

## Obama vs. Clinton: Who is More Syntactically-Complex?

Words in language need each other – they even depend on each other! For example, in the sentence *We do everything we can*, the noun, *everything* depends on the verb, *do*. These are called dependencies. Dependencies in language are a signature of more complex language. If a speaker uses a greater number of dependencies, then their language is more complex. Dependencies are a way to syntactically analyze language.

Who is more complex? Barack Obama or Hillary Clinton?

We used the MINIPAR dependency parser to extract dependencies from Obama's and Clinton's responses to questions during the 2008 American Presidential Debates prior to the first Caucus in Iowa.

The table below presents each candidate's frequently used dependencies.

<b>Clinton</b>	<b>Obama</b>
we have	I think
we do	we have
do what	we go
I want	I want
we need	the people

We can also see what one candidate says frequently, but the other candidate does not.

<b>Clinton</b>	<b>Obama</b>
our country	the people
we need	be kind
universal care	we make
President Bush	the thing
you know	right now

These patterns give a picture of what they most frequently said in the debates.

Who was more complex? Obama used 18,026 unique dependencies compared to Clinton who used 17,499. On that measure, we might say that Obama is more complex. However, Clinton used 84 unique dependency *types* whereas Obama used 78 unique types of dependencies. Thus, Clinton has a wider range of complex language.

So, they are both complex, in different ways.