

Teaching The Logical Fallacies

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the art of argument

an introduction to the
informal fallacies

relevance
presumption
clarity

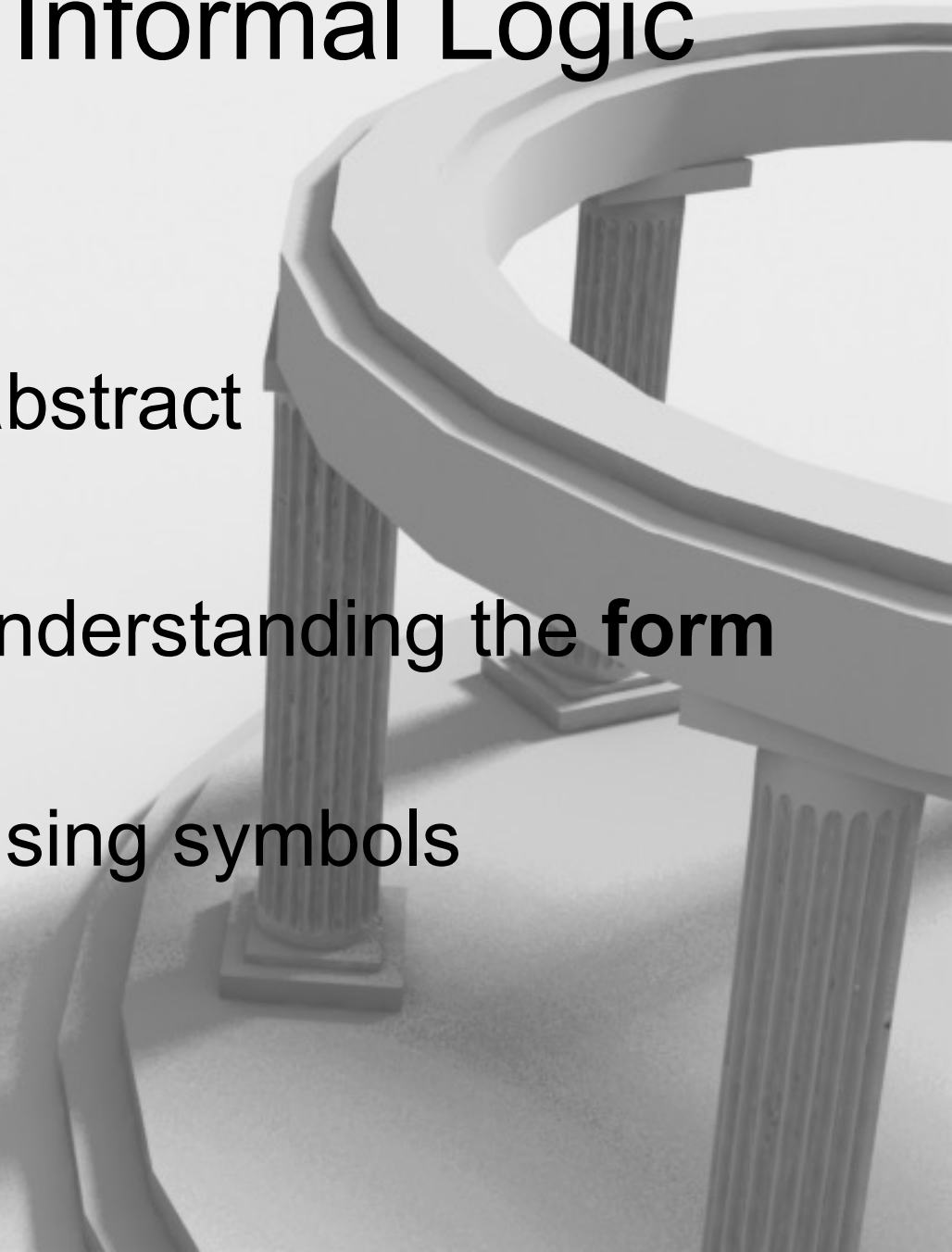


by aaron larsen
and joelle hodge

Formal and Informal Logic

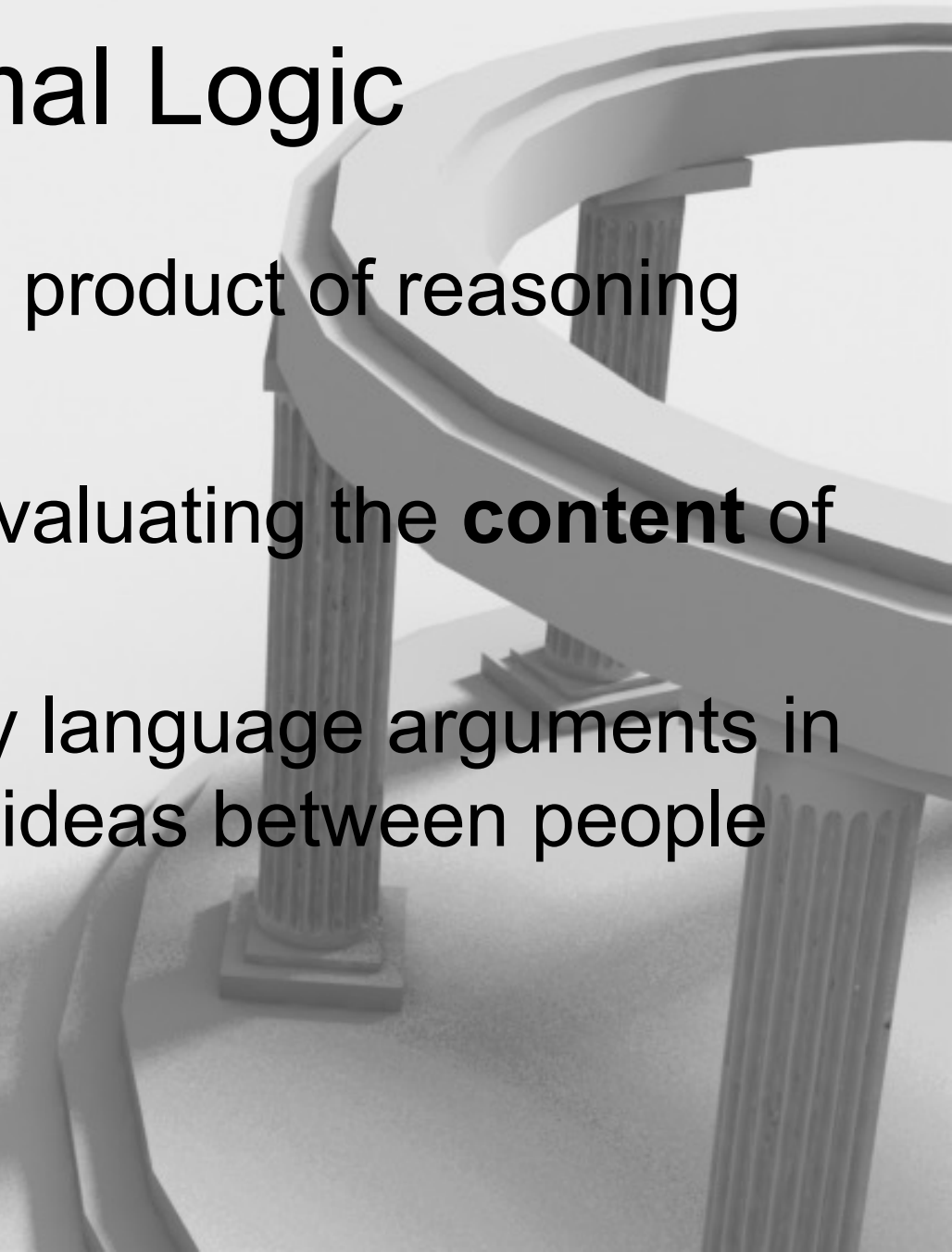
Formal:

- 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



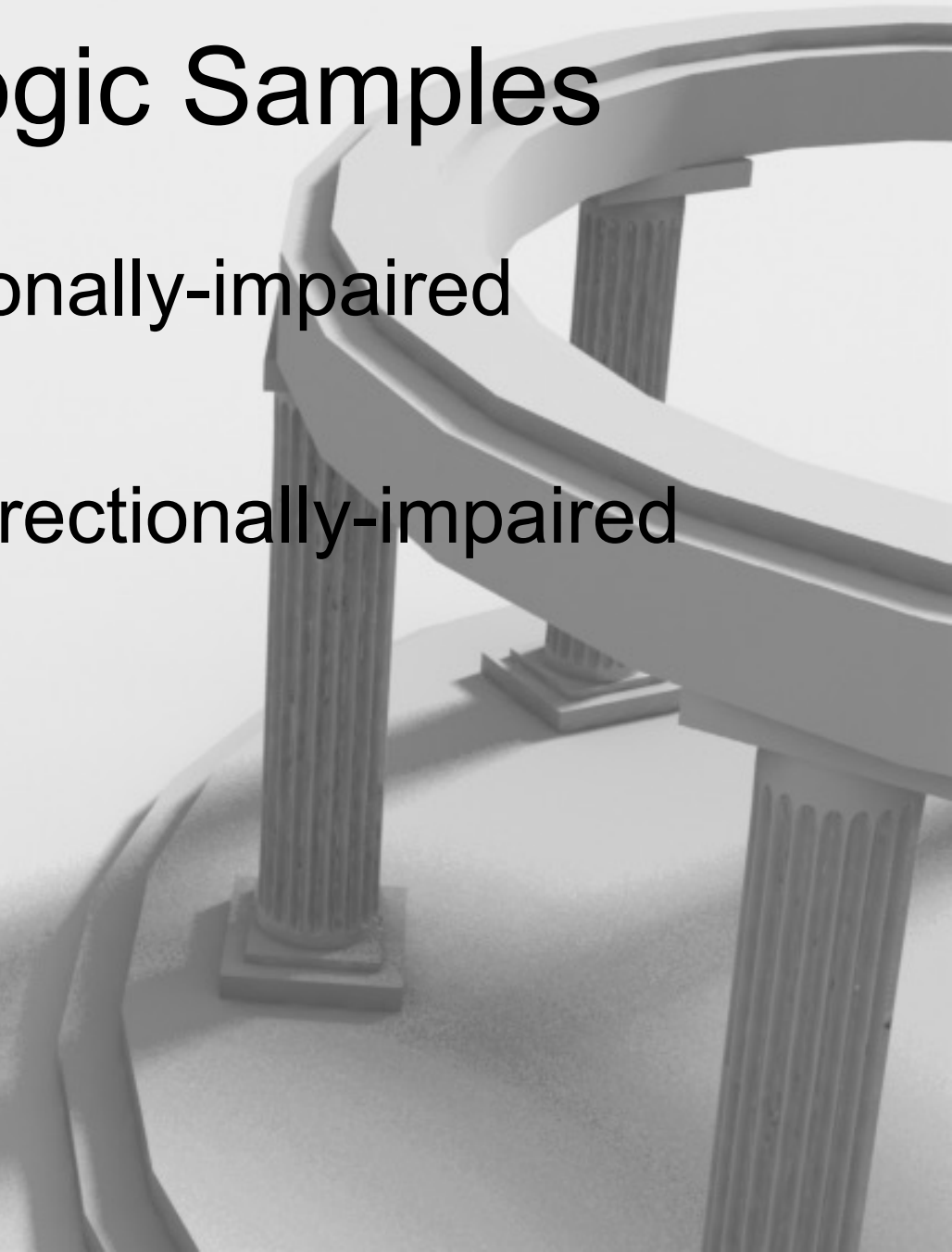
Formal Logic Samples

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



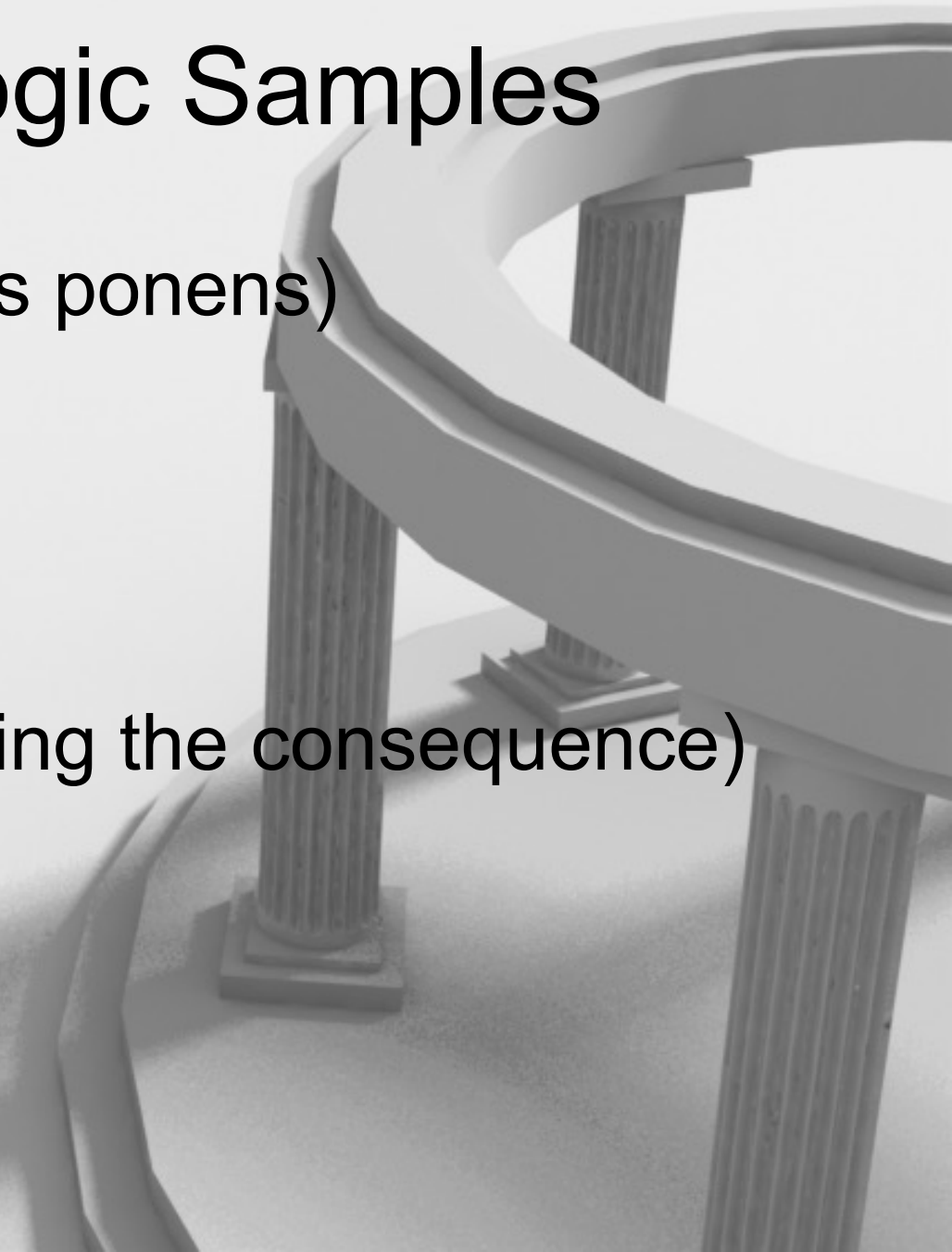
Formal Logic Samples

- 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



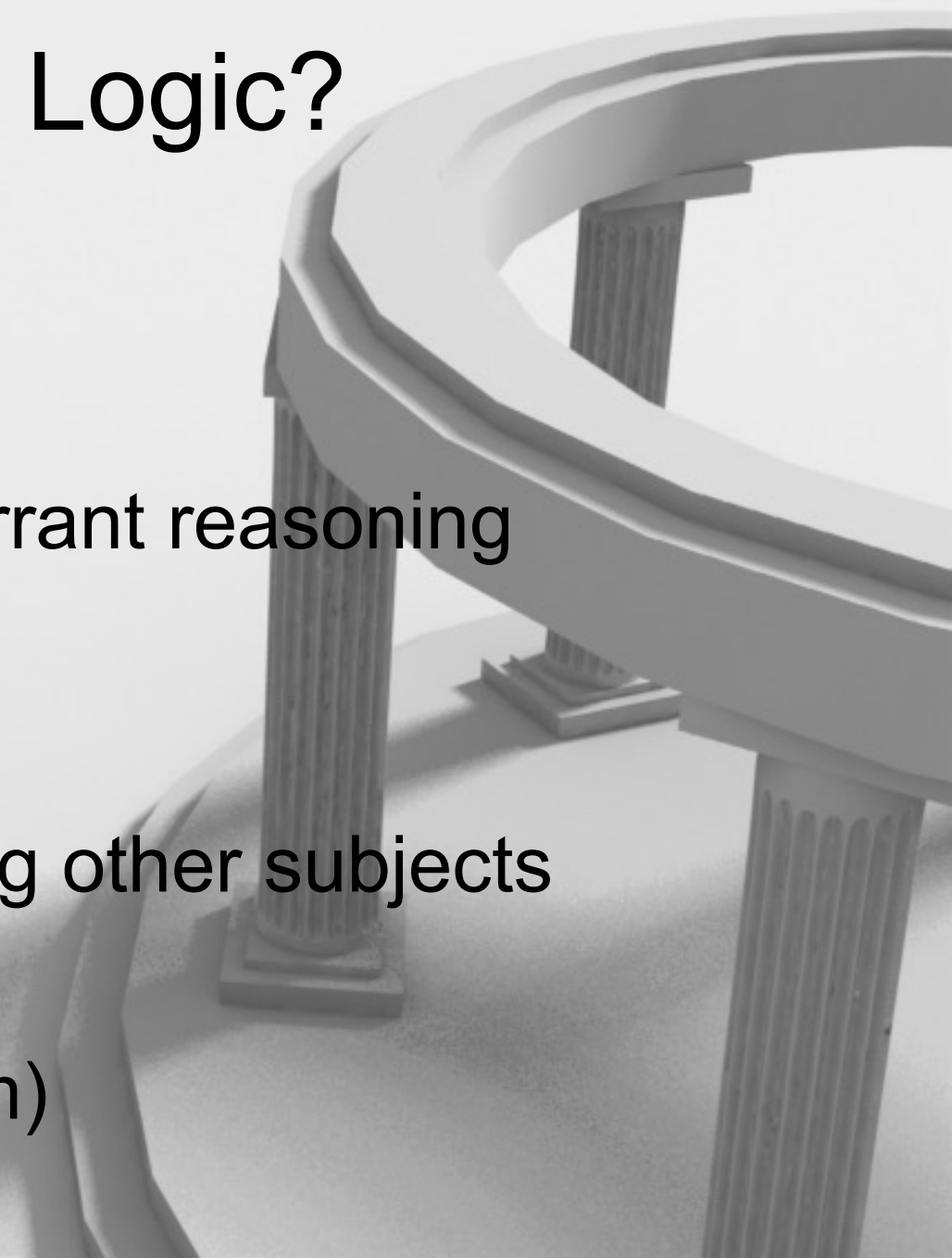
Formal Logic Samples

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



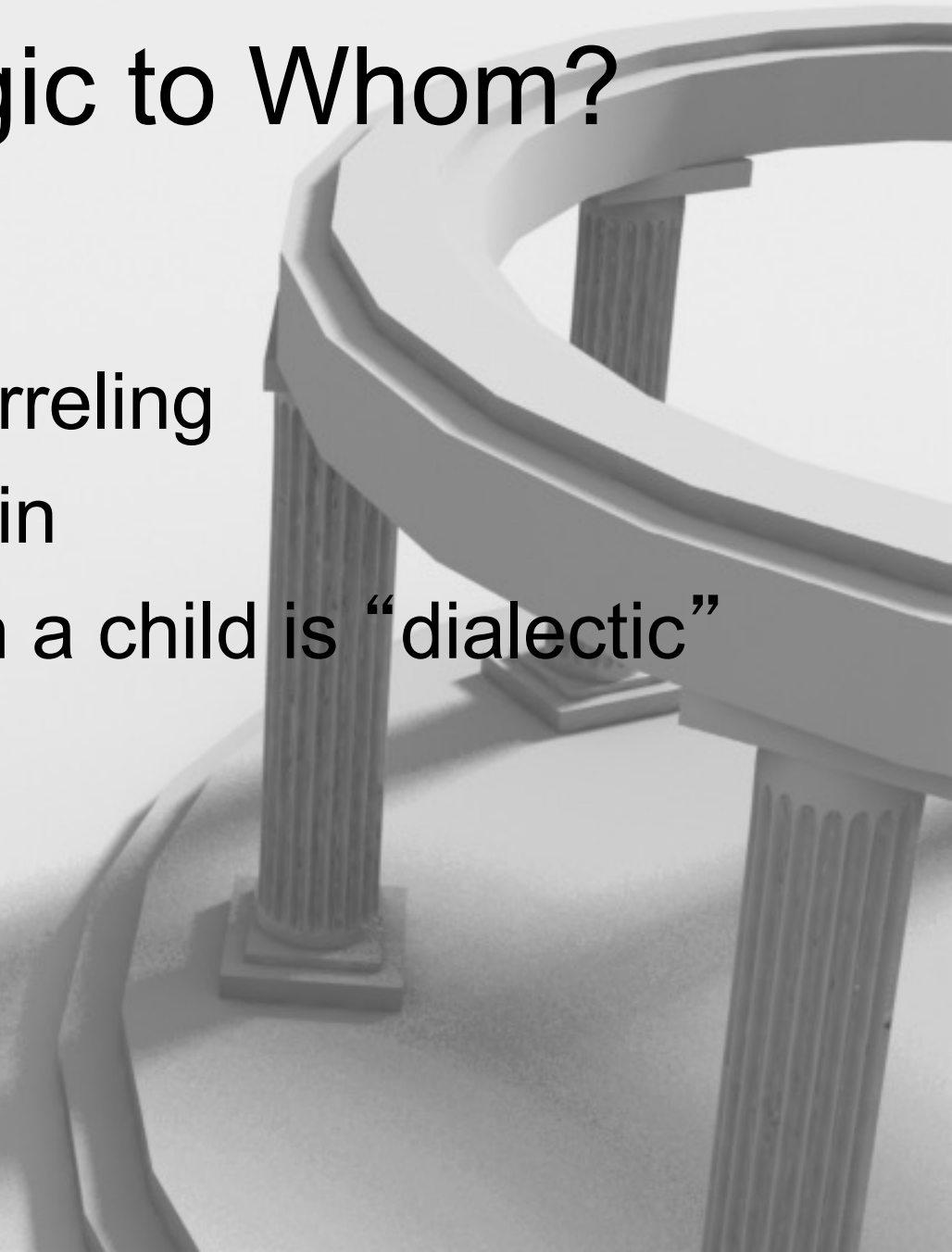
Why Logic?

- 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 15-1). Don't you want that kind of help for your everyday aches and pains at work?



Repcine™
Pain Medication

Appeal to Pity

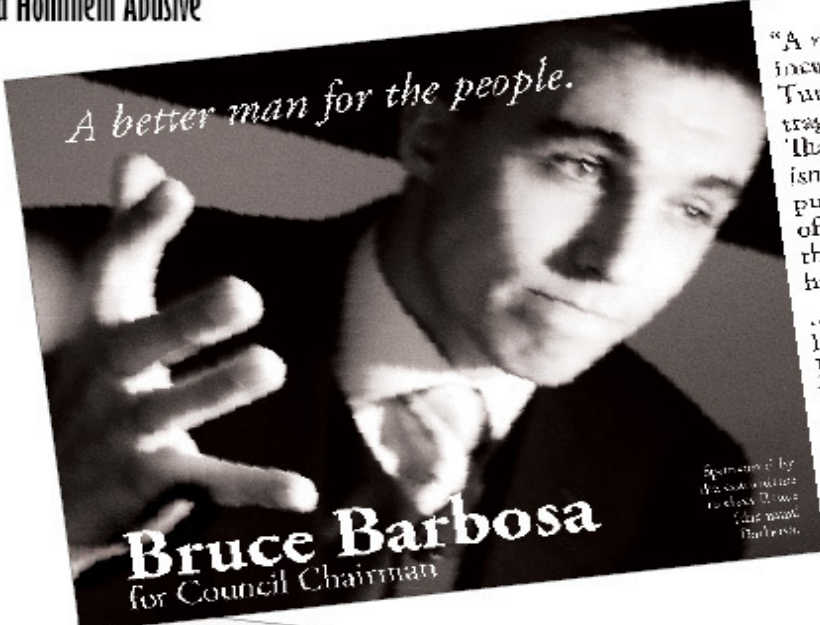
FALLACIES OF RELEVANCE | Arguments that are really distractions from the main point.

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, Bruce Barbosa, in a suit and tie, gesturing with his right hand. The background is dark and out of focus.

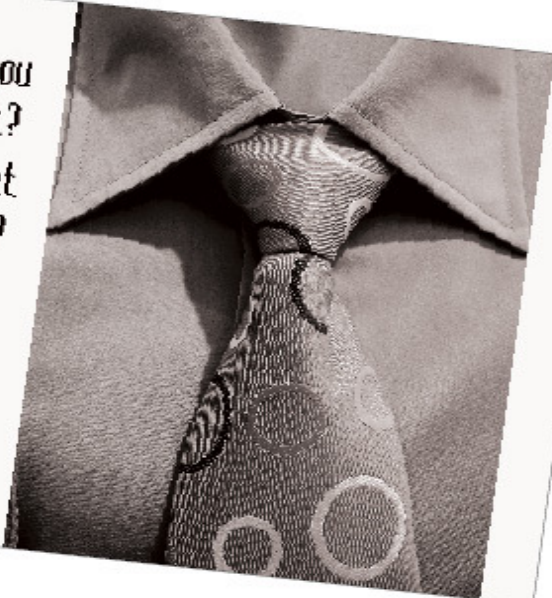
A better man for the people.

Bruce Barbosa
for Council Chairman

Sponsored by
dozens of voters
to elect the one
that want
Darkness.

"A vote for
incumbent Sam
Tampaugh 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
Kindergarden.
Why would we
re-elect him?"

Bruce Barbosa
Independent



A close-up photograph of a man's shirt and tie. The tie is patterned with large circles and a smaller pattern. The shirt is light-colored.

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-Bernies® does
and we cost less!

Binner Cereals

**SUGAR
DUMP**

Only 128 grams
of sugar
per serving

SAVE 25¢
Compare this cereal with the
leading brands who offer 25¢
a serving. Total 25¢
Only 128g. 100%

...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.

AGAIN, LET'S PUT THE PHONE
 ON A PLACE OF HONOR. THAT WAY
 WHEN YOU SPEAK, IT HONORS YOU.
 HONORING IT ALONG WITH THE
 GODS WITHOUT MAKING IT A
 GOD, AND MAKING US SURE WE
 ARE ABLE TO SPEAK THE PHONE FIRST WHEN
 THE GOD IS OVER. (SEE NOTE)

FLAME WITH LOGS FOR BURNS
 MY FIRST INDIAN
 ASSASSINATED FLAME COOL
 THE TONGUE AND NOT THE
 POWER OVER THE BODY
 WITH A SO MANY AND THE
 STOMACH THE FLAME
 OF THE HOLLOW
 YEARS OF THE TIME

THE CASE SHOULD BE CLOSED.
THAT WAS WHAT MORTIMER SAID
WHEN HE ARRIVED IN LONDON AND HE
DIDN'T WANT TO TEST HIS NEW HYPOTHESIS.
BUT—AND THEN GROUP SUFFERED

1997-2000
 1997-2000
 1997-2000
 1997-2000
 1997-2000

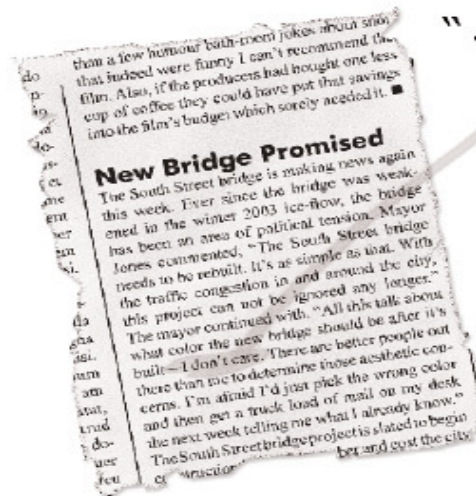
Give me a 100% satisfaction guarantee
or I'll refund you 100% of your money
if you're not 100% satisfied.

DATE: 11/20/2010 TIME: 10:00 AM
 FROM: JIMMYE L. BROWN JR.
 TO: JIMMYE L. BROWN JR.
 SUBJECT: JIMMYE L. BROWN JR.
 CREDIT: 100.00
 DEBIT: 0.00
 BALANCE: 100.00

Herzen

visit us online!

Straw Man Fallacy



"...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



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 (Converse Accident)	Arguments that make a generalization on the basis of too few examples.

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

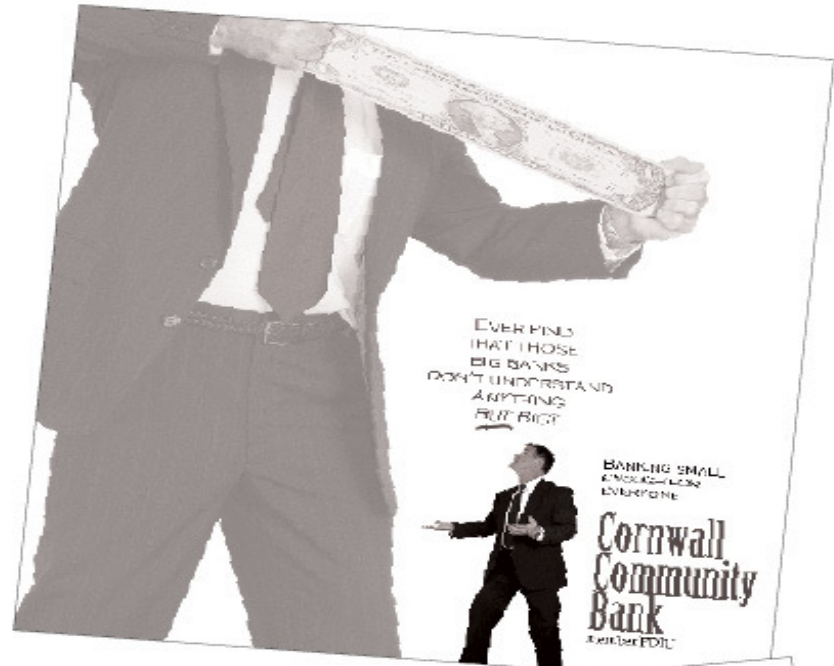


Ad Hominem Circumstantial

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

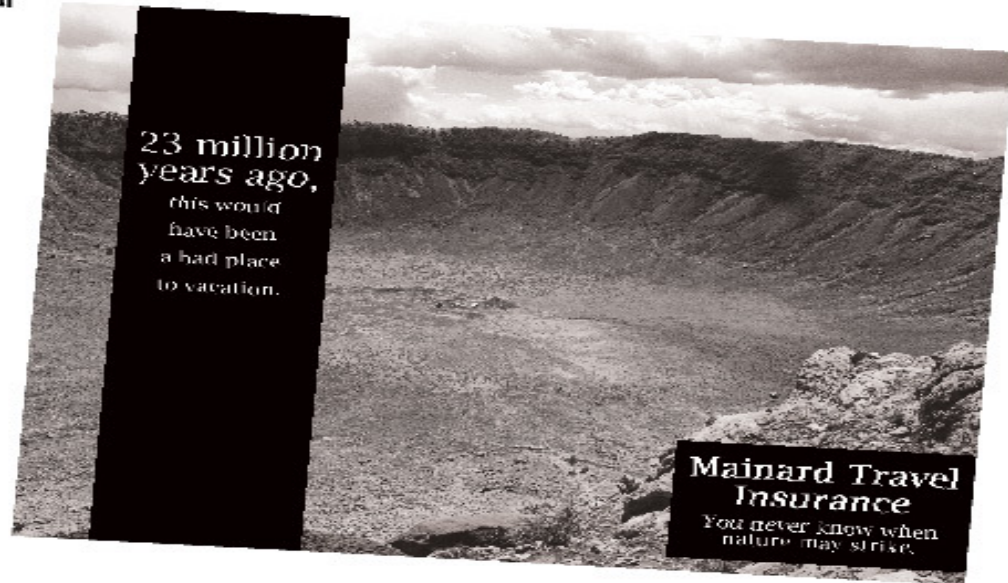
Ad Hominem Circumstantial | Ad hominem arguments that try to discredit an opponent because of his situation.



Distinction without a difference

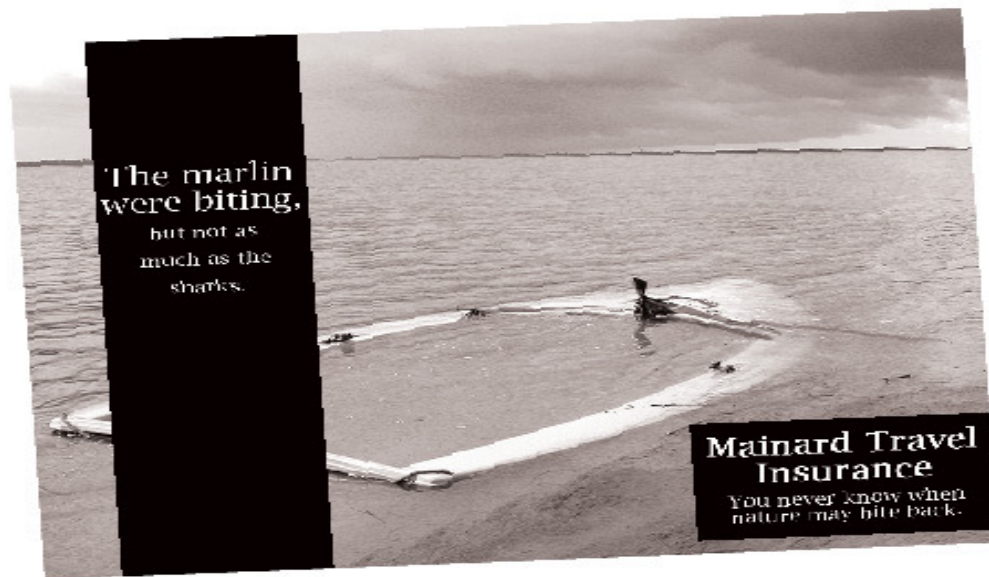


Appeal to Fear



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



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



The advertisement features a pack of Joe Blow cigarettes on the left. The pack is open, showing several cigarettes. The brand name "joe blow" is written in a stylized, lowercase font with a circular swoosh around "joe". Below it, "cigarettes" is written in a smaller, sans-serif font. A small vertical label on the side of the pack contains the following text: "CONTAINS 10 CIGARETTES. LIGHT CIGARETTES HAVE A TASTE. ANY CIGARETTES MAY BE USED FOR THIS PURPOSE. © 1998 JOE BLOW INC."

Below the pack, a small rectangular box contains the text: "SUPPLEMENTARY WARNING: some doctors have a hunch that cigarettes may be bad for you. But who's the hard proof—that's what we want to know. Smoke on, brother."

On the right side of the advertisement, there is a large black rectangular area containing white text. At the top, it asks: "Can you prove that your lung cancer comes from our cigarettes?". Below this, it says: "If not, here's a coupon." followed by a large "\$1.00 OFF" in a dashed border. To the left of the coupon is a pair of scissors icon. Below the "\$1.00 OFF" text, there is a small paragraph: "Use with any other promotional offer or other discount in the continental United States. Limit one coupon per family household. Good on participating grocery stores and your local stationery or drug store. © 1998 Joe Blow Inc." Below this text is a barcode and the number "1 2 3 4 5 6 7 8 9 0". At the bottom right of the black area is the "joe blow cigarettes" logo, identical to the one on the pack.

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 wirelesss
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!

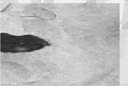


Our portraits are compilations created by a team of the best artists! From graphic artists and medieval painters to abstract sculptors and poets we have the very best!

"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

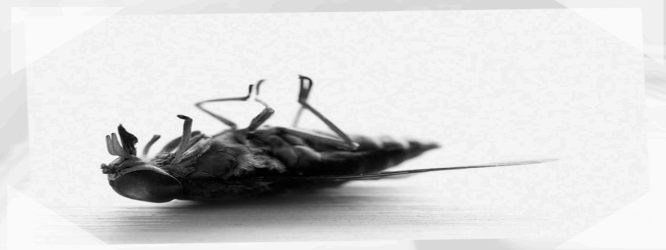
Do you ever get the feeling
that your fund manager
doesn't care?

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.

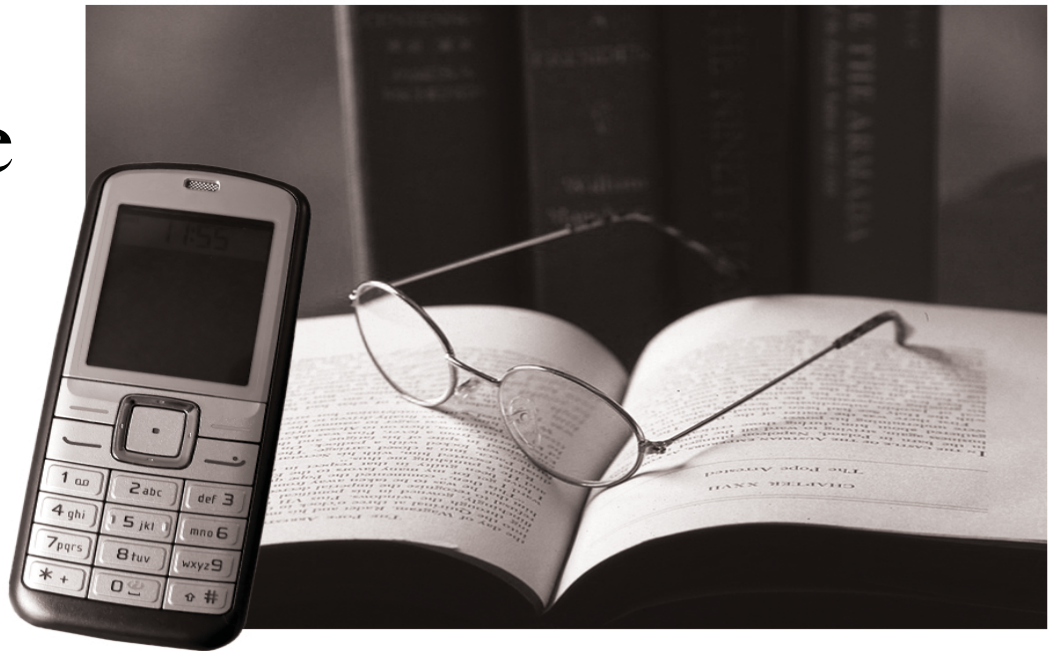
The Cumberland County Independents League wants a moderate-sized government supporting average-sized businesses... just what the county needs!

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."