

Teaching The Logical Fallacies

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the art of argument

an introduction to the informal fallacies

relevance
presumption
clarity



by aaron larsen
and joelle hodge



Formal and Informal Logic



Formal:

- Reasoning in the abstract
- Mostly **deductive**
- Concentrates on understanding the **form** of an argument
- Can be analyzed using symbols

Informal Logic



- Evaluating the end product of reasoning
- Mostly **inductive**
- Concentrates on evaluating the **content** of an argument
- Deals with ordinary language arguments in the interchange of ideas between people

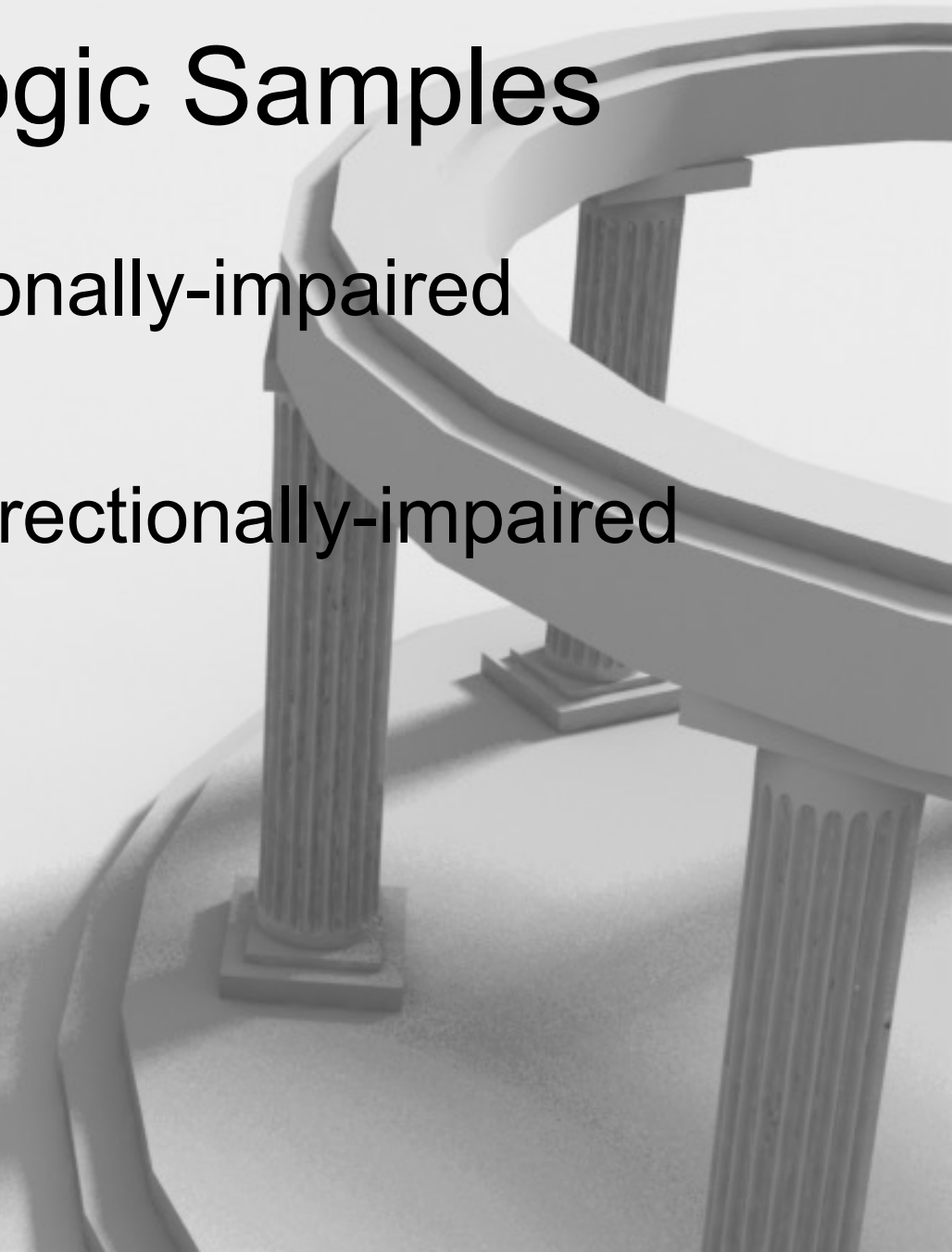
Formal Logic Samples

- All men are mortal
- Socrates is a man
- Therefore Socrates is mortal



Formal Logic Samples

- All men are directionally-impaired
- Jim is a man
- Therefore Jim is directionally-impaired



Formal Logic Samples



- If P , then Q (modus ponens)
- P
- Then Q

- If P , then Q (affirming the consequence)
- Q
- Therefore P

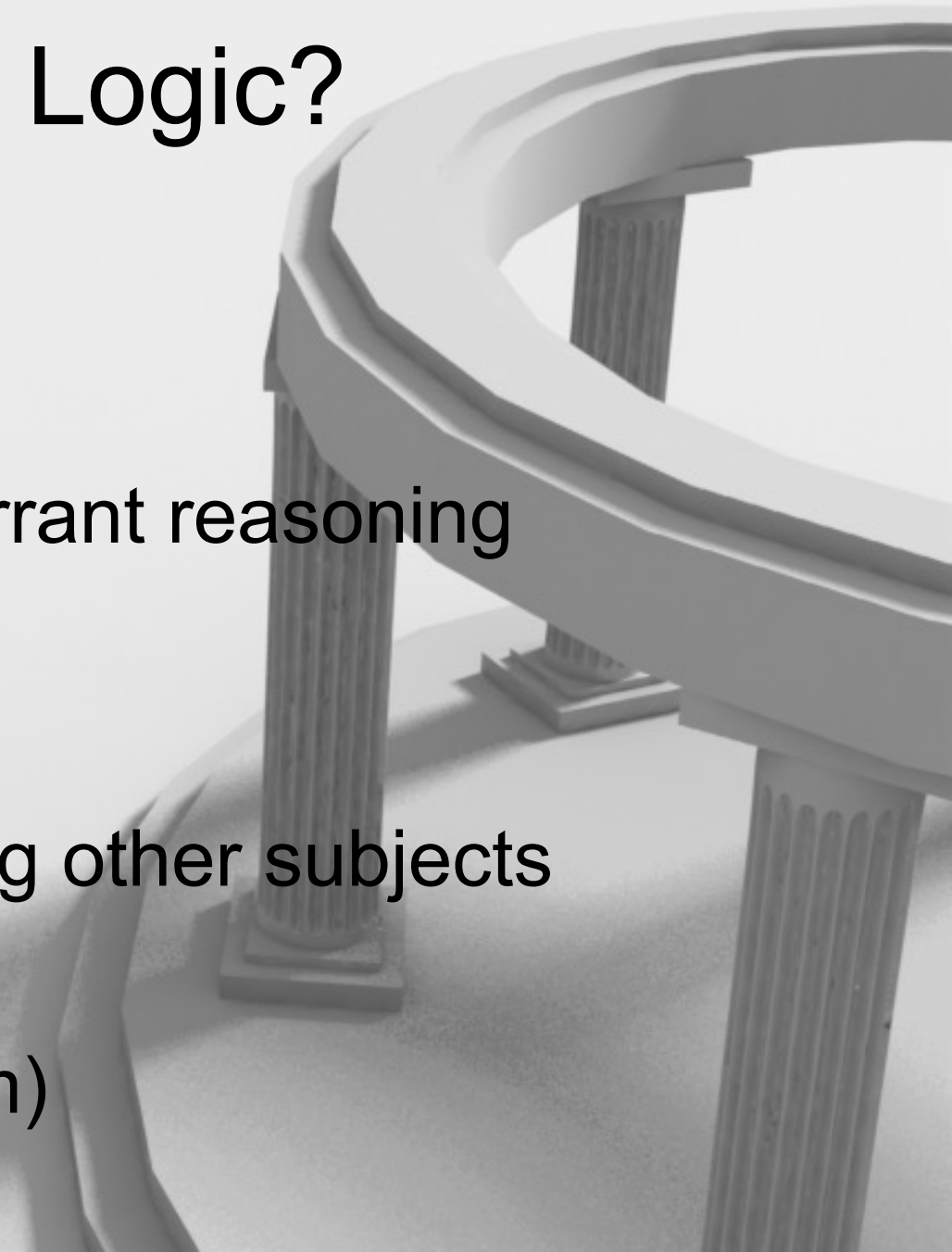
Formal Logic Samples

- If P , then Q (denying the antecedent)
- Not P
- Therefore not Q



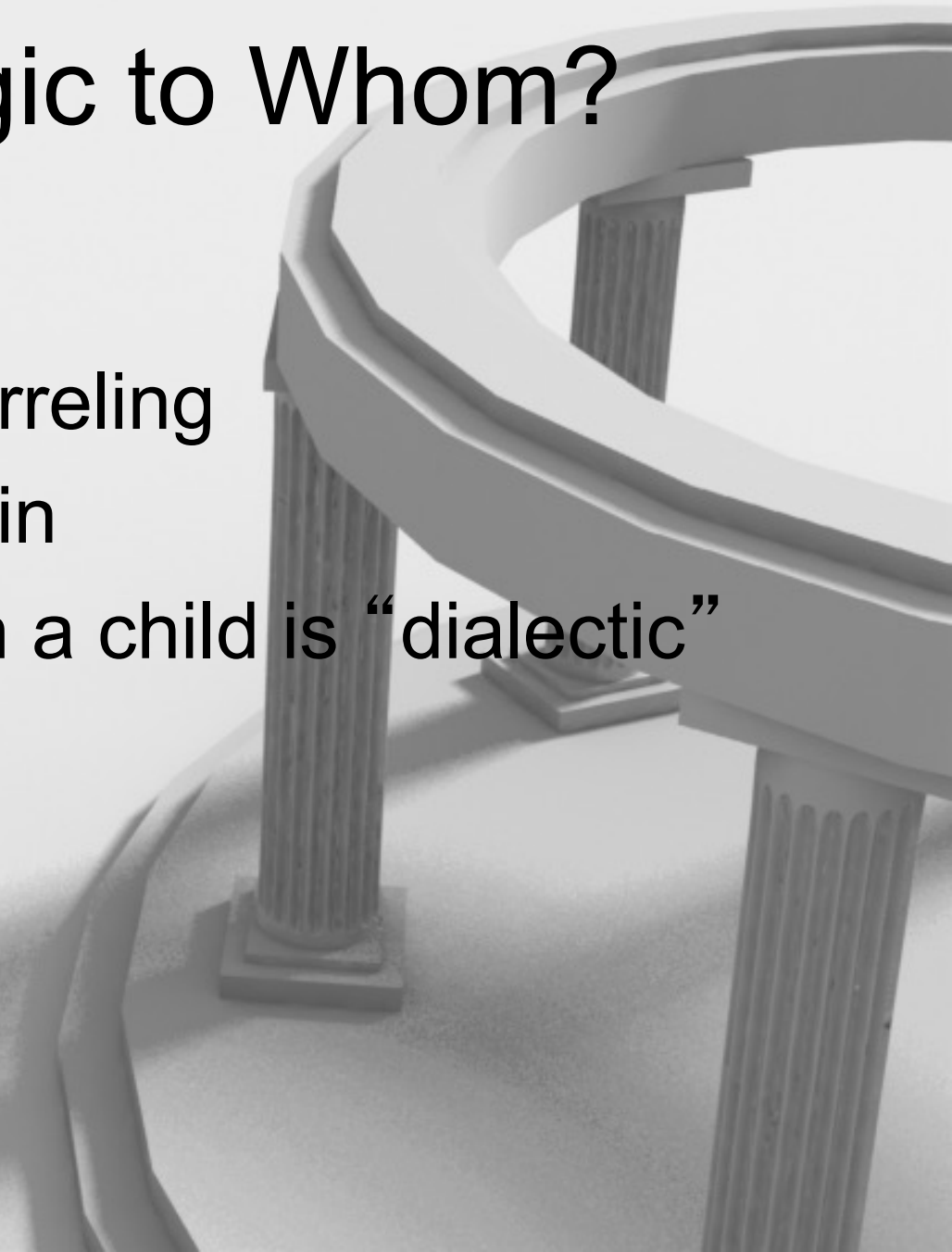
Why Logic?

- Prone to wander
- *Fallacia*
- A vocabulary for errant reasoning
- Self-protection
- A sharp knife
- Means of mastering other subjects
- Being human
- Truth (argumentum)



Teach Logic to Whom?

- Adolescents
- Argument, not quarreling
- Teach with the grain
- How to know when a child is “dialectic”



The Logic Teacher

- Quite possibly you
- Learn to love finding fallacies, arguing
- Use a good text...like the *Art of Argument*.



How to Teach Logic?

- Give the students the context of formal and informal logic
- Show them the relevance and usefulness of studying informal logic
- Give them the big picture and an organizing scheme



Three “Big” Concepts

- The Issue
- Relevance
- Presumption
- Clarity



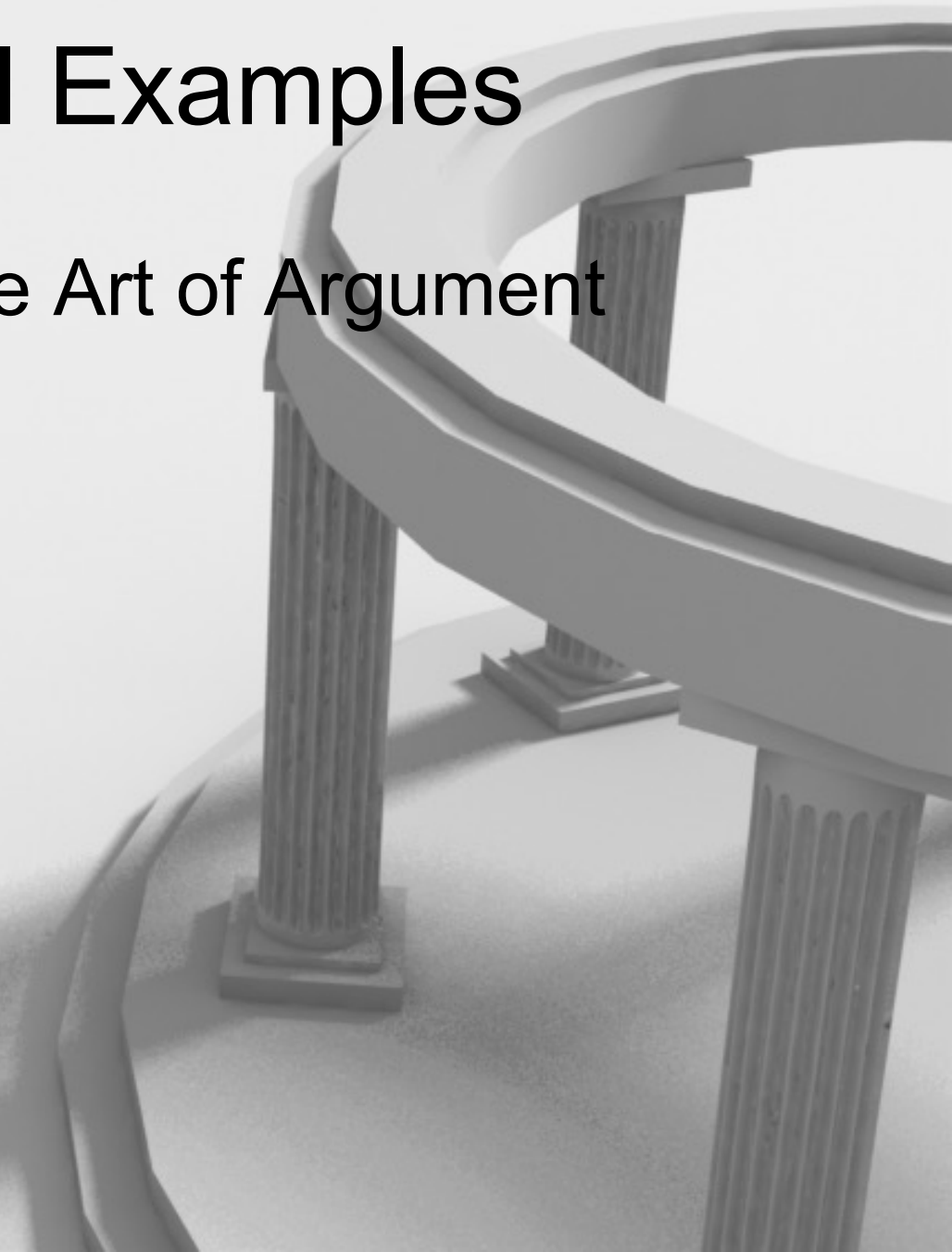
Practical Pedagogy



- Have some fun
- Have students create their own fallacies
- Use fallacies in your instruction from time to time and see if they can catch you
- Have students regularly identify fallacies from various sources
- Review and practice throughout the year until fallacy finding becomes “second nature”
- Pull in another student (or more) if you can
- Use generous amounts of examples.

Practical Examples

- Phony ads from the Art of Argument



Appeal to Illegitimate Authority

FALLACIES OF RELEVANCE | Arguments that are really distractions from the main point.

Appeals to Emotion | Arguments that distract by arousing our emotions too much.

Appeal to Illegitimate Authority | Arguments that distract by attempting to shame the listener into agreement (*ad verecundiam*) by citing an illegitimate authority.

“When I have
leg pain, I
recommend
Repcine.”



Doctor Bob

as seen on:

*Love in the
Afternoon*

Made with natural oils and compounds found in rare South American reptiles, Repcine pain medicine brings the power of modern medicine and the wisdom of ancient healing to all your aches and pains. After all, when Doctor Bob helped to nurse the lovely Laura Taylor back to health after her frightful abduction by her ex-boyfriend, Tommy McCollough, he used the power of Repcine to keep her from going nearly mad from the pain (episode 15!). Don't you want that kind of help for your everyday aches and pains at work?



Repcine™
Pain Medication

Appeal to Pity

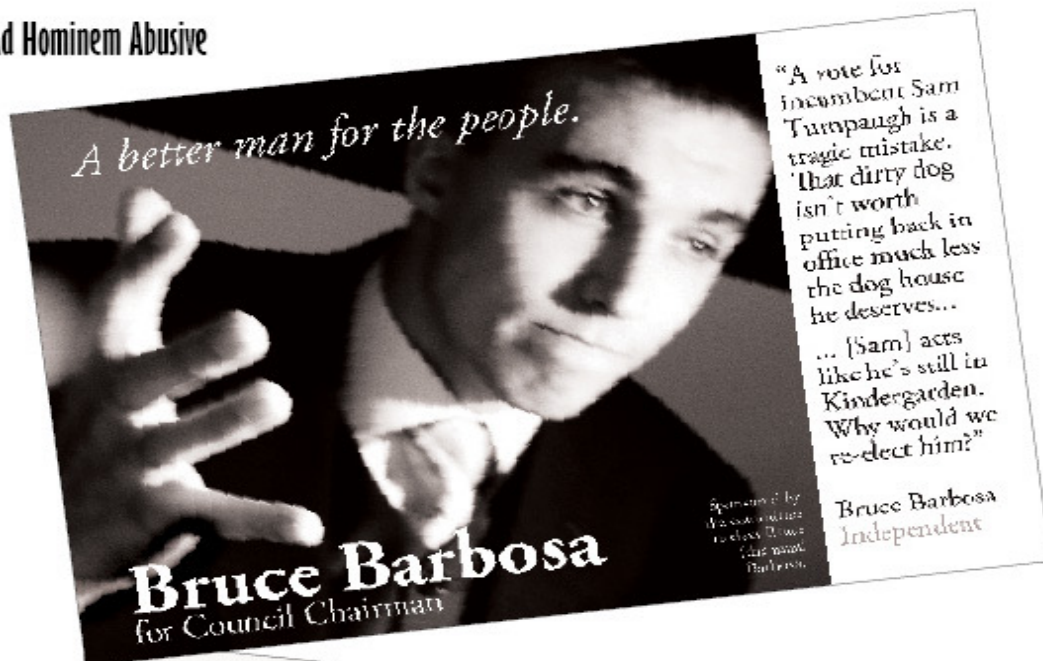
FALLACIES OF RELEVANCE | Arguments that are really distractions from the main point.

Appeals to Emotion | Arguments that distract by arousing our emotions too much.

Appeal to Pity (*ad misericordiam*) | Arguments that distract by making the audience feel sorry for the speaker or someone on behalf of whom he's arguing.



Ad Hominem Abusive



A black and white photograph of a man in a suit and tie, gesturing with his right hand. The text is overlaid on the image.

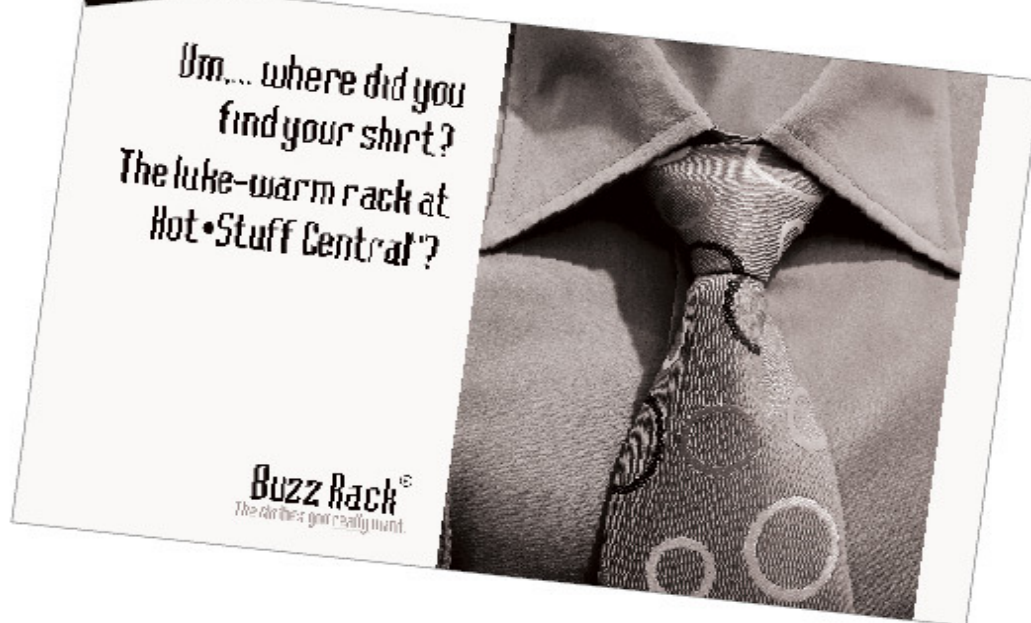
A better man for the people.

Bruce Barbosa
for Council Chairman

Spoken by
Barbosa's wife
to class 7, who
said name
Barbosa.

"A vote for incumbent Sam Turnpaugh is a tragic mistake. That dirty dog isn't worth putting back in office much less the dog house he deserves...
... {Sam} acts like he's still in Kindergarten. Why would we re-elect him?"

Bruce Barbosa
Independent



A close-up photograph of a man's shirt and tie. The tie has a pattern of circles.

Um... where did you find your shirt?
The luke-warm rack at
Hot•Stuff Central?

Buzz Rack[®]
The clothes you really want.

Tu Quoque

FALLACIES OF RELEVANCE | Arguments that are really distractions from the main point.

Ad Fontem Arguments | Arguments that distract by focusing the attention on an opponent.
(Arguments against the source)

Tu Quoque | Arguments that say that because the opposing speaker is flawed, his argument can't be true. "We might be bad, but they're worse, so go with us instead."

**Kids go crazy over
Sugar Dump!**

And Moms, just remember, we don't have as much sugar as Sugar-Berries® does and we cost less!

Binner Cereals

Only 128 grams of sugar per serving

SUGAR DUMP

SAVE 25¢

When you buy this cereal with any other cereal in the aisle, you'll save 25¢. Total savings: \$2.00. Offer valid 12/1/11 - 12/31/11.

...just dump it!

SUGAR DUMP

False Cause

FALLACIES OF PRESUMPTION | Arguments that make unwise assumptions about either the data or the nature of reasonable argument.

Fallacies of Induction | Arguments that misuse empirical data or don't follow proper methods of inductive reasoning.

False Cause | Arguments that use any sort of weak causal connection as the basis of an argument.



Bifurcation



Ad Hominem Circumstantial

Finally...

A cell phone designed by teens for teens.
Not made by the big companies your parents work at.

When it's for the sake
 on a piece of soap. That way
 when you make it, you're
 looking at your phone
 on your phone. It's not like
 you and your phone should be
 able to see the phone but when
 the call is over. (It's not)

There should be a
 that you can't really see
 that's for people to use on the phone
 I don't want to see my phone
 when I'm not using it!

It's not a
 the phone is
 so you can see
 it's not a
 or you can't

One of the things that I like
 on the phone is that it's not
 it's not a

But, it's not the best. The
 way I can't see it. I don't
 or it's not the best. I don't
 it's not the best. I don't
 it's not the best. I don't

Horizon

visit us online!

Straw Man Fallacy

do p-
ig
do-
es
me
ent
ber
an
ki.
do
ga
asi.
am
stat,
trud
do-
uer
feu

than a few humour bath-room jokes about snob
that indeed were funny I can't recommend the
film. Also, if the producers had bought one less
cup of coffee they could have put that savings
into the film's budget which sorely needed it. ■

New Bridge Promised
The South Street bridge is making news again
this week. Ever since the bridge was weak-
ened in the winter 2003 ice-flow, the bridge
has been an area of political tension. Mayor
Jones commented, "The South Street bridge
needs to be rebuilt. It's as simple as that. With
the traffic congestion in and around the city,
this project can not be ignored any longer."
The mayor continued with, "All this talk about
what color the new bridge should be after it's
built—I don't care. There are better people out
there than me to determine those aesthetic con-
cerns. I'm afraid I'd just pick the wrong color
and then get a truck load of mail on my desk
the next week telling me what I already know."
The South Street bridge project is slated to begin
by and govt the city

"...I don't care."
Mayor Jones



Isn't it time we
had a mayor that DID care
about the South Street bridge?
After all, isn't your safety
and the safety of all Bainbridge
at stake here?

James R. Tublinsky

Mayoral Candidate 2005
A man who genuinely cares

Chronological Snobbery



THEY DON'T
BUILD 'EM
LIKE THEY
USED TO



ROCKPORT
RADIOS

THE WARMTH OF
RADIO RETURNS

Hasty Generalization

- FALLACIES OF PRESUMPTION | Arguments that make unwise assumptions about either the data or the nature of reasonable argument.
- Fallacies of Induction | Arguments that misuse empirical data or don't follow proper methods of inductive reasoning.
- Hasty Generalization | Arguments that make a generalization on the basis of too few examples.
(Converse Accident)

Pete's chair.
He likes
BuBidoor Ale.

Tom's chair.
He drinks
BuBidoor Ale.

Stinky Bill's chair.
He loves
BuBidoor Ale.

Taste its
nature,
rich auburn,
smooth taste

BuBIDOOR
Tree-Bark Ale

That's all
the taste
testing
we need

Tu Quoque

We crash less



Ad Hominem Circumstantial

FALLACIES OF RELEVANCE | Arguments that are really distractions from the main point.

Ad Fontem Arguments | Arguments that distract by focusing the attention on an opponent.
(Arguments against the source)

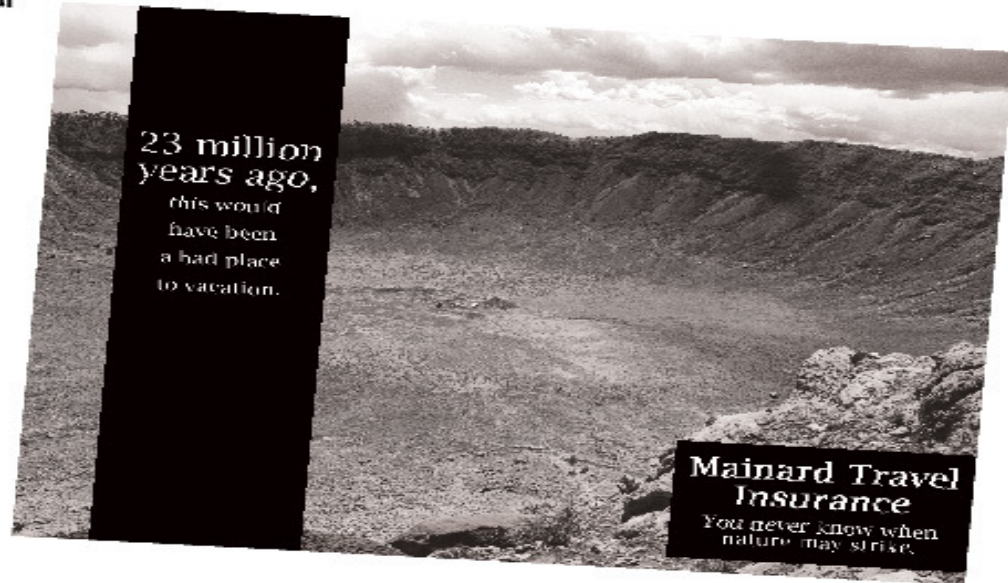
Ad Hominem Circumstantial | Ad hominem arguments that try to discredit an opponent because of his situation.



Distinction without a difference

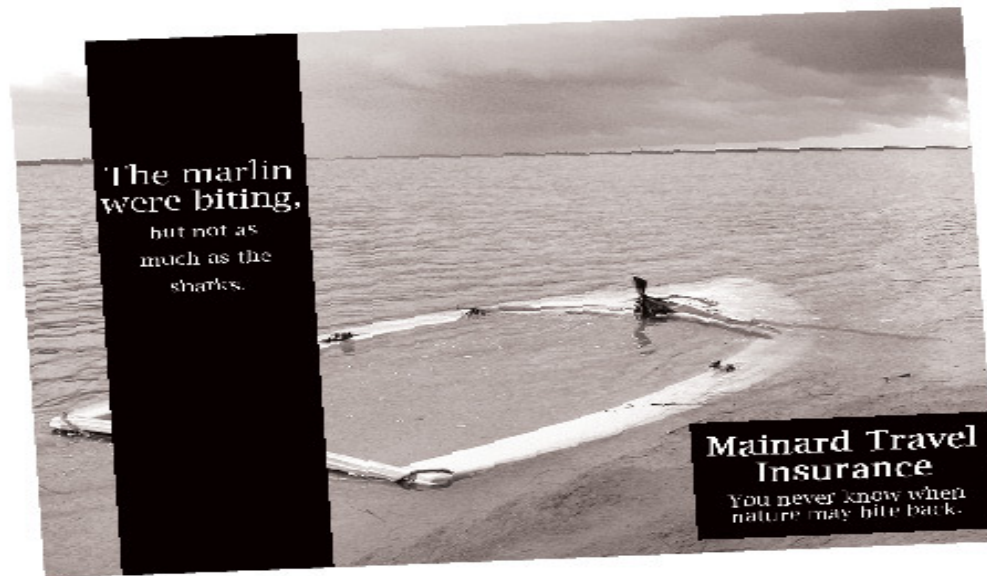


Appeal to Fear



23 million years ago, this would have been a bad place to vacation.

Mainard Travel Insurance
You never know when nature may strike.



The marlin were biting, but not as much as the sharks.

Mainard Travel Insurance
You never know when nature may bite back.

Appeal to Illegitimate Authority



#24-MIGHTY MAC FUELS UP ON IT!

Begging the Question

FALLACIES OF PRESUMPTION | Arguments that make unwise assumptions about either the data or the nature of reasonable argument.

Fallacies of Presupposition | Arguments that contain "hidden assumptions" that make them unreasonable.

Begging the Question | An argument that contains an important, hidden, and unjustified assumption.



Appeal to Ignorance

Can you prove that your lung cancer comes from our cigarettes?

If not, here's a coupon.

\$1.00 OFF

For use with any other professional, solo or other, for use in the continental U.S. only. Subject to the rules and regulations of the household. Good on participating grocery stores and your local retailer. Not valid in CA, HI, IL, NY, NJ, PA, RI, VA, WA, WI, WY.

joe blow cigarettes

SURFONE WARNING: some doctors have a hunch that cigarettes may be bad for you. But who is the hard core—that's what we want to know. Smoke on, brother.

Composition



Does your
investment
firm make
you smile?



We make you smile

Princeton & Plumber Financials Inc.



Old equipment won't
provide a new education

Each of our students receive a brand new wireless
GeniusPhone, iComputer, SmartBook, and GPS!

Au Courant Prep School

*At Au Courant Prep School, everything is
new and shiny! Only the latest, greatest,
and most progressive materials will give
your child the best education.*



Many

Hands

Portraiture
Studio

The artist dream team!

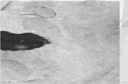


Our portraits are compilations created by a team of the best artists! From graphic artists and medieval painters to abstract sculptors and poets we have the very best!

"Johnny came out looking like I never expected!"

"The artists... are... creative!"

"Everyone talked about my portrait!"





Bath & Shower
makes the best products
for your skin-care needs.

If you liked our
Aloe-fresh bar soap, then you'll
like our Aloe-fresh shower gel, body butter,
hydrating face wash, exfoliating face wash,
day creme, facial serum, night cream, baby
oil, toner, body spray, deodorant, shave
gel, and sunscreen!



Bath &
Shower

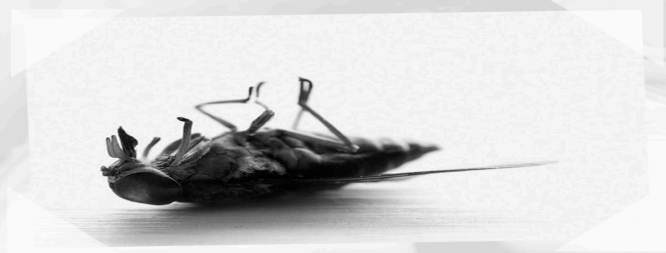
Do you ever get the feeling
that your fund manager
doesn't care?

WHM Mutual Fund always
offers higher interest.



WHM Mutual Fund

Whether for flies...

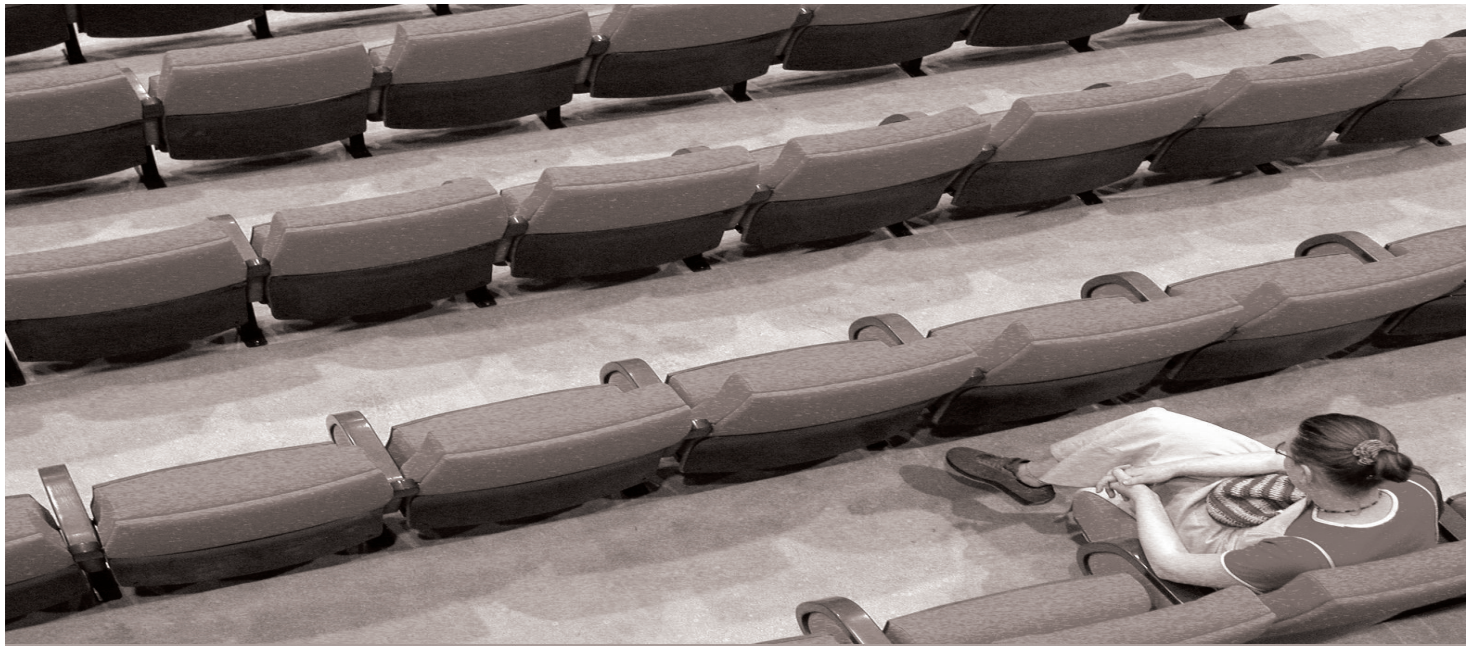


or for bubblegum...

**Berkmeisters ergonomic sandals
make great swatters!**

Berkmeisters
ergonomic sandals
Good for swatting





You've chewed their gum.
And did you get more friends?



The friendly gum!





Republicans favor big business. Democrats favor big government.

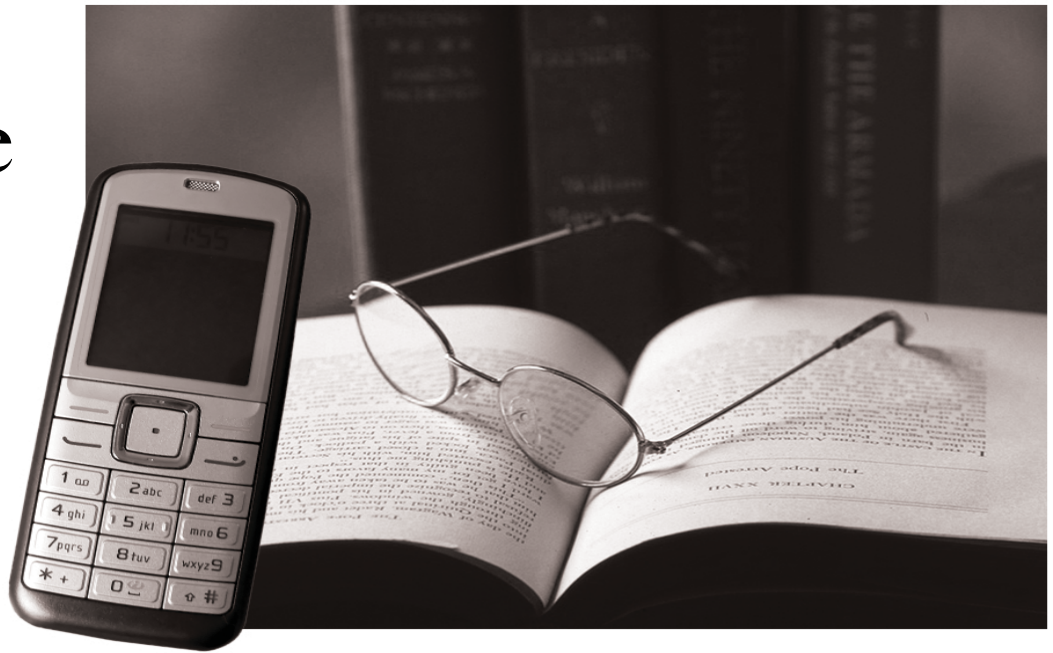
The Cumberland County Independents League wants a moderate-sized government supporting average-sized businesses... just what the county needs!

Sponsored by the Cumberland County Independents League

Introducing the new GeniusPhone

Now get a phone that automatically comes equipped with a global positioning system, a searchable encyclopedia, a dictionary of Greek and Latin roots, a personal language translator, historical timelines of the 5 largest countries, a graphing calculator, a combinatorics quiz game, and tetris!

Be the smartest person
you know!



Can you identify the fallacies in this news report below? Note the the underlined sections and try to identify the fallacy that might be present.

Fox News Report, Feb. 27, 2013

Republicans to Obama: Quit campaigning, spending cuts 'are going to happen'

President Obama took his campaign to warn about looming spending cuts on the road Tuesday, using a Virginia shipyard as a backdrop to his message that Congress' failure to act will cost jobs.

But back in Washington, Republicans said the president's theatrics aren't doing any good -- and that the American people would be better served if Obama worked with Congress on a viable alternative.

"The spending cuts are going to happen and the option now for the president is, do you want to work for a different way for these savings to be achieved?" Sen. Roy Blunt, R-Mo., said. "And that's very doable."

Senate Republican Leader Mitch McConnell, R-Ky., said he'd be "happy" to give the Obama administration "more flexibility" to spread around the \$85 billion in cuts how they'd like.

That idea is being pushed as part of a Republican-backed bill expected to get a vote later in the week, along with a Democratic bill.

But after months of bickering over the automatic cuts, the two sides are still far apart, with the cuts set to take effect Friday.

Senate Democratic Leader Harry Reid downplayed the idea that giving the administration more flexibility would help. The White House has also brushed off that option. Democrats generally say the cuts are too steep, and should be replaced with a package that blends targeted cuts with tax increases.

Senior administration officials, in a briefing with reporters late Tuesday, acknowledged that the sequester's impact would not necessarily be felt immediately. But they expressed confidence that, as the cuts take effect over a period of weeks, Republicans would start to bend on their resistance to raising more revenue. House Republican aides called that characterization "wrong," suggesting the White House has very little leverage because Republicans generally want spending cuts.

Obama visited Virginia's largest industrial employer, Newport News Shipbuilding, to stress that the spending cuts would idle military resources like naval aircraft carriers. The president continued to warn about the impact of the cuts, saying that for the Newport News and Norfolk areas ships might not get built as a result.

"And that hurts your bottom line, that hurts this community," Obama said.

The president said he's not interested in playing the "blame game" but merely wants to solve the problem with Congress. "These cuts are wrong," he said, calling this the "dumb way" to cut the budget.

Echoing the president later in the day, Pentagon spokesman George Little said "this is stupid."

The White House has warned that the cuts could affect everything from commercial flights to classrooms to meat inspections. The cuts would slash domestic and defense spending, leading to furloughs for hundreds of thousands of workers.

Despite the grim outlook, both sides seem more focused on blaming each other than coming up with a deal. Obama urged Congress to compromise, but the last known conversation between Obama and Republican leaders was last week and there have been no in-person meetings between the parties this year.

As Obama highlighted the impact of looming spending cuts with his trip to a Virginia military community Tuesday, Republicans accused the president of using America's service members as a campaign "prop."

McConnell claimed the president was trying to sow a sense of chaos.

"Personally, I don't believe the world will end if the president's sequester takes effect," McConnell said. "But our country would be much better served if the Democrats who run Washington would get off the campaign trail and work with us to trim the budget in a more rational way."

McConnell suggested that despite Obama's warnings of "utter chaos," the government should be able to cut 2 percent of its budget "without inviting disaster."

Frustration showing through, House Speaker John Boehner also used salty language as he urged the Senate to act, arguing the House has passed two bills already to deal with the so-called sequester.

"We should not have to move a third bill before the Senate gets off their ass," he said.

On the other side, Reid said his party wants to work with Republicans on a "balanced" plan.

"But my Republican colleagues are standing in the way of a solution. They only want cuts and more cuts. They are willing to sacrifice three-quarters of a million jobs rather than ask multi-millionaires to pay a penny more," Reid said.

The Senate is expected to hold votes on a Democratic and a Republican plan on Thursday. But with the \$85 billion in cuts set to start taking effect Friday, hope is diminishing that any compromise could be reached before then. Some congressional leaders have recently indicated their willingness to let the cuts take effect and stay in place for weeks, if not longer. There is some breathing room for political settlement even after Friday's deadline comes and goes: Provisions are in place to preserve the most crucial services and furloughs of federal workers are at least a month away.

McConnell claimed the president has presented the country with two options: "Armageddon or a tax hike."

Echoing comments made by House Republicans a day earlier, he said this is a "false choice."