

# EVALUATING INFORMATION

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*<http://www.hoboes.com/NetLife/Information/>*

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# IMPORTANT QUESTIONS

Whenever you're looking at information, no matter how trivial it appears to be, or how authoritative it seems to be, you need to keep a critical mind.

## **Who is presenting this information?**

The number one question to ask about any information you receive over any source is, *who* is saying this? Many items get passed along and passed along. Just because it appears in a newspaper doesn't mean that the newspaper investigated it. Just because it appears in an e-mail message from an IBM employee doesn't mean that IBM said it.

1. Who said it?
2. What is their job?
3. Who do they work for?
4. How does this relate to what they said?

## **What are their sources?**

If they don't present sources, chances are good that the information is either made up, or twists the source material to an extent that it might as well be.

How do these sources stand in the professional community? Make sure you understand which professional community applies. "They're both doctors" applies to any profession. You wouldn't ask a podiatrist about heart disease. *Even though they're both doctors*. Should you trust a computer programmer about computer security? Should you trust a computer security professional about computer programming?

Which one is going to understand Y2K, for example? What kind of a problem is Y2K?

1. Where did this information originate from?
2. How much competent review has this information seen?
3. How does this affect the reliability of the information?

### **What are the stated facts?**

What is actually being said in the information? Many times the same facts will be repeated over and over in different words to increase the ‘amount’ of fact. Or individual events will be presented as representative of general truths, without any evidence that the individual events are representative. And finally, many times perfectly good facts will be paired with completely erroneous conclusions.

1. What are the facts?
2. What are the conclusions?
3. Do the facts and the conclusions relate?

### **What are their biases?**

That is, *why are they presenting this information?* That’s what all of the above questions aim at. Everyone has biases. Sometimes they’re aware of them, sometimes they aren’t, sometimes they don’t care. Biases do not invalidate information. But they do give you clues that can tell you where to investigate if you want to verify or disprove the information.

### **Evaluate everything**

These questions should be asked of *any* information source, not just those on the Internet. The Internet merely made it obvious that information doesn’t have to be true or relevant just because it’s available.

Working out the social politics of who you can trust and why is, quite literally, what a very large part of our brain has evolved to do. For some batty reason we turn off this natural scepticism when we see things in any medium which require a lot of work or resources to work in, or in which we can’t easily answer back—like newspapers, television or granite. Hence ‘carved in stone.’ What should concern us is not that we can’t take what we read on the internet on trust, but that we ever got into the dangerous habit of believing what we read in the newspapers or saw on the TV. One of the most important things you learn from the internet is that there is no ‘them’ out there. It’s just an awful lot of ‘us’.<sup>1</sup>

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1. <http://www.douglasadams.com/dna/19990901-00-a.html>

# WEASEL WORDS

I use “weasel words” as a catch-all phrase for any argument that is an attempt to hide a complete lack of knowledge on a subject or to hide or finesse around the facts.

## **Everyone knows**

The classic weasel word is “everyone knows”, after all, if “everyone knows” that the moon is made of green cheese, there isn’t any need to provide proof. Variations on this are “common knowledge”, and “common sense”. Don’t make the mistake of taking these phrases in lieu of actual proof or sources. The world’s a pretty big place. Everyone does *not* know.

Other weasel words take the place of real statistical information. Even some numbers are not real numbers. Look out for “95%” or “99%” or “nine out of ten”; these are entering the lexicon as simply big numbers. Other phrases to look out for are “majority” and “more likely”. Why did the claimant use that vague term rather than the exact number? Especially weasel-like are when those terms get modified in a way that’s supposed to make them look more impressive. What does “vast majority” mean?

## **Apples and oranges**

It seems to me that many statistics are blatant attempts to make one thing look important by comparing it to something nearly unrelated.

## **Playing doctor**

Suppose you were talking to a doctor, and she told you that most of the children she’d seen in the emergency room who’d been playing on swing sets were seriously injured. You would, I hope, realize that it’s to be expected: who else is your doctor friend going to see from the playground? Children who play on swing sets without getting injured?

But you see this sort of statement in newspapers and in political discussions. Sometimes it is as blatant as the above example. Other times such attempts hide behind a comparison such as:

A medical study yesterday found that 66% of playground injuries were suffered on swing sets.

According to new medical data, you are more likely to be killed by an intruder than to kill an intruder.

These statements are worthless except as argumentative tools. So 66% of playground injuries are the result of swing set injuries. Does this mean that swing sets are more dangerous than anything

else on the playground? Or does it mean that swing sets are more popular than anything else on the playground? Or is it the result of heavy variation caused by low sampling? If (for example) there are only three playground injuries per year in the sample size, chances are pretty good that one playground toy is going to get two of those injuries. But saying that there have been two swing set injuries in the past five years isn't going to sell newspapers; and it isn't going to get laws passed regulating swing sets or playgrounds.

### **Tautological hand-waving**

Thousands of children die every year from automobile accidents. If you own a car, the chances of your being killed with it are astronomically greater than if you don't. If you have children, you shouldn't own a car.

Even if you accept that you should get rid of your car to avoid being killed yourself, should you accept the notion that it will save your children? Suppose that the statistics from which this statement was taken calls 'children' anyone up to and including 20 years of age? In other words, three years worth of 'children' who may very well not even be living with their parents.

Suddenly those "thousands" of children don't sound like many at all—and even if they do, you getting rid of your car won't help any. Those children own their own cars.

The main weasel phrase we're looking at here is the middle one: if you own a car, the chances of your being killed with it are astronomically greater than if you don't. Of course this is true. If you don't own a car, you can't be killed by your car. It sounds completely silly, but you'll see this form of argument, and sometimes it won't even be disguised.

### **Blame conflation**

We saw an example of this above, the notion that since children die in cars, and you are more likely to die in a car if you own a car, you should get rid of your car to save your children. But there are more blatant examples of this:

Drugs and alcohol users are 3.6 times more likely to injure themselves or others in workplace accidents. Workplace drug testing saves lives.

Problem? As it turns out, the following statement is also true: "Alcohol users are 3.6 times more likely to injure themselves or others in workplace accidents." Of course, drug testing doesn't follow from the latter, because drug testing doesn't test for alcohol use, and even if it did it would be easy to avoid.<sup>1</sup>

When you see two causes lumped together, you need to pay attention: is there some hand-waving going on to shift your attention away from what the statistics really mean? Since such statements are usually followed by calls for change in policy, it might help to break down the needs. What is the danger that needs to be removed? In this case it would seem to be workplace accidents. Why

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1. <http://www.hoboes.com/pub/Prohibition/Drug%20Information/Social%20Studies/Cannabis%20Makes%20Better%20Employees/>

does “drug and alcohol use” cause workplace accidents? By reducing performance. It is, of course, possible to test performance directly, and thus weed out possible workplace accidents caused not only by drugs and alcohol, but also by lack of sleep and simple incompetence. You might also consider that stopping workplace accidents isn’t the true goal of a policy-maker who introduces a ‘middle’ test that focuses in on only one possible cause, when it is easy enough to test for the problem directly. Very possibly, the ‘problem’ is simply a tool to put the middle test in place.

### **Popularity Contests**

Something else that can happen is that statistics are presented as popularity contests when they aren’t. There are two kinds of fake popularity contests. The most obvious is presenting a fact as true or false because of poll results. For example, if 55% of adults 18 and over in New England state that they believe the moon is made of green cheese, this is presented as evidence that the moon is made of green cheese. But what the moon is made of is a tangible fact unaffected by polls on the matter. It either is green cheese or it isn’t, and no amount of polls can change that.

The second is a little more subtle. You might, for example, see the claim that “only 49% of Bartown residents received education improvements after last year’s education reforms”. The implication is that this is bad reform, because 51% did *not* see improvements. But without information about what those 51% *did* see, this is worthless information on which to make a judgement. It might very well be that only 49% of Bartown’s residents *needed* education reform. The rest were already receiving a good education.

There are valid claims to be made with that statistic, but as a popularity contest it’s irrelevant. If what Bartown is seeing is a 49% improvement in education, that probably beats a 0% improvement in education.

### **Case-Controlled Studies**

In another case of “playing doctor”, you should be very careful of what are called “case-controlled” studies that purport to be generalizable to a wide population. “Case-controlled” studies are often medical studies or studies done by someone in the medical profession. They are a useful compromise that address some of the special needs of medical studies, the main one being that it would be unethical to choose people at random from the general population and give them drugs with unknown effects, or otherwise do things to them that might result in harm—the Tuskegee experiments are probably the classic example of what should *not* be done in medical research.

For true, generalizable studies, researchers need to take a random sample from the population they’re studying. But because this would be unethical in some medical studies, researchers attempt to “control” all the variables they can think of when researching the effects of a new drug or new cure. This is good, because without these techniques it would be difficult to research the effectiveness of new medicinal techniques, without causing unethical harm. But it also means that there always exists the possibility that the researchers forgot to “control” the sample of

people for something important, or that the researchers introduced their own personal bias into the subject selection process. All research has sample selection bias to some extent, but case-controlled studies have it in spades.

When case-controlled studies are used to generalize to the population as a whole, you should beware of the procedure's limitations, especially if the researchers purport to be finding conclusions that are not truly medical in nature.

## Telephone Tag

Also, be on the lookout for words that sound specific but actually aren't. Imagine reporting to be a game of "telephone tag". The actual facts may involve something completely different than what the final person heard.

The classic example is the FBI statistic that:

You are more likely to be killed by a friend or a loved one than by a complete stranger.

Look at that statement. Where are the weasel words, and what parts are missing?

Weasel words: there is a subject, one statistical claim, one verb, and three nouns in that statement: "you", "more likely to", "killed by", and "friend," "loved one," and "complete stranger".

It is given as fact that this statement applies to "you". *You* are more likely... But who is "you"? Studies are not generally performed on "you", they are performed on other people. Those other people all have something in common that allowed them to be studied, or that made them attractive subjects to the researcher. If the study was performed on subjects who shared your relevant characteristics, you can apply a different level of relevance to your own daily life, than if it was performed on subjects who do not share your relevant characteristics. For example, "you are more likely to go to the beach on Sundays than read the newspaper" isn't a useful statistic if you live in Minnesota and the study was performed on San Diegans.

The statistical claim "more likely to" most likely means that the person making the claim doesn't have access to the original source material. They are either repeating what they heard a long time ago, or they are simply making up the statement on the spot.

The verb "killed by" sounds pretty airtight, and it probably is. There's only one reasonable definition of "killed by".

The word "friend" and the phrase "loved one" might be weasel words. How is the FBI going to define "friend" and "loved one"? The victim can't tell them: the victim is dead. You should raise a mental red flag on those items.

"Complete stranger", like "killed by" probably has a pretty tight definition. Someone the victim has never met before. But what is a "complete stranger", compared to a "stranger"? There might be a clue here.



What's missing from this factoid? Well, what's between "friends and loved ones" and "complete stranger"? Isn't there any possibility you might be killed by someone you know, but who isn't a friend or loved one?

If you ask that question, you've come to the heart of the problem. Because the answer is yes, and that category is the biggest possibility. This statement comes from an ignorant or deliberate misinterpretation of FBI data.

Follow the logic. The FBI data says that a victim of murder is more likely to have been killed by an acquaintance than by a complete stranger. Newspapers (and people with a bias towards telling you you're in danger from your loved ones) find the word "acquaintance" to be boring, and replace it with "friends and family". This is a pretty big exaggeration but not totally unreasonable. The phrase then often gets converted to "friends and loved ones" because family *ought* to be loved ones and, well, it just sounds even better to have been killed by a loved one if you write headlines.

But what about those people between "acquaintances" and "complete strangers"? Turns out there aren't any. The FBI definition of "acquaintance" is anybody who was not a complete stranger: anybody the victim was "acquainted with". That is, if the victim and the killer had met or otherwise been acquainted with each other, even once before the killing, they are listed in the FBI crime statistics as "acquaintances".

With this definition, it is almost a tautology that "acquaintances" are more likely to kill you than "complete strangers". The following all fall into the definition of "acquaintances": a drug dealer and a rival drug dealer; a gang member and a rival gang member. People who believe they have reason to kill "you" will have had to meet you at least once to come to that conclusion.

The weasel word "more likely to" should have alerted you to the possibility that the person reporting this data has not seen the original data, and thus has not been privy to the definitions and assumptions underlying that data. In conversational English it is probably only a white lie to equate "acquaintances" with "friends and loved ones". In the context of this factoid, however, it completely misrepresents the finding.

# SPAM AND CHAIN MAIL

If you've been on the Internet for any length of time, you've received, and possibly sent, chain mail that purports to describe an incident that really happened. Some of these are simply amusing, such as the supposed 'user services' complaints. Others are more serious, because they either call for policy changes based on what they saw, dampen true activism by making the claim that you can effect policy change simply by forwarding the e-mail on, or harm a third party's reputation.

It is difficult to keep up with these chain mail spams because there are so many of them. However, if you ever feel that you have received one that is important enough to forward to your own friends, you absolutely must verify it first if you don't wish to look like a fool later on. So many of them are either false or completely false.

Some of them are silly. Bill Gates isn't going to give me money for forwarding e-mail, and not just because I throw those spam mailings in the trash. You don't need to look that one up, because a moment's reflection will tell you that it ain't gonna happen. (If you decide to write the sender back and tell them that it's false, however, you should uncover third-party verification first.)

I'm going to divide this kind of spam into two categories: virus myths and urban legends. There are different places to go to verify or debunk each type.

## Computer Virus Myths

1. [http://www.dhs.gov/xcitizens/general\\_1165337828628.shtm](http://www.dhs.gov/xcitizens/general_1165337828628.shtm)
2. <http://www.snopes.com/>

You should never forward a virus warning. If you feel that a virus warning is possibly true, let one of your system administrators know. You should do so by telephone, because if you believe that there really is a dangerous virus being sent by e-mail, how do you know it isn't attached to the e-mail that warns about the virus? The easiest way to spread an e-mail virus would appear to be by giving it the subject "Virus Warning-Important".

## Hey You Virus

These virus warnings often look a lot like this, whether they're in email or on Facebook:

IF YOU GET AN EMAIL TITLED "HEY YOU" DELETE IT IMMEDIATELY!!! EVEN IF IT IS FROM SOMEBODY YOU KNOW!!! IT IS A VIRUS THAT WILL OVER THE PROCESS OF 7 DAYS SEND ITSELF OUT TO EVERYBODY IN YOUR ADDRESS BOOK AND THEN PROCEED TO DESTROY YOUR HARD DRIVE AND YOUR

MODEM. AS FAR AS I KNOW THE ANTIVIRUS PROGRAMS ARE NOT EQUIPPED TO WIPE OUT THIS VIRUS YET SO PLEASE BE CAREFUL!!! ONCE AGAIN EVEN IF THE MAIL IS FROM SOMEBODY YOU KNOW DELETE IT IMMEDIATELY!!! IT WILL WIPE OUT YOUR COMPUTER!!! PLEASE SEND THIS TO EVERYBODY YOU KNOW TO PREVENT THE SPREAD OF THIS.<sup>1</sup>

Look at all those capital letters! A sure clue that this virus is a hoax. The extra exclamation points don't help any. And finally, the call to forward this message to everyone you know clinches the matter. (If you are truly worried about e-mail viruses, simply make sure that your e-mail software doesn't automatically run attachments or other executable content such as Javascript.)

### Mobile Phone Virus

This information has been confirmed by both Motorola and Nokia.. For more information, please visit Motorola or Nokia web sites:

<http://www.mot.com>

<http://www.mot.com> or <http://www.nokia.com>

There are over 3 million mobile phone being infected by this virus in USA now. You can also check this news in CNN web site: <http://www.cnn.com>.<sup>2</sup>

Notice the reference to URLs are the main pages for those companies. The URL to the supposed confirmation page is not given. And there's a good reason for that: those sites contain no such warning.

### Urban Legends

Urban legends go beyond computers into everyday life. If you believe in urban legends you can be killed for warning other motorists that their headlights are off<sup>3</sup>, wake up in a foreign hotel with one kidney missing<sup>4</sup>, or grow cockroaches in your cheeks<sup>5</sup>. You can save Big Bird<sup>6</sup>, or convince the Taliban to end repression against women<sup>7</sup>, simply by forwarding an e-mail message.

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1. <http://www.sophos.com/en-us/threat-center/threat-analyses/hoaxes/virus-hoax/heyyou.aspx>

2. [http://www.symantec.com/security\\_response/writeup.jsp?docid=2000-121414-2545-99](http://www.symantec.com/security_response/writeup.jsp?docid=2000-121414-2545-99)

3. <http://www.snopes.com/crime/gangs/lightsout.asp>

4. <http://www.snopes.com/horrors/robbery/kidney.asp>

5. <http://www.snopes.com/horrors/food/tacobell.asp>

6. <http://urbanlegends.about.com/library/weekly/aa052798.htm>

7. <http://urbanlegends.about.com/library/blafghan.htm>

### Sites

1. <http://urbanlegends.about.com/>
2. <http://www.snopes.com/>
3. <http://groups.google.com/group/alt.folklore.urban/topics>

### Jane Fonda

One of the more recent items has to do with Jane Fonda's actions in North Vietnam during the Vietnam War.<sup>1</sup> Not only does it name specific actions, but it names specific, and real, names. But anyone who performs basic research before forwarding the message will discover that none of the stories that both involve real names and are directly attached to Fonda are true.

Looks like Hanoi Jane may be honored as one of the "100 Women of the Century". JANE FONDA remembered? Unfortunately many have forgotten and still countless others have never known how Ms. Fonda betrayed not only the idea of our "country" but the men who served and sacrificed during Vietnam. There are few things I have strong visceral reactions to, but Jane Fonda's participation in what I believe to be blatant treason, is one of them. Part of my conviction comes from exposure to those who suffered her attentions.

It then goes on to describe some very specific events. There are two things to be worried about in this message. The most obvious is that whoever wrote it has some clear biases. The less obvious is that the "100 Women of the Century" were aired in April 1999, which means that this message has been floating around on the net, getting sent from user to user with all the possibility for change which that brings, for even longer.

Don't look to the newspapers for help: this has been reported on at least twice, having traveled to a reporter's e-mail inbox and being treated in the same manner as any other information coming down the wire. You'll only find the truth about this message if you head back to the Internet and do a little research of your own.

Perhaps the craziest thing about this one is that it was deliberately malicious not only to Jane Fonda, whom the poster apparently has no liking for, but also to the named POW's. The POW's names are real. And the basic notion that Fonda did generally horrible things during Vietnam make it easier to believe these specific things. But:

A good cause is never well-served by lies, and that's how all of the ex-POWs I spoke to or corresponded with about the falsehoods in this message felt. Paul Galanti said: "None of us are members of the Jane Fonda Fan Club, but these fabrications are something she just did not do."<sup>2</sup>

Forwarding on information like this might hurt Jane Fonda in the short run, but it only hurts POWs in the long run.

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1. [http://urbanlegends.about.com/od/janefonda/a/hanoi\\_jane.htm](http://urbanlegends.about.com/od/janefonda/a/hanoi_jane.htm)

2. [http://urbanlegends.about.com/od/janefonda/a/hanoi\\_jane\\_3.htm](http://urbanlegends.about.com/od/janefonda/a/hanoi_jane_3.htm)

## Gordon Sinclair

This is a mostly harmless message, and in fact is pretty much all true.<sup>1</sup> Which makes it all the more odd that it has been slightly modified to hide its true source. You may have received it under the subject “now HERE'S the beauty of America...”. The commentary before the essay decries that this was recently broadcast (my version says 12/99) but has received no attention, even though it was a remarkable piece. And it’s true, it is a remarkable editorial. Written in 1973, by a person who died in 1984, in response to the near bankruptcy of the American Red Cross, the growing Watergate scandal, and the aftermath of the Vietnam War. Some of more blatant anachronisms, such as the gas shortage, were removed. Oddly, others remained, such as the notion of draft dodgers, still hiding out in Canada and “getting American dollars from ma and pa at home”. At what, age fifty? This was a remarkable editorial when written, and it received fairly massive airplay in the United States. But it was never hidden, and while there are parallels, it wasn’t written to apply to American adventurism abroad in 1999, nor to the scandals of the current administration.

These sort of “white lie” chain mails are at the other end of the spectrum from the “big lie” spams such as the Fonda chain mail. In my opinion, both are dangerous; the white lie spam is more insidious, and thus may last longer than the more easily uncovered big lie.

Note that there doesn’t necessarily have to be any actual lying involved in the “white lie”. Unlike the Fonda mailing, for which someone must have made up some fairly egregious lies, it’s easy to think of a simple chain of mailings where no one person lies, but the end result is just a little off kilter.

1. One person runs across Gordon Sinclair’s essay, likes it, and tries to update it for modern times. They send it out to a few friends, along with the note, “I found this at a Canadian web page, and I liked it a lot. I’ve modified it a bit to take out the seventies-isms.”
2. One of their friends also likes it, and copies the modified essay out of the e-mail message. Note that the essay now no longer contains the note that it’s been modified. They say “I just got this from a friend of mine who found it in Canada.”
3. One of person number two’s friends mails it on with the note “this was aired in 12/99”, taking the date of the previously forwarded message as the date of airing.
4. Finally, someone looks at this essay, thinks it’s wonderful (which it is) and wonders why the heck they haven’t seen it before. Why hasn’t it been spread across the United States? Of course, it *was*, but back in 1973, and person number four wasn’t even born in 1973.

At no step is there a true lie. There are a few jumps in logic, but nothing you could call someone a liar over. The point is not that sometimes people lie, or make mistakes, but simply that you should know your sources. Without knowing where a statement came from, it is difficult to judge it’s validity simply by looking at the text. You either need to research the facts stated within, or research the source of those facts.

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1. <http://www.snopes.com/politics/quotes/sinclair.asp>

# TRADITIONAL SOURCES

Everything that I've said here applies to any source of information. Most "professional" news sources simply repeat what they've heard: if it comes over the newswire, and it looks sensational, it stands a chance of getting in. No fact checking is performed for a significant number of those items.

You will want to apply the same critical analysis to what you read in newspapers and see on the news, as you would from anything coming over the Internet. A little more, actually, as false information coming over a Usenet newsgroup will be challenged almost immediately. It takes days for challenges to reach newspapers, and even then the newspapers get to choose which challenges see print. Television won't show any challenges.

## **Newspapers**

Newspapers are one of the worst places to go for source information. Few newspapers research any more than their biggest features. The rest are reproduced nearly verbatim from press releases, press wires, and, believe it or not, e-mail chain letters.

Even those feature articles which are researched by reporters are tainted by the newspaper's need for controversy. The official policy will usually mention "balance", but the way balance works usually makes evaluation of the information difficult. "Balance" means finding the same number of experts in opposition as are in support.

For example, suppose a newspaper decides to do a feature article about standing beneath doors in earthquakes. There are about a thousand experts in the field of earthquake survival, suppose, and two of them oppose standing beneath doorways. In the name of balance, most newspaper articles will present an interview with no more than two supporting experts to 'balance' the only two opposing experts they could find.

Suppose, now, that *no* earthquake survival experts oppose standing in doorways. In the interests of balance, the newspaper reporter will find a non-expert and treat this person as an expert, in order to balance the report. They might, for example, choose a doctor at a hospital. This doctor will claim that everyone who has presented themselves at the hospital for standing in a doorway has been injured. You might think this sounds silly, but the next time you're reading a newspaper or watching a news show in which a doctor is being interviewed for something other than their specialty, look at it in this perspective. Is the doctor basically saying that everyone who comes to the emergency room has an emergency?

Remember the questions:

*Why is this being reported?*

To sell newspapers. To sell airtime.

*How does that affect the reporting?*

It must be made more controversial. Presenting information as if there were a debate among professionals makes an article more interesting. More interesting gets more readers, listeners, or viewers.

*What is the source material?*

Source material is almost nonexistent. Apply the same standards to traditional reporting as to Internet information sources, and traditional reporting will almost always come up short.

### **Example**

In a story about a serial killer.

Pull-out: “Did television influence your crimes?”

“Yes.”

The full story:

“Did television influence your crimes?”

“Yes, I learned to siphon gas.”

### **Television**

Television has different problems from newspapers. Newspapers at least have the option of going into detail on one in a hundred stories if they desire to. Television cannot. Even a 24-hour-a-day news station still only has 24-hours, even if they never cover the same story twice. Since they prefer to cover most of the major stories every hour, the true time is vastly less than that. Most television stories are the equivalent of newspaper headlines or ‘pull-out’ text. Television news has the same need to provide sensational information, but less of the resources to ameliorate the sensational information in the ‘fine print’, because there isn’t any fine print.

Television cannot provide a proportional number of pro and con viewpoints for any non-controversial issue, because they don’t have time to provide fifty interviews on one side to correctly balance the one interview on the other side.

# ACQUIRING INFORMATION

## Search Engines

You'll want to search both the web and Usenet for information. The web provides information on things that someone cared enough about to create a permanent page for—blogs, especially, are useful, because individual experts will blog about topics they're following. Usenet provides late-breaking information that is currently in discussion, as well as information that was once late-breaking many years ago. Twitter also provides late-breaking information, as well as links to relevant news and blog articles.

1. <http://www.google.com/>
2. <http://groups.google.com/>
3. <http://www.memorandum.com/>
4. <http://www.twitter.com/>

If you are looking for information about a specific product or company, go to that company's web page. Most of them will have some sort of search engine that you can use.

## Keywords

Start big and get smaller. Think like a computer. When looking for the address of the Law School at the University of San Diego, what you look for will depend on where you are looking for it.

In a search engine that covers the entire web, you would look up “University of San Diego Law School Address” and work from there.

In a search engine that covers the University of San Diego, look up “Law School Address”.

In a search engine that covers just the Law School, look up “mailing address” or “postal address”.

If you look up “address” on the University of San Diego search engine, you're probably not going to find the Law School address: it will show up, but so will every other page that mentions e-mail addresses, speeches, and mailing addresses.

## Discussion Groups

One of the best places to get immediate information—after researching the other on-line sources—is discussion groups. Usenet is the biggest source, and there are mailing lists for most any topic as well.



### **Subject Lines**

The best way to be ignored is to try to be cute. Use your subject line to provide concise information about your problem. “I need help” is sure to get ignored by the people with the expertise to assist you. “Word 97: Cannot access borneo.dll” will grab the attention of everyone who has seen that error before, or who knows what ‘borneo.dll’ is.

### **The Message**

Inside your message, describe the problem, along with all error messages. If you’ve made any attempt to track down the error, mention what they were. List all of the on-line sources you’ve used to track down information about this error.

# TRUST NO ONE

It may sound like I'm recommending that you "trust no one", and that's sort of true. What I'm really recommending is that you *know* who you're trusting. When I received the "Jane Fonda" spam, it came from a friend who "received it from a very intelligent, reliable chemist," and was taken at face value because of that. But the very intelligent chemist didn't write it. Someone much less reliable wrote it, and the chemist's reputation should not have applied without a further note from the chemist saying "I've checked this out, I believe it to be true. Here are my references."

The same should apply to any news you receive from any source. Where is the information coming from? What value does this information hold? It doesn't matter if you received it on Usenet or from the New York Times, the same questions and the same skepticism should apply.

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