a page and site and author that are often all unknown to you. How do understand the author’s qualifications or the trustworthiness of the site?

Researchers have found that most people go about this the wrong way. When confronted with a new site, they

poke around the site, and try to find out what the site says about itself, by going to the “about page”, clicking around in onsite author biographies, or scrolling up or down the page. This makes no sense. If the site is untrustworthy, then what the site says about itself is most likely untrustworthy as well. And even if the site is generally trustworthy, it is inclined to paint the most favorable picture of its expertise and credibility possible.

The solution to this is, in the words of Sam Wineburg’s Stanford research team, to “read laterally”. Lateral readers don’t spend time on the page or site until they’ve first gotten their bearings by looking at what other sites and resources say about the source at which they are looking.

For example, when presented with a new site that needs to be evaluated, professional fact-checkers don’t spend much time on the site itself. Instead they get off the page and see what other authorities have said about the site. They open up many tabs in their browser, piecing together different bits of information from across the web to get a better picture of this site where they’ve landed. Many of the questions they ask are the same as the vertical readers scrolling up and down the pages of the source they are evaluating. But unlike those readers, they realize that the truth is more likely to be found in the network of links to (and commentaries about) the site than in the site itself.

Only when they’ve gotten their bearings from the rest of the network do they re-engage with the content, with a better understanding as to whether to trust the facts and analysis presented to them.

You can tell a lateral reader at work: They have multiple tabs open, they perform web searches on the author of

the piece and the ownership of the site. They look at pages linking to the site, not just pages coming from it.

When the lateral reader is looking for analysis, lateral reading helps the reader understand the perspective from which the site's analyses will come. When the lateral reader is looking for facts, lateral reading helps the reader understand if the site has an editorial process or expert reputation that would allow one to accept a fact cited on the site as solid.

We're going to deal with the second question here (factual reliability), while noting that lateral reading is just as important for the first question.

Evaluating a Website or Publication's Authority

Authority and reliability are tricky questions. Whether we admit it or not, most of us would like to deny authority to publications that disagree with our worldview and ascribe authority to sites and authors who support our conclusions. To us, this seems natural — the trustworthy publications are the ones saying things that are correct, and we define what “correct” is what we believe to be true. A moment’s reflection will show the flaw in this way of thinking.

How do we get beyond our own myopia here? For the Digital Polarization Project for which this text was created, we ended up adopting [Wikipedia’s guidelines](#) for determining the reliability of publications. These guidelines were developed to help people with diametrically opposed positions argue in rational ways about the reliability of sources using common criteria.

For Wikipedians, reliable sources are defined by

process, aim, and expertise. We think these criteria are worth thinking about as you fact-check.

Process

Above all, a reliable source for facts should have a process in place for encouraging accuracy, verifying facts, and correcting mistakes. Note this reputation and process might be apart from issues of bias: the New York Times is thought by many to have a center-left bias and the Wall Street Journal a center-right bias, and USA Today is prone to centrist bias — yet fact-checkers of all political stripes are happy to be able to track a fact down to one of these publications since they have reputations for a high degree of accuracy, and issue corrections when they get facts wrong.

The same thing applies to peer-reviewed publications. While there is much debate about the inherent flaws of peer review, peer review does get many eyes on data and results, and helps to keep many obviously flawed results out of publication. If a peer-reviewed journal has a large following of experts, that provides even more eyes on the article, and more chances to spot flaws. Since one's reputation for research is on the line in front of one's peers, it also provides incentives to be precise in claims and careful in analysis in a way that other forms of communication might not.

Expertise

According to Wikipedians, researchers and certain classes of professionals have expertise, and their usefulness is

defined by that expertise. For example, we would expect a marine biologist to have a more informed opinion about the impact of global warming on marine life than the average person, particularly if they have done research in that area. Professional knowledge matters too: we'd expect a health inspector to have a reasonably good knowledge of health code violations, even if they are not a scholar of the area. And while we often think researchers are more knowledgeable than professionals, this is not always the case. For a range of issues, professionals in a given area might have better insight than researchers, especially where question deal with common practice.

Reporters, on the other hand, often have no domain expertise, but may write for papers that accurately summarize and convey and summarize the views of experts, professionals, and event participants. As reporters write in a niche area over many years (e.g. opioid drug policy) they may acquire expertise themselves.

Aim

Aim is defined by what the publication, author, or media source is attempting to accomplish. Aims are complex. Respected scientific journals, for example, aim for prestige within the scientific community, but must also have a business model. A site like the New York Times relies on ad revenue but is also dependent on maintaining a reputation for accuracy.

One way to think about aim is to ask what incentives an article or author has to get things right. An opinion column that gets a fact or two wrong won't cause its author much trouble, whereas an article in a newspaper that gets facts wrong may damage the reputation of the reporter.

On the far ends of the spectrum, a single bad or retracted article by a scientist can ruin a career, whereas an advocacy blog site can twist facts daily with no consequences.

Policy think tanks, such as the Cato Institute and the Center for American Progress, are interesting hybrid cases. To maintain their funding, they must continue to promote aims that have a particular bias. At the same time, their prestige (at least for the better known ones) depends on them promoting these aims while maintaining some level of honesty.

In general, you want to choose a publication that has strong incentives to get things right, as shown by both authorial intent and business model, reputational incentives, and history.

18.

Basic Techniques: Domain Searches, WHOIS

When confronted with an unfamiliar site what are some quick techniques to identify the site's worldview, process, aims, and expertise?

Web Searching a Domain

The simplest and quickest way to get a sense of where a site sits in the network ecosystem is to execute a web search on the site. Since we want to find out what other sites are saying about the site while excluding what the site says about itself, we use a special search syntax that excludes pages from the target site.

For example, say we are looking the Baltimore Gazette:

UNCATEGORIZED

CLINTON RECEIVED DEBATE QUESTIONS WEEK BEFORE DEBATE, ACCORDING TO SOURCES

BG STAFF

SHARE ON: [f](#) [t](#) [g+](#) [v](#) [■](#)



The first presidential debate was held and Hillary Clinton was proclaimed the winner by the media. Indeed Clinton was able to turn in a strong debate performance, but did she do so fairly? Multiple reports and leaked information from inside the Clinton camp claim that the Clinton campaign was given the entire set of debate questions an entire week before the actual debate.

Is this a reputable newspaper?

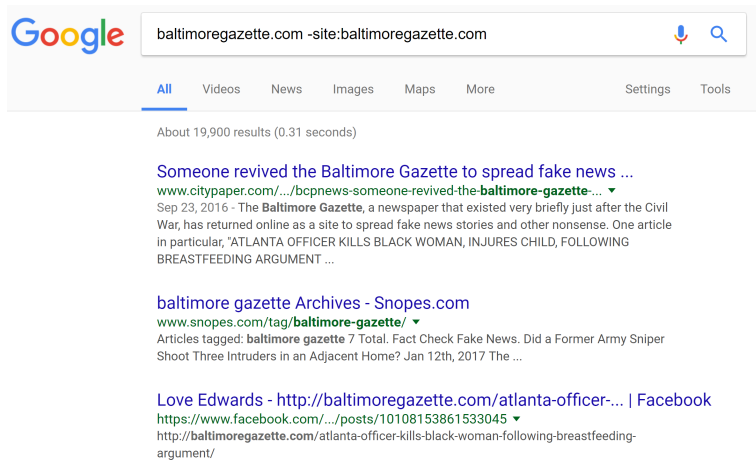
The site is down right now, but when it was up, a search for 'baltimoregazette.com' would have returned many pages, but most would have been from the site itself. As noted earlier, if we don't know whether to trust a site, it

doesn't make much sense to trust the story the site tells us about itself.

So we use a search syntax that looks for all references to the site that are not on the site itself:

```
baltimoregazette.com -site:baltimoregazette.com
```

When we do that we get a set of results that we can scan, looking for sites we trust:



These results, as we scan them, give us reason to suspect the site. Maybe we don't know "City Paper", which claims the site is fake. But we *do* know Snopes. Let's take a look there and find the following sentence about the *Gazette*:

On 21 September 2016, the *Baltimore Gazette* — a purveyor of fake news, not a real news outlet — published an [article](#) reporting that any "rioters" caught looting in Charlotte would permanently lose food stamps and all other government benefits...

From Snopes, that's pretty definitive. This is a fake news site.

Searches like this don't always turn up Snopes, or Politifact. Here's the site of the Pacific Justice Institute:

A search of Google turns up a Wikipedia article:

And that article explains that this is a conservative legal defense fund that has been named a hate site by the Southern Poverty Law Center.

Maybe to you that means that nothing from this site is trustworthy. Maybe to another person it simply means proceed with caution. But after a short search and two clicks, you can begin reading an article from this site with a better idea of the purpose behind it, and read more intentionally.

Finding Out Who Runs a Site with WHOIS and Other Tools

Some smaller sites don't have reliable commentary around them. For these sites, using WHOIS to find who owns them may be a useful move.

19. Activity: Evaluate a Site

Evaluate the reputations of the following sites by “reading laterally”. Who runs them? To what purpose? What is their history of accuracy and how do they rate on process, aim, and expertise?

1. <http://cis.org/vaughan/study-reveals-72-terrorists-came-countries-covered-trump-vetting-order>
2. http://www.al.com/news/montgomery/index.ssf/2017/01/man_accused_of_spray_painting.html
3. <https://codoh.com/media/files/sr209.pdf>
4. <http://www.nature.com/nature/journal/v542/n7640/full/542141b.html>
5. <http://www.dailykos.com/story/2017/02/10/1632335/-Climate-Crisis-North-Pole-Temp-is-50-F-Above-Normal-amp-Arctic-Sea-Ice-Volume-is-Collapsing>
6. <https://nsidc.org/>
7. <http://www.smh.com.au/environment/weather/red-hot-nsw-smashes-february-statewide-heat-records-two-days-in-a-row-20170212-gub14c.html>
8. <http://occupydemocrats.com/2017/02/11/>

- congressman-just-invoked-forgotten-1924-rule-expose-trumps-taxes/
9. <http://principia-scientific.org/scientific-flaws-and-the-volcano-of-io/>
 10. <http://www.europhysicsnews.org/articles/epn/abs/2016/05/epn2016475-6p20/epn2016475-6p20.html>
 11. <https://www.rt.com/news/377108-hamburg-airport-injured-substance/>
 12. <http://timesofindia.indiatimes.com/world/us/yale-but-not-hearty-university-renaming-recalls-dark-india-past/articleshow/57113707.cms>
 13. <http://www.naturalnews.com/2017-02-12-tiny-particles-from-city-air-invade-peoples-brains-interfere-with-cognition.html>
 14. <http://fauxcountrynews.com/five-unorthodox-diets-for-beach-season/>
 - 15.

20. Stupid Journal Tricks

There's no more dreaded phrase to the fact-checker than "a recent study says". Recent studies say that chocolate cures cancer, prevents cancer, and may have no impact on cancer whatsoever. Recent studies say that holding a pencil in your teeth makes you happier. Recent studies say that the scientific process is failing, and others say it is just fine.

Most studies are data points — emerging evidence that lends weight to one conclusion or another but do not resolve questions definitively. What we want as a fact checker is not data points, but the broad consensus of experts. And the broad consensus of experts is rare.

The following chapters are *not* meant to show you how to meticulously evaluate research claims. Instead, they are meant to give you, the reader, some quick and frugal ways to decide what sorts of research can be safely passed over when you are looking for a reliable source. We take as our premise that information is abundant, and time is scarce. As such, it's better to err on the side of moving onto the next article than to invest time in an article that displays warning signs regarding either expertise or accuracy.

21. Finding a Journal's Impact Factor

We mentioned earlier that our process is really one of elimination. In a world where information is plentiful, we can be a bit demanding about what counts as evidence. When it comes to research, one gating expectation can be that published academic research cited for a claim come from respected peer-reviewed journals.

Consider this journal:

The screenshot shows the PLOS Medicine website interface. At the top, there are navigation links for 'Browse', 'Publish', and 'About', along with a search bar and a search icon. The article title is 'Socioeconomic Inequalities in Body Mass Index across Adulthood: Coordinated Analyses of Individual Participant Data from Three British Birth Cohort Studies Initiated in 1946, 1958 and 1970'. The authors listed are David Bann, William Johnson, Leah Li, Diana Kuh, and Rebecca Hardy. The article is published in January 2017. On the right side, there are statistics: 1 Save, 0 Citation, 2,357 View, and 143 Share. Below the title, there are tabs for 'Article', 'Authors', 'Metrics', 'Comments', and 'Related Content'. The 'Article' tab is selected, showing a table of contents with links to 'Abstract', 'Author Summary', 'Introduction', 'Methods', 'Results', and 'Discussion'. The 'Abstract' section is visible, starting with 'Background' and 'High body mass index (BMI) is an important contributor to the global burden of ill-health and health inequality. Lower socioeconomic position (SEP) in both childhood and adulthood is...'. On the right side, there are buttons for 'Download PDF', 'Print', and 'Share', and a 'Check for updates' button. Below that, there is a 'Subject Areas' section with 'Adults' and 'Socioeconomic asp...' listed.

plos.org create account sign in

PLOS MEDICINE Browse Publish About Search advanced search

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Socioeconomic Inequalities in Body Mass Index across Adulthood: Coordinated Analyses of Individual Participant Data from Three British Birth Cohort Studies Initiated in 1946, 1958 and 1970

David Bann, William Johnson, Leah Li, Diana Kuh, Rebecca Hardy

Published: January 10, 2017 • <http://dx.doi.org/10.1371/journal.pmed.1002214>

1 Save 0 Citation

2,357 View 143 Share

Article Authors Metrics Comments Related Content

Download PDF Print Share

Check for updates

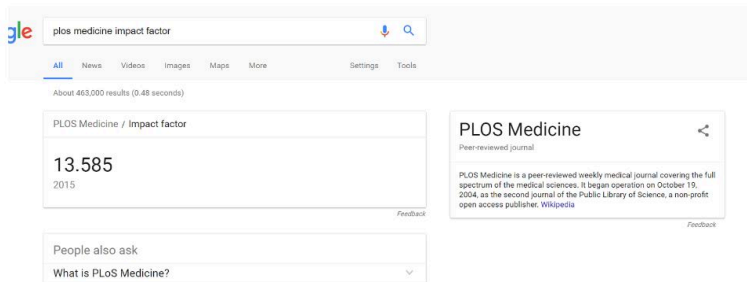
Subject Areas

Adults Socioeconomic asp...

Is it a journal that gives any authority to this article? Or is it just another web-based paper mill?

Our first check is to see what the “impact factor” of the journal is. This is a measure of the journal’s influence in the academic community. While a flawed metric for assessing the relative importance of journals, it is a useful tool for quickly identifying journals which are not part of a known circle of academic discourse, or which are not peer-reviewed.

We search Google for PLOS Medicine, and it pulls up an information card for us with an impact factor.



Impact factor can go into the 30s, but we’re using this as a quick elimination test, not a ranking, so we’re happy with anything over 1. We still have work to do on this article, but it’s worth keeping in the mix.

What about this one?



Association of Severe Obesity with the Metabolic Profile of Adolescents and Adults

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Abstract

Despite the fact that its increased prevalence is widely distributed in different population segments, regardless of gender and age, in the

In this case we get a result with a link to this journal at the top, but no card, as there is no registered impact factor for this journal:

Again, we stress that the article here may be excellent — we don't know. Likewise, there are occasionally articles published in the most prestigious journals that are pure junk. Be careful in your use of impact factor — a journal with an impact factor of 10 is not necessarily better than a journal with an impact factor of 3, especially if you are dealing with a niche subject.

But in a quick and dirty analysis we have to say that the

PLOS Medicine article is more trustworthy than the Journal of Obesity and Weight-loss Medication article. In fact, if you were deciding whether to reshare a story in your feed and the evidence for the story came from this Obesity journal, I'd skip reposting it entirely.

Using Google Scholar to Check Author Expertise

Not all, or even most, expertise is academic. But when the expertise cited is academic, scholarly publications by the researcher can go a long way to establishing their position in the academic community.

Let's look at David Bann, who wrote the PLOS Medicine article we looked at a chapter ago. To do that we go to Google Scholar (not the general Google page) and type in his name:

Web Images More...

Google David Bann

Scholar About 28,900 results (0.04 sec)

Articles	Gender and telomere length: systematic review and meta-analysis M Gardner, D Bann, L Wiley, R Cooper, R Hardy... - Experimental ... 2014 - Elsevier Background: It is widely believed that females have longer telomeres than males, although results from studies have been contradictory. Methods: We carried out a systematic review and meta-analysis to test the hypothesis that in humans, females have longer telomeres. Cited by 108 Related articles All 25 versions Cite Save	[HTML] nih.gov
Case law		
My library		
Any time	[CITATION] The all new print production handbook D Bann - 2007 - Watson-Guptill Publications Cited by 23 Related articles Cite Save More	
Since 2017		
Since 2016		
Since 2013		
Custom range...		
Sort by relevance	Physical activity across adulthood in relation to fat and lean body mass in early old age: findings from the Medical Research Council National Survey of Health and D Bann, D Kuh, AK Willis, J Adams... - American journal of ... 2014 - Oxford Univ Press Abstract Fat and lean body mass have important implications for health and physical functioning in older age, and physical activity is purported to be an important modifiable determinant. However, our evidence-based understanding of its role is limited. We Cited by 20 Related articles All 13 versions Cite Save	[HTML] oxfordjournals.org
Sort by date		
<input checked="" type="checkbox"/> include patents	Timing of voice breaking in males associated with growth and weight gain across the life course KK Ong, D Bann, AK Willis, K Ward... - The Journal of ... 2012 - press.endocrine.org Background: In contrast to the many studies in females, there are few data in males on the relationships between childhood growth and weight gain and the timing of pubertal maturation and its relevance to adult body mass index (BMI) and body composition. Cited by 14 Related articles All 9 versions Cite Save	[HTML] endocrine.org
<input checked="" type="checkbox"/> include citations		
<input type="checkbox"/> Create alert	[CITATION] The print production handbook D Bann, C Cohen - 1985 - North Light Cited by 11 Related articles Cite Save More	
	[HTML] Light intensity physical activity and sedentary behavior in relation to body mass index and grip strength in older adults: cross-sectional findings from the ... D Bann, D Hire, T Manini, R Cooper, A Botroseneanu... - PloS one, 2015 - journals.plos.org	[HTML] plos.org

We see a couple things here. First, he has a history of publishing in this area of lifespan obesity patterns. At the bottom of each result we see how many times each article he is associated with is cited: these aren't amazing numbers, but for a niche area they are a quite healthy citation rate. Many articles published aren't cited at all, and here at least one work of his has over 100 citations.

Additionally if we scan down that right side column we see some names we might recognize — the National Institutes of Health (NIH) and another PLOS article.

Keep in mind that we are looking for expertise in the area of the claim. These are great credentials for talking about obesity. They are not great credentials for talking about opiate addiction. But right now we care about obesity, so that's OK.

By point of comparison we can look at a publication in Europhysics News that attacks the standard view of the 9/11 World Trade Center collapse. We see this represented in

this story on popular alternative news and conspiracy site AnonHQ:

The screenshot shows a news article on the AnonHQ website. At the top, there is a breadcrumb trail: Home > Politics > Intelligence > It's Official: European Scientific Journal Concludes 9/11 was a Controlled Demolition. Below this, there are two category tags: Politics and Intelligence. The main headline reads "It's Official: European Scientific Journal Concludes 9/11 was a Controlled Demolition". The author is listed as "By EV" and the date is "September 11, 2016". To the right of the article, there are statistics: 14330 views and 277 comments. Below the headline, there are social media sharing buttons for Facebook, Twitter, Google+, and Pinterest. A "Like 158K" button and a "Tweet" button are also visible. The article features a large image of a blue sky with white clouds. On the right side of the page, there is a vertical sidebar with a profile picture and the text "4 fri".

The journal cited is Europhysics News, and when we look it up in Google we find no impact factor at all. In fact, a short investigation of the journal reveals it is not a peer-reviewed journal, but a magazine associated with the European Physics Society. The author here is either lying, or does not understand the difference between a scientific journal and an scientific organization's magazine.

So much for the source. But what about the authors? Do they have a variety of papers on the mathematical modelling of building demolitions?

If you punch the names into Google Scholar you'll find that at least one of the authors does have some modelling experience on architectural stresses, although most of his published work was from years ago:

Web Images More...

Google

Robert Korol

Scholar

About 4,310 results (0.61 sec)

Articles

Cyclic behavior of extended end-plate joints
 A Ghobarah, RM Korol, A Osman - Journal of Structural Engineering, 1992 - ascelibrary.org

Case law
 Four tests are performed to investigate the cyclic behavior of beam-to-column subassemblies utilizing bolted extended end-plate joints. The tests are conducted by applying a constant axial load to the column while subjecting the beam to cyclic controlled

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 Cited by 39 Related articles All 2 versions Cite Save

Any time

Since 2017
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 Since 2013
 Custom range...

Finite element analysis of RHS T-joints
 RM Korol, FA Mirza - Journal of the Structural Division, 1982 - cedb.asce.org

The finite element method (FEM) is used to model the behavior of rectangular hollow section (RHS) T-joints beyond the elastic limit, and is applied to determine their ultimate and working strengths, Punching shear and rotational stiffnesses under branch axial force and

Cited by 48 Related articles All 2 versions Cite Save More

Sort by relevance
 Sort by date

include patents
 include citations

Strength predictions of plates in uniaxial compression
 RM Korol, AN Sherbourne - Journal of the Structural Division, 1972

Cited by 32 Related articles Cite Save

Create alert

Post-buckling of axially compressed plates
 AN Sherbourne, RM Korol - Journal of the Structural Division, 1972 - cedb.asce.org

Aluminum square tubular sections subjected to axial compression generally exhibit a significant reserve of strength above the critical stress levels associated with plate buckling. Load-transverse deflection curves averaged over the four faces of each of six specimens

Cited by 18 Related articles All 2 versions Cite Save More

What to make of this? It's fair to say that the article here was not peer-reviewed and shouldn't be treated as a substantial contribution to the body of research on the g/π collapse. The headline of the blog article that brought us here is wrong, as is their claim that a European Scientific Journal concluded g/π was a controlled demolition. That's flat out false.

But it's worthwhile to note that some of the people writing this paper do have some expertise in a related field. We're left with that question of "What does generally mean?" in the phrase "Experts generally agree on X."

What should we do with this article? Well, it's an article published in a non-peer-reviewed journal by an experts who published a number of other respected articles (though quite a long time ago, in some cases). To an expert, that definitely could be interesting. To a novice looking for the majority and significant minority views of the field, it's probably not the best source.

23. How to Think About Research

This brings us to our third point, which is how to think about research articles. People tend to think that newer is better with everything. Sometimes this is true: new phones are better than old phones, new textbooks are often more up-to-date than old textbooks. But the understanding many students have about scholarly articles is that the newer studies “replace” the older studies. You see this assumption in the headline: “It’s Official: European Scientific Journal Concludes...”

In general, that’s not how science works. In science, multiple conflicting studies come in over long periods of time, each one a drop in the bucket of the claim it supports. Over time, the weight of the evidence ends up on one side or another. Depending on the quality of the new research, some drops are bigger than others (some much bigger), but overall it is an incremental process.

As such, studies that are consistent with previous research are often more trustworthy than those that have surprising or unexpected results. This runs counter to the narrative promoted by the press: “news”, after all, favors what is new and different. The unfortunate effect of the press’s presentation of science (and in particular science

around popular issues such as health) is that rather give a sense of the slow accumulation of evidence for each side of an issue the narrative presents a world where last month's findings are "overturned" by this month's findings, which are then, in turn, "overturned" back to the original finding a month from now. This whiplash presentation "Chocolate is good for you! Chocolate is bad for you!" undermines the public's faith in science. But the whiplash is not from science: it is a product of the inappropriate presentation from the press.

As a fact-checker, your job is not to resolve debates based on new evidence, but to accurately summarize the state of research and the consensus of experts in a given area, taking into account majority and significant minority views.

For this reason, fact-checking communities such as Wikipedia discourage authors from over-citing individual research — which tends to point in different directions. Instead, Wikipedia encourages users to find high quality secondary sources that reliably summarize the research base of a certain area, or research reviews of multiple works. This is good advice for fact-checkers as well. Without an expert's background it can be very hard to place new research in the context of old, which is what you want to do.

Here's a claim (two claims, actually) that ran recently in the Washington Post:

The alcohol industry and some government agencies continue to promote the idea that moderate drinking provides some health benefits. But new research is beginning to call even that long-standing claim into question.

Reading down further we find a more specific claim — the medical consensus is that alcohol is a carcinogen even at low levels of consumption. Is this true?

The first thing we do is look at the authorship of the article. It's from the Washington Post, which is a generally reliable publication, and one of its authors has made a career of data analysis (and actually won a Pulitzer prize as part of a team that analyzed data and discovered election fraud in a Florida mayoral race). So one thing to think about: these people may be better interpreters of the data than you. (Key thing for fact-checkers to keep in mind: You are often not a person in a position to know.)

But suppose we want to dig further and find out if they are really looking at a shift in the expert consensus, or just adding more drops to the evidence bucket. How would we do that?

First, we'd sanity check where the pieces they mention were published. The Post article mentions two articles by "Jennie Connor, a professor at the University of Otago Dunedin School of Medicine" one published last year and the other published earlier. Let's find the more recent one, which seems to be a key input into this article. We go to Google Scholar and type in "'Jennie Connor' 2016":

Web Images More...

Google "Jennie Connor" 2016

Scholar About 58 results (0.07 sec)

Articles

Case law

My library

Any time

Since 2017

Since 2016

Since 2013

Custom range...

Sort by relevance

Sort by date

include patents

include citations

Alcohol consumption as a cause of cancer
 J Connor - *Addiction*, 2017 - Wiley Online Library
 Methods Recent epidemiological and biological research on alcohol and cancer was reviewed and summarized, drawing upon published meta-analyses identified from the Medline database and the archives of the International Agency for Research on Cancer.
 Cited by 12 Cite Save

Suicidal ideation, antidepressive medication and car crash injury
 LT Lam, R Norton, J Connor, S Ameratunga - *Accident Analysis & ...*, 2015 - Elsevier
 OBJECTIVE:: This study aimed to investigate the association between suicidal ideation, antidepressive medication and the risk of a car crash resulting in serious injury, DESIGN:: This was a population-based case-control study. Cases were car drivers who were involved
 Cited by 23 Related articles All 9 versions Cite Save

[HTML] Non-response bias in a web-based health behaviour survey of New Zealand tertiary students
 K Kopp, A Samaranyaka, J Connor, JD Langley... - *Preventive ...*, 2011 - Elsevier
 OBJECTIVE: There has been little investigation of non-response bias in web-based health surveys. We hypothesised that non-respondents have a higher prevalence of risk behaviours than respondents. METHOD: In 2005, random samples of students aged 17-
 Cited by 36 Related articles All 10 versions Cite Save

As usual we're scanning quickly to get to the article we want, but also minding our peripheral vision here. So we see that the top one is what we probably want, but we also notice that Connor has other well-cited articles in the field of health.

What about this article on "Alcohol consumption as a cause of cancer"? It was published in 2017 (which is probably the physical journal's publication date, the article having been released in 2016). Nethertheless, it's already been cited by twelve other papers.

What about this publication *Addiction*? Is it reputable? Let's take a look with an impact factor search:

addiction impact factor

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About 1,120,000 results (0.39 seconds)

<p>Addiction / Impact factor</p> <p>4.145</p> <p>2010</p> <p>Feedback</p>	<p>Addiction</p> <p>Peer-reviewed journal</p> <p>Addiction is a monthly peer-reviewed scientific journal established in 1884 by the Society for the Study of Addiction to Alcohol and other Drugs. It covers original research relating to alcohol, illicit drugs, tobacco, and behavioural addictions. Wikipedia</p> <p>Feedback</p>
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Addiction - Wiley Online Library
 onlineLibrary.wiley.com/journal/10.1111/(ISSN)1360-0443
 Society for the Study of Addiction ... Impact Factor: 4.972 ... *Addiction* article wins EMCDDA Scientific Paper Award for "Population-based and epidemiology"
 Early View Issues Accepted Articles Current Issue

Addiction Biology - Wiley Online Library
 onlineLibrary.wiley.com/journal/10.1111/(ISSN)1360-0443

Yep, it looks legit. We also see in the little card to the right that the journal was founded in the 1880s. If we click through to that Wikipedia article, it will tell us that this journal ranks second in impact factor for journals on substance abuse.

Again, you should never use impact factor for fine-grained distinctions. What we're checking for here is that the Washington Post wasn't fooled into covering some research far out of the mainstream of substance abuse studies, or tricked into covering something published in a dodgy journal. It's clear from this quick check that this is a researcher well within the mainstream of her profession, publishing in prominent journals.



Next we want to see what kind of article this is. Sometimes journals publish short reactions to other works, or smaller opinion pieces. What we'd like to see here is that this was either new research or a substantial review of research. We find from the abstract that it is primarily a review of research, including some of the newer studies. We note that it is a six page article, and therefore not likely to be a simple letter or response to another article. The abstract also goes into detail about the breadth of evidence reviewed.

Frustratingly, we can't get our hands on the article, but this probably tells us enough about it for our purposes.

Finding High Quality Secondary Sources

Let's continue with the “alcohol is closely associated with cancer” question from the last chapter. Let's see if we can get a decent summary from a respected organization that deals with these issues.

This takes a bit of domain knowledge, but for information on disease, the United States's National Institutes of Health (NIH) is considered one of the leading authorities. What do they say about this issue?

Google  

[All](#) [News](#) [Images](#) [Maps](#) [Videos](#) [More](#) [Settings](#) [Tools](#)

About 3,810,000 results (0.54 seconds)

Alcohol Consumption and the Risk of Cancer
<https://pubs.niaaa.nih.gov/> [Publications](#) ▼
 by A Policy - [Related articles](#)
 Alcohol consumption has been linked to an increased risk for various types of cancer. A combined analysis of more than 200 studies assessing the link between ...

Scientists rethink alcohol/breast cancer relationship | National Institute ...
<https://www.niaaa.nih.gov/.../niaaa.../scientists-rethink-alcoholbreast-cancer-relationships...> ▼
 Oct 16, 2012 - Time course and metabolism are important factors. According to National Institute on Alcohol Abuse and Alcoholism (NIAAA) scientists, existing ...

Alcohol Flush Signals Increased Cancer Risk among East Asians ...
<https://www.nih.gov/.../alcohol-flush-signals-increased-cancer-risk-among-east-asians> ▼
 Mar 23, 2009 - National Institutes of Health (NIH) - Turning Discovery into Health ... Alcohol Flush Signals Increased Cancer Risk among East Asians ...

Alcohol Consumption and Cancer Risk - NCBI Bookshelf
<https://www.ncbi.nlm.nih.gov/.../NCBI/Literature/Bookshelf>
 by O Oyesanmi - 2010 - Cited by 27 - [Related articles](#)
 The purpose of this report is to systematically examine the possible causal mechanism(s) that may explain the association between alcohol (ethanol) ...

Alcohol and Cancer Risk Fact Sheet - National Cancer Institute
<https://www.cancer.gov/about-cancer/causes-prevention/.../alcohol/alcohol-fact-sheet> ▼
 A fact sheet that summarizes the evidence linking alcohol consumption to the risk of various cancers. Includes information about factors that affect the risk of ...

What we don't want here is a random article. We're not an expert and we don't want to have to guess at the weights to give individual research. We want a summary.

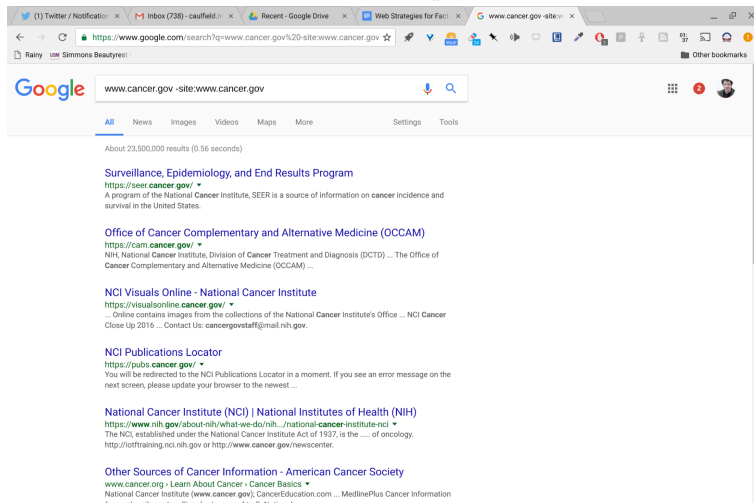
And as we scan the results we see a “risk fact-sheet” from the National Cancer Institute. In general domain suffixes (com/org/net/etc) don't mean anything, but “.gov” domains are strictly regulated, so we know this is from the (U.S.) federal government. And a fact sheet is a summary, which is what we want, so we click through.

And this page [doesn't mince words](#):

Based on extensive reviews of [research studies](#), there is a strong scientific consensus of an association between [alcohol](#) drinking and several types of cancer (1, 2). In its Report on Carcinogens, the National Toxicology Program of the US Department of Health and Human Services lists con-

sumption of alcoholic beverages as a known human **carcinogen**. The research evidence indicates that the more alcohol a person drinks—particularly the more alcohol a person drinks regularly over time—the higher his or her risk of developing an alcohol-associated cancer. Based on data from 2009, an estimated 3.5 percent of all cancer deaths in the United States (about 19,500 deaths) were alcohol related (3).

With the “.gov” extension this page is pretty likely to be linked to the NIH. But just in case, we Google the site to see who runs it and what their reputation is.



Since we’re reading laterally, let’s click on the link five results down to see what the NIH says about the National Cancer Institute. Again, we’re just sanity checking our impression that this is an authoritative body of the NIH. Here’s its blurb from the **fifth result down**:

The National Cancer Institute (NCI) is part of the National Institutes of Health (NIH), which is one of 11 agencies that

compose the Department of Health and Human Services (HHS). The NCI, established under the National Cancer Institute Act of 1937, is the Federal Government's principal agency for cancer research and training.

As always, we glance up to our location bar and make sure we are really getting this information from the NIH. We are.

If we were a researcher we would sort through more of this, review individual articles, make sure that some more out-of-the-mainstream views are not being ignored. Such an effort would take a deep background and understanding of the underlying issues. But we're not researchers. We're just people looking to find out if our rationalization for those two after-work drinks is maybe a bit bogus. And on that level, it's not looking particularly good for us. We have a major review of the evidence in a major journal stating there's really no safe level of drinking when it comes to cancer, and we have the NIH — one of the most trusted sources of health information in the U.S. (and not exactly a fad-chaser) telling us in an FAQ that there is a strong consensus that alcohol consumption predicts cancer.

25. Choosing Your Experts First

One other thing to note here — In the past chapter or two we followed a different pattern than a lot of web searching. Here we decided who would be the most trustworthy source of medical consensus (the NIH) and went and looked up what they said.

This is an important technique to have in your research mix. Too often we execute web search after web search without first asking who would constitute an expert. Unsurprisingly, when we do things in this order we end up valuing the expertise of people who agree with us and devaluing that of those who don't. If you find yourself going down a rabbit hole of conflicting information in your searches, back up a second and ask yourself: whose expertise you would respect? Maybe it's not the NIH. Maybe it's the Mayo Clinic, or Medline, or the World Health Organization. But deciding who has expertise before you search will mediate some of your worst tendencies toward confirmation bias.

So, given the evidence we've seen in previous chapters about alcohol and cancer — am I going to give up my after-work porter? I don't know. I really like porter, the evidence is still emerging, and maybe the risk increase is

worth it. But I'm also convinced the Washington Post article isn't the newest version of "eating grapefruit will make you thinner." It's not even "Nutrasweet may make you fat", which is an interesting finding, but a point around which there is no consensus. Instead "small amounts of daily alcohol increase cancer risk" represents a real emerging consensus in the research, and from our review we find it's not even a particularly new trend — the consensus emerged some time ago (the NIH FAQ dates back to 2010). it's just been poorly communicated to the public.

26. Evaluating News Sources

Evaluating news sources is one of the more contentious issues out there. People have their favorite news sources and don't like to be told that their news source is untrustworthy.

For fact-checking, it's helpful to draw a distinction between two activities:

- News Gathering, where news organizations do investigative work, calling sources, researching public documents, checking and publishing facts, e.g. the getting the facts of Bernie Sanders involvement in the passage of several bills.
- News Analysis, which takes those facts and strings them into a larger narrative, such as “Senator Sanders an effective legislator behind the scenes” or “Senator Sanders largely ineffective Senator behind the scenes.”

Most newspaper articles are not lists of facts, which means that outfits like The Wall Street Journal and The New York Times do both news gathering and news analysis in stories. What has been lost in the dismissal of the New

York Times as liberal and the Wall Street Journal as conservative is that these are primarily biases of the news analysis portion of what they do. To the extent the bias exists, it's in what they choose to cover, to whom they choose to talk, and what they imply in the way they arrange those facts they collect.

The news gathering piece is affected by this, but in many ways largely separate, and the reputation for fact checking is largely separate as well. MSNBC, for example, has a liberal slant to its news, but a smart liberal would be more likely to trust a fact in the Wall Street Journal than a fact uttered on MSNBC because the Wall Street Journal has a reputation for fact-checking and accuracy that MSNBC does not. The same holds true for someone looking at the New York Observer vs. the New York Times. Even if you like the perspective of the Observer, if you were asked to bet on the accuracy of two pieces — one from the Observer, and one for the times, you could make a lot of money betting on the Times.

Narratives are a different matter. You may like the narrative of MSNBC or the Observer — or even find it more in line with reality. You might rely on them for insight. But if you are looking to validate a *fact*, the question you want to ask is not always “What is the bias of this publication?” but rather, “What is this publication’s record with concern to accuracy?”

27. National Newspapers of Record

When it comes down to accuracy, there are a number of national newspapers in most countries that are well-staffed with reporters and have an editorial process that places a premium on accuracy. These papers are sometimes referred to as “newspapers of record”,¹ and are distinguished in two ways:

1. They are rigorous, showing attention to detail and having rigor and accountability in their editorial processes.
2. They have a truly national view, and attempt to be the best possible record of what happened in the nation (not just a region) on a given day.

1. We're aware that the origin of the term was originally a marketing plan to distinguish the New York Times from its rivals. At the same time it captures an aspiration that is not common across many publications in a country. When I wrote code for Newsbank's Historical Paper Archive we took the idea of Newspapers of Record seriously even on a local level -- with the mess of paper startups and failures in the 1800s understanding what was reliable was key. Which of that multitude of papers was likely to make the best go at covering all matters of local importance?

The United States is considered by some to have at least four national newspapers of record:

- The New York Times
- The Wall Street Journal
- The Los Angeles Times
- The Washington Post

You could add in the Boston Globe, Miami Herald, or Chicago Tribune. Or subtract the LA Times or Washington Post. These lists are meant to be starting points, indicating that a given publication has a greater reputation and reach than, say, the Clinton Daily Item.

Some other English-language newspapers of record:

- The Times (UK)
- The Daily Telegraph (UK)
- The Irish Times (Ireland)
- The Times of India (India)
- New Zealand Herald (New Zealand)
- Sydney Morning Herald (Australia)
- The Age (Australia)
- The Globe and Mail (Canada)

Does that mean these papers are the arbiters of truth? Nope. Where there are disagreements between these papers and other reputable sources, it could be worth investigating.

As an example, in the run up to the Iraq War, the Knight Ridder news agency was in general a far more reliable news source on issues of faulty intelligence than the New York Times. In fact, reporting from the New York Times back then was particularly bad, and many have

pointed to one reporter in particular, Judith Miller, who was *far too credulous* in repeating information fed to her by war hawks. Had you relied on just the New York Times for your information on these issues, you would have been misinformed.

There is much to be said about failings such as this, and it is certainly the case that high profile failings such as these have eroded faith in the press more generally, and, for some, created the impression that there really is no difference between The New York Times, the Springfield Herald, and your neighbor's political Facebook page. This is, to say the least, overcompensation. We rely on major papers to tell us the truth, and rely on them allocate resources to investigate and present that truth with an accuracy hard to match on a smaller budget. When they fail, as we saw with Iraq, bad things can happen. But that is as much a testament to how much we rely on these publications to inform our discourse as it is a statement on their reliability.

A literate fact-checker does not take what is said in newspapers of record as truth. But, likewise, any person who doesn't recognize the New York Times or Sydney Morning Herald as more than your average newspaper is going to be less than efficient at evaluating information.