



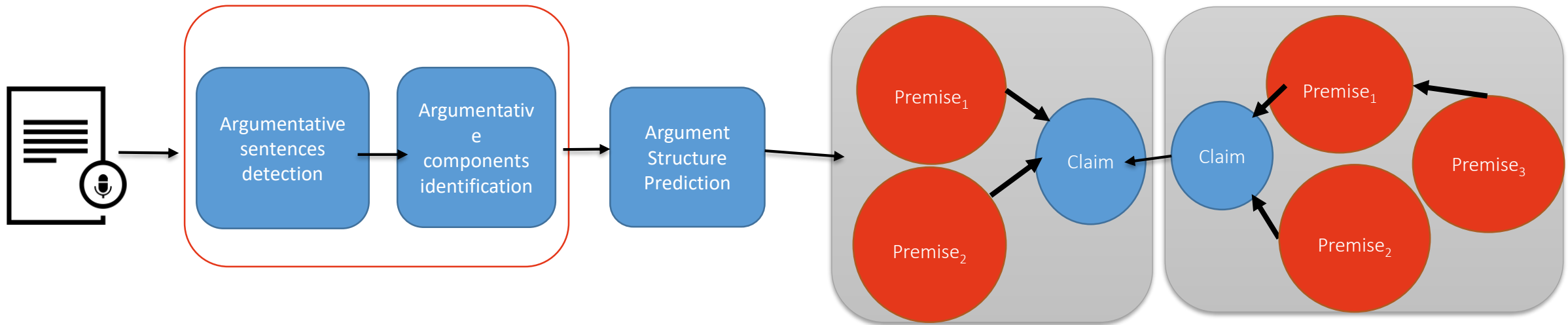
Changed your vote yet?

Argument mining from political debates and challenges

Shohreh Haddadan

10 Nov 2020

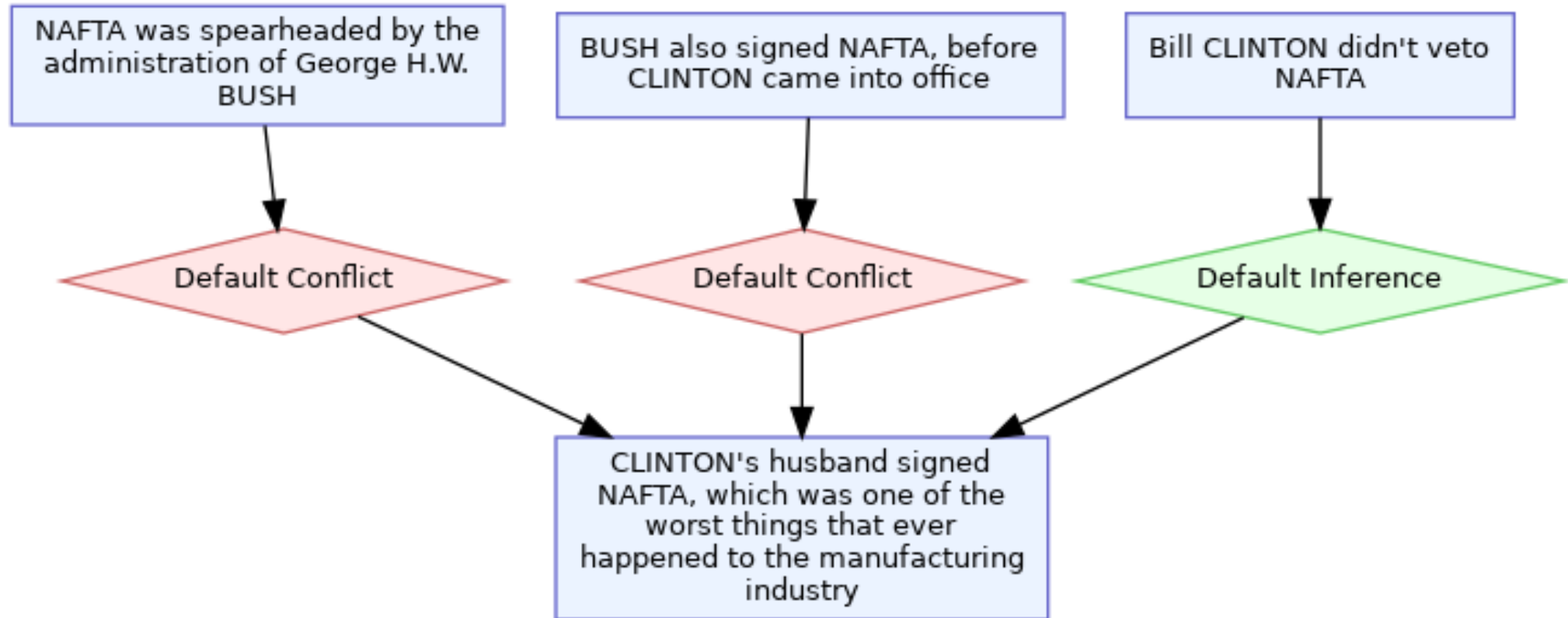
Argument mining pipeline



How to represent argument structures

- **IAT :**
 - based on speech act theory. Locutions, transitions , propositions, inferences, conflicts and rephrases
- **Periodic Table of arguments:**
 - First/Second order
 - Predicate/Subject
 - Propositions: Policy, Fact , Value
- **Macro argumentation :**
 - No components, only relations between argument spans
- **Micro argumentation :**
 - Each argument has it's structure.

Inference Anchoring Theory



Periodic Table of arguments:

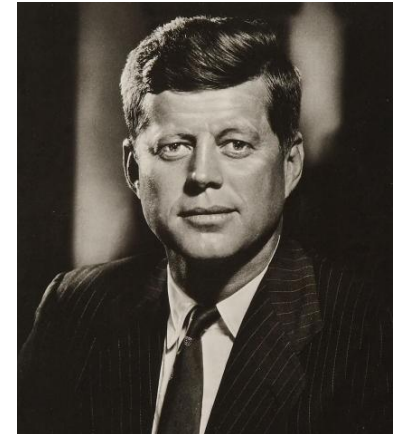
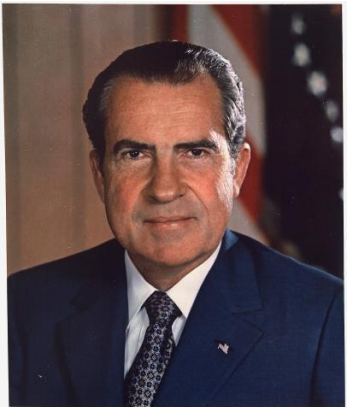


And we finally need to pass a prohibition on anyone who's on the terrorist watch list from being able to buy a gun in our country. If **you're** too dangerous to **fly**, you are too dangerous to **buy a gun**.

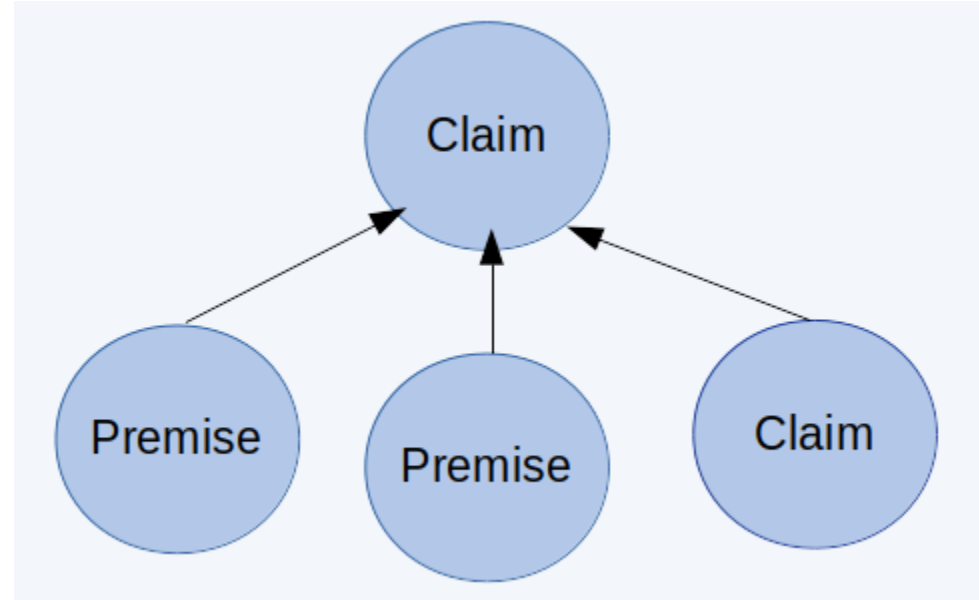
Macro argument annotation

And here you get the basic economic principles. If you raise the minimum wage, in my opinion - and all the experts confirm this that I have talked to in the Government - above \$1.15, it would mean unemployment; unemployment, because there are many industries that could not pay more than \$1.15 without cutting down their work force. \$1.15 can be absorbed, and then at a later time we could move to \$1.25 as the economy moves up.

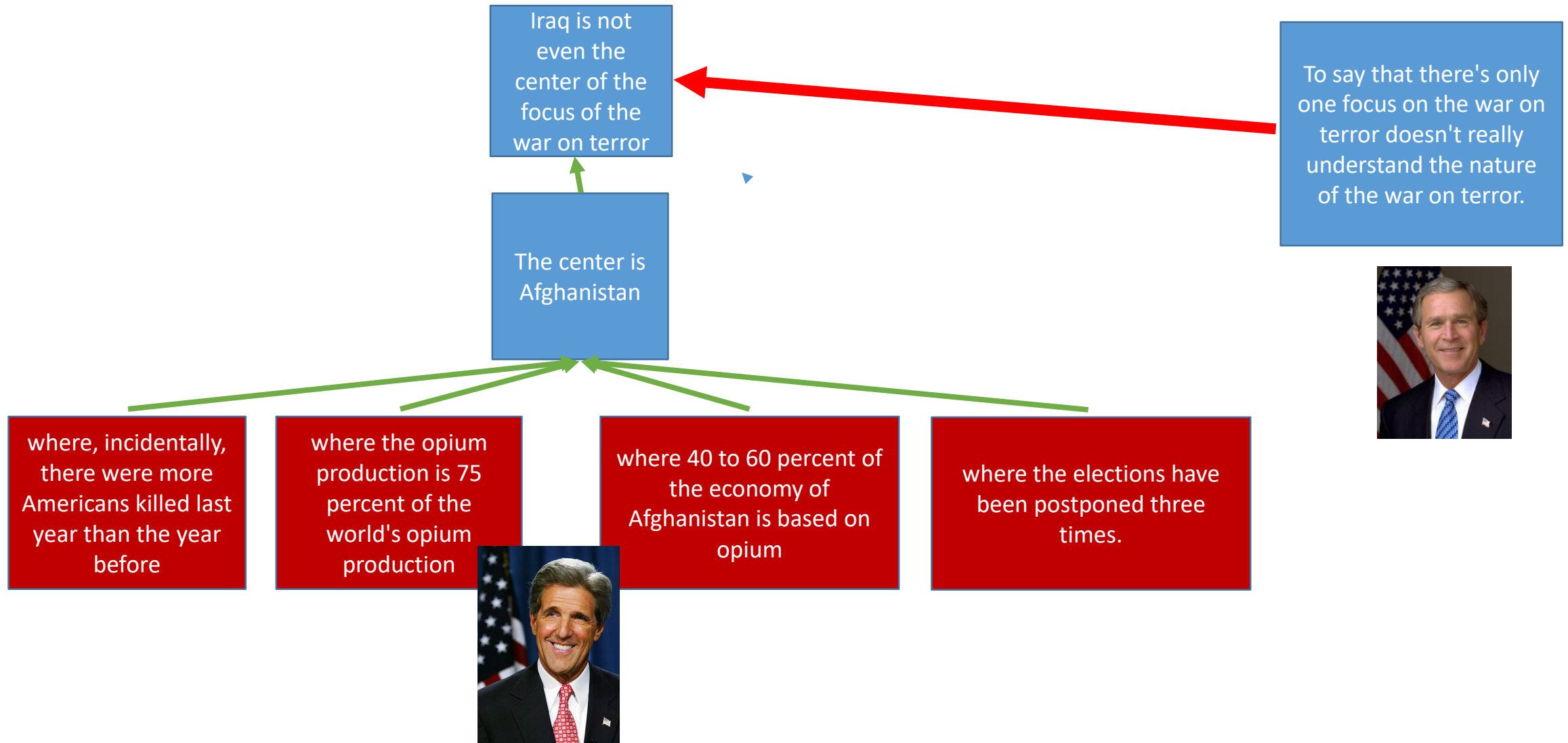
The fact of the matter is that Mr. Nixon leads a party which has opposed progress for 25 years, and he is a representative of it. He leads a party which in 1935 voted 90 percent against a 25-cent minimum wage. He leads a party which voted 90 percent in 1960 against \$1.25 an hour minimum wage.



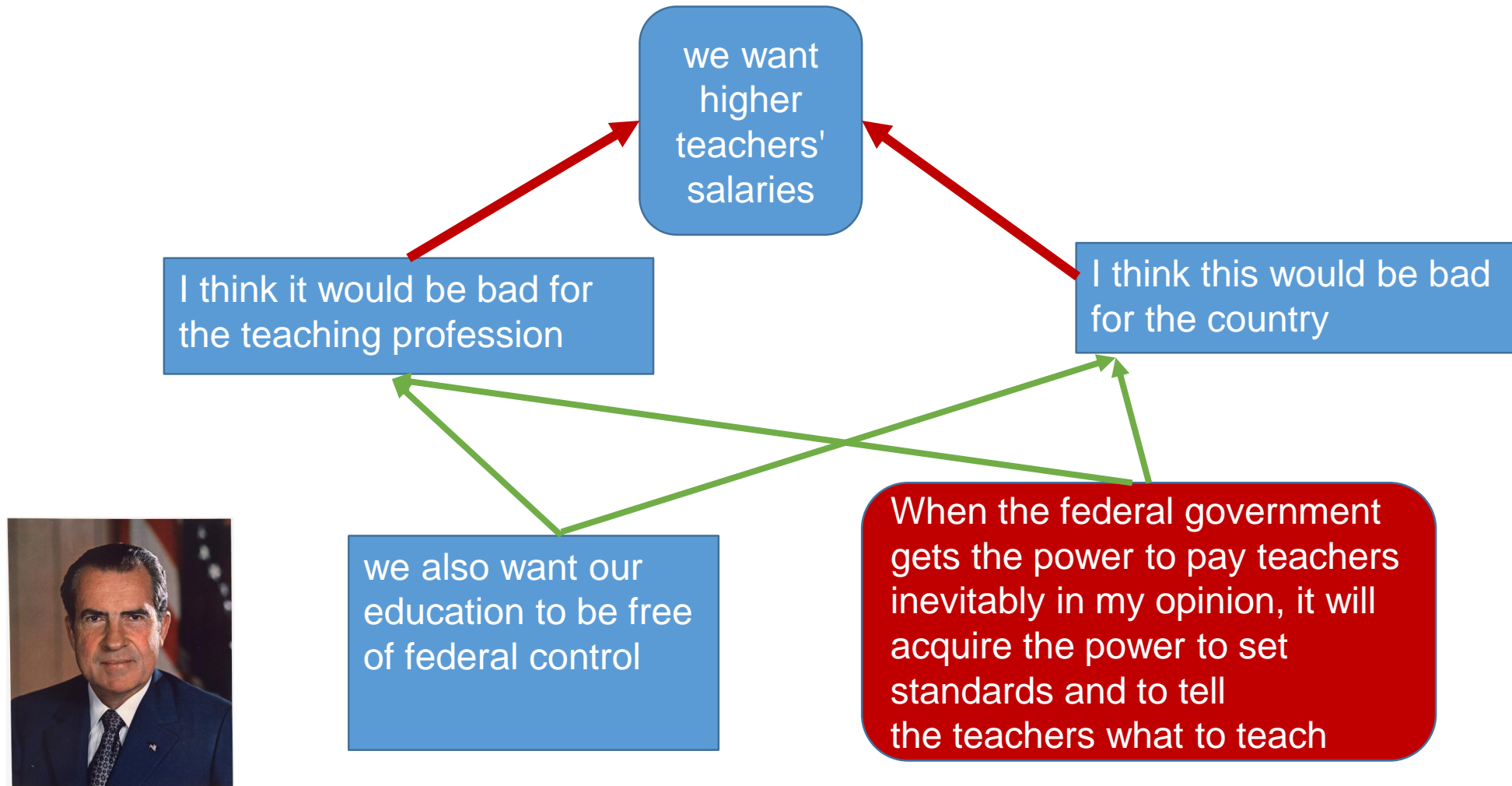
Micro Argument annotation



Micro argument annotation



Micro argument annotation

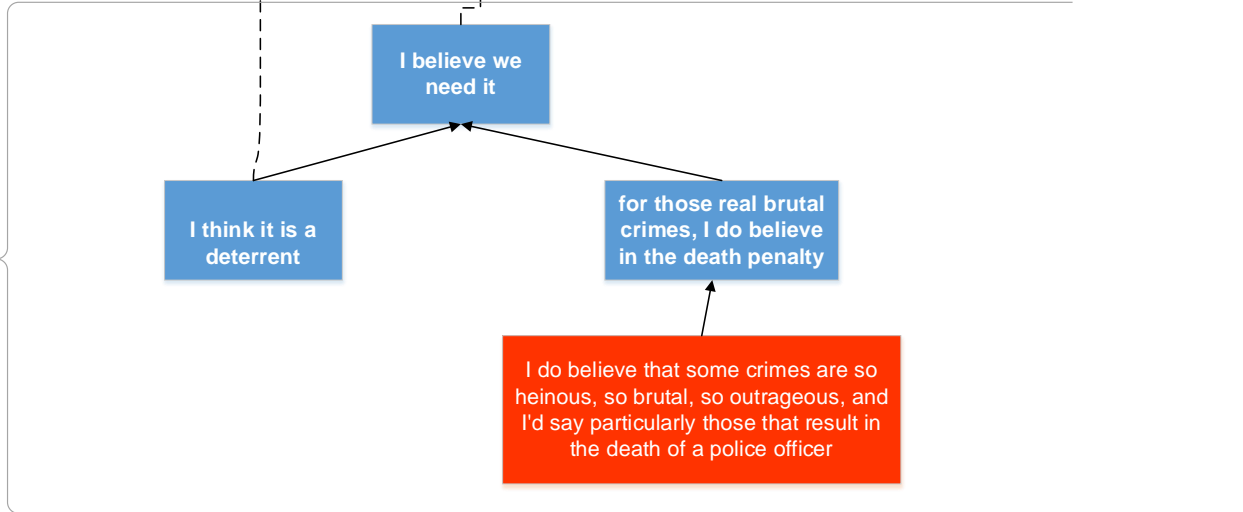
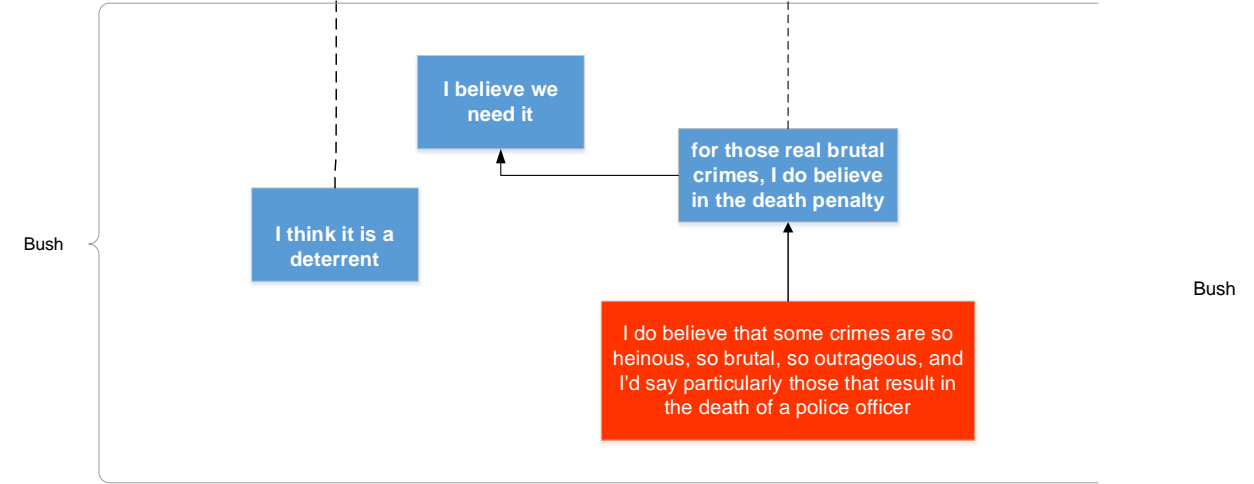
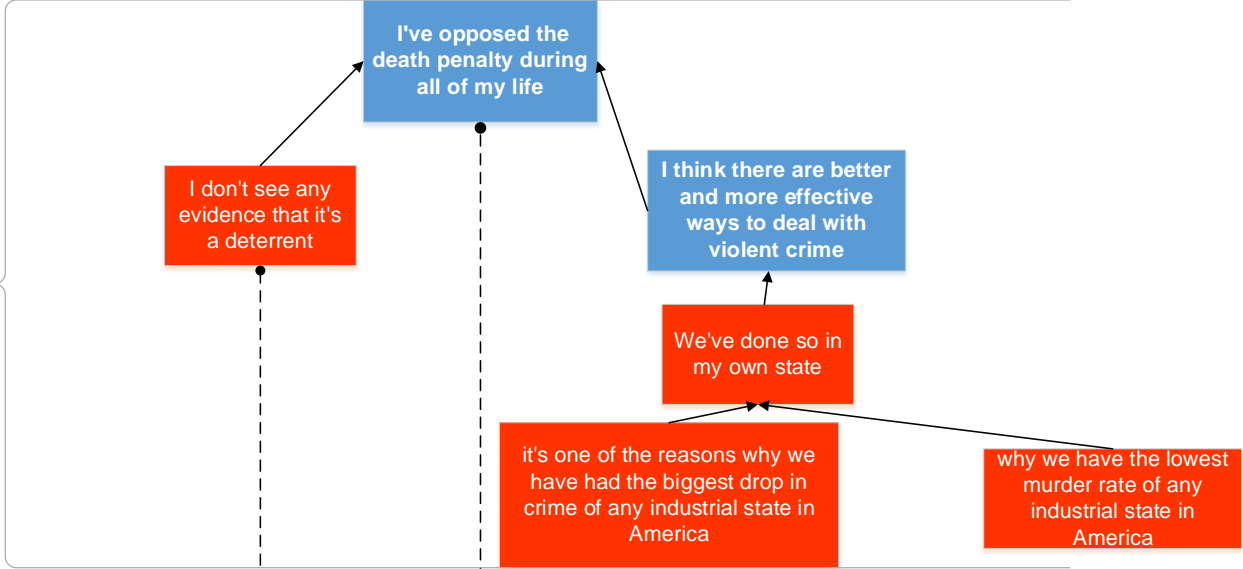
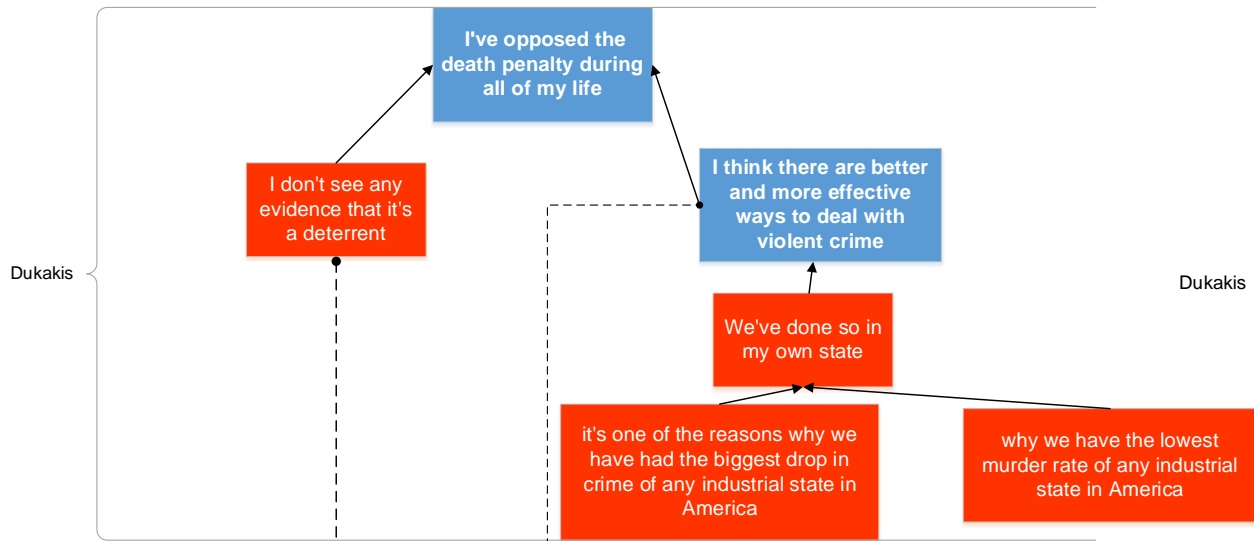


Evaluate Annotated Data

- Qualitatively: Inter annotator agreement
- Quantitatively: Comparing data annotated by trained annotators and expert annotators

Refinement

How can annotation affect argument analysis



Challenges of argument mining from political debates data

- What does meta-data contain about arguments?
- Implicit claims
- Other than controversial topics such as death penalty – gun control – drug legalizations,... Major claims are not explicit. For instance tax policies.

Meta data – Visual Cues



What else is lost in transcriptions?

- Tone
- Audience's reaction

Applications

- Frame detection
- Fallacy detection

Frame Detection

Regulations on abortion by the government

For

Against



Reagan: I believe that until and unless someone can establish that the unborn child is not a living human being, then that child is already protected by the Constitution, which guarantees **life**, liberty, and the pursuit of happiness to all of us.



Bush: I think human **life** is very, very precious.



Kemp: But we should recognize that **every human life is precious** and there should be all of the protection that we can give for an unborn human being



Bush: As a matter of fact, I think a noble goal for this country is that every child, born or unborn, need to be protected by law and welcomed to **life**



Ryan: but the policy of a Romney administration will be to oppose abortions with the exceptions for rape, incest and life of the mother.



• **Mondale:** I think your questions, however, underscore the fact there is probably no way that government should or could answer this question in every individual case and in the private lives of the American people

• **Dukakis:** And I think it has to be the woman, in the exercise of her own conscience and religious beliefs, that makes that decision.

• **Gore:** We will never allow a **woman's right** to choose to be taken away.

• **Gore:** I trust **women to make the decisions** that affect their lives, their destinies and their bodies. And I think a woman's right to choose ought to be protected and defended.

• **Biden:** I refuse to impose it on equally devout Christians and Muslims and Jews, and I just refuse to impose that on others, unlike my friend here, the — the congressman. I — I **do not believe that we have a right to tell other people that — women they can't control their body.**



Fallacies:

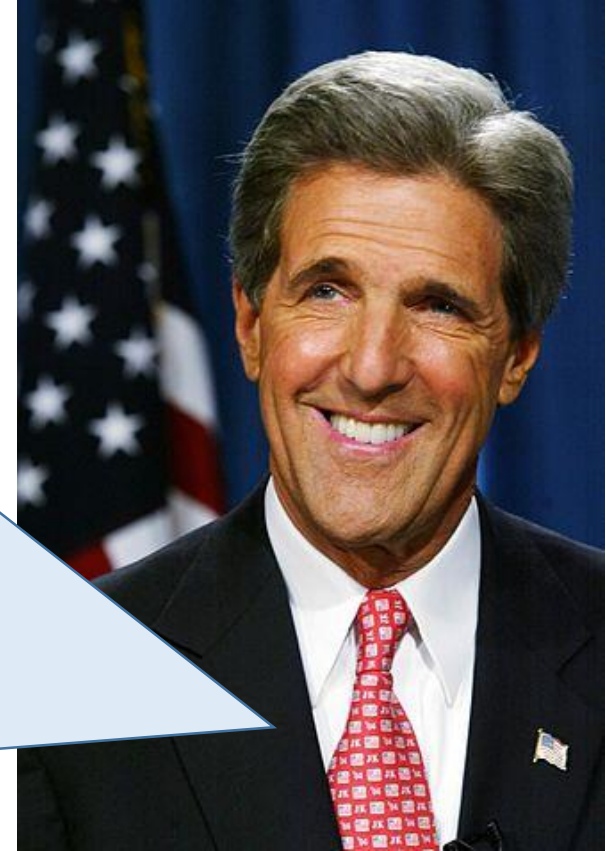
I was at a forum with Michael J. Fox the other day in New Hampshire, who's suffering from Parkinson's, and he wants us to do stem cell, embryonic stem cell.

And this fellow stood up, and he was quivering. His whole body was shaking from the nerve disease, the muscular disease that he had.

And he said to me and to the whole hall, **he said, "You know, don't take away my hope, because my hope is what keeps me going."**

Chris Reeve is a friend of mine. Chris Reeve exercises every single day to keep those muscles alive for the day when he believes he can walk again, and I want him to walk again.

I think we can save lives.





So, if it weren't for me, you wouldn't even be talking about illegal immigration, Chris.

You wouldn't even be talking about it.

This was not a subject that was on anybody's mind until I brought it up at my announcement.

And I said, Mexico is sending. Except the reporters, because they're a very dishonest lot, generally speaking, in the world of politics, they didn't cover my statement the way I said it

Fallacies :



Well, everybody's nibbling around the edges. **Let's go to the center of the bull's-eye, the core problem.** And believe me, everybody on the factory floor all over this country knows it. **You implement that NAFTA, the Mexican trade agreement,**
*where they pay people a dollar an hour
have no health care
no retirement
no pollution controls,
et cetera, et cetera, et cetera,
you're going to hear a giant sucking sound of jobs being pulled out of this country right at a time when we need the tax base to pay the debt and pay down the interest on the debt and get our house back in order.*



Your husband signed NAFTA, which was one of the worst things that ever happened to the manufacturing industry.