“Applying Logic in Debate” (from Everyday Debate)

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A Logic Primer

Without getting into a full-blown discussion of theories of syllogistic logic, I would like to do a very brief overview in order to introduce the concepts and terminology I will be using. Briefly, a syllogism is a conclusion that is reached by the use of logic. A classic illustration of a categorical syllogism would be, All humans are mortal, all debaters are humans, therefore all debaters are mortal. In this logical syllogism we have what some call a major premise or general rule: All humans are mortal and a minor premise or specific case: All debaters are human. Finally there is the conclusion: All debaters are mortal. Looking at the conclusion, we have a subject, all debaters, and a predicate, are human. The subject appears in the minor premise (all debaters) and the predicate appears in the major premise (are mortals). The major and minor premises are linked by a middle term: humans. Therefore, I can express the syllogism thus:

m + P -> middle term (m) + predicate (P) -> major premise
S + m -> subject (S) + middle term (m) -> minor premise
S + P -> subject (S) + predicate (P) -> conclusion

Given any two of the three parts, it is trivial to derive the missing information. For example, if we conclude all debaters are mortal is a true statement, and we are told all debaters are human, we can understand all humans are mortal. If we are given only the conclusion, we can partially derive the premises but we need to supply the middle term (link). For example given: All debaters are mortal and knowing which parts of the conclusion are subject and predicate we begin to reconstruct the premises:

(middle term) are mortal
All debaters are (middle term)
Therefore All debaters are mortal.

To make the conclusion, true we must supply the missing middle term (link) which in this case, was originally, "human".

The Syllogism Must Be True

In order for the syllogism to be true, the premises which lead to the conclusion must also be true. This is very important to understand, especially in a debate round context in which it is desired to prove conclusions based on premises backed by evidence or common knowledge. To conclude that all debaters are mortal, the rule, all humans are mortal must first be true. While we can claim this is common knowledge, we can also present scientific and statistical evidence that every species has a finite life-span. Next,

the specific case must also be true and based on years of observations we can state categorically (despite possible doubts) that all debaters are indeed, humans, a species with a finite life-span. So given these truths, we reach the inevitable conclusion that all debaters are mortal. In the example, we have used the qualifier "all" in stating all humans, and all debaters but sometimes, a different qualifier is used which greatly affects the conclusion and in some cases means no conclusion can be reached. For example, if we say some humans are mortal and all debaters are human, we can not conclude ALL debaters are mortal as only SOME humans are mortals, so some may not be mortal. Other qualifiers also change the conclusion. If we say all humans are mortal, and no debaters are human then we can not reach any conclusion about the mortality of debaters. It is recommended you research syllogisms to understand more completely how qualifiers can affect the conclusions.

The Resolution as Syllogism

We can easily see how a debate resolution is considered a true conclusion since the Affirmative debater will defend the conclusion as a truth in the context of the debate round. Unfortunately, no other information is supplied which allows us to understand how the conclusion (resolution) was derived so we can apply very basic syllogistic analysis to reconstruct the premises. For example, a typical debate resolution may state, Resolved: Privately owned handguns should be banned in the United States. The subject of the conclusion is "privately owned handguns" and the predicate is "should be banned in the United States" (or simply should be banned for purpose of the analysis). We can now begin to construct the major and minor premises:

(middle term) should be banned (in the United States) -> major premise
Privately owned handguns are (middle term) -> minor premise
Therefore privately owned handguns should be banned (in the U.S.) -> conclusion

What kind of middle term can be added that would make the conclusion a true logical conclusion? One suggested major premise may be, concealable weapons should be banned. The middle term would be "concealable weapons", so the minor premise is privately owned handguns are concealable weapons.

Concealable weapons should be banned.
Privately owned handguns are concealable weapons.
Therefore, privately owned handguns should be banned.

Now, if the debater can prove that concealable weapons should be banned, and can prove that privately owned handguns are concealable weapons, the resolution must be true. There is no other logical conclusion to be reached given the premises presented by the Affirmative. When the case is constructed, it can be built on the following outline:

Resolved: Private ownership of handguns should be banned in the United States.
Premise 1 - Concealable weapons should be banned.
Premise 2 - Handguns are concealable weapons.

Understanding this, the Affirmative debaters are able to narrow their research and argumentation so as to prove the major and minor premises. In this particular case structure, each premise is critical to reaching the conclusion and so, even though it is logically sound, it may be vulnerable to defeat if the Negative can show either premise is untrue or not universally true. (see Alternative Reasons - below).

Simplify Complex Premises

The above example is very general and in fact may not be precise enough for debate because some very broad generalizations are being made. Since we have already said, that each premise must be true in many cases it is possible to further break-down a premise by treating the premise itself as a syllogism. For example, taking the major premise from the previous example and treating it as a syllogism we can derive additional premises.

(middle term) should be banned
Concealable weapons are (middle term)
Therefore concealable weapons should be banned.

By doing this exercise we can learn how logically sound our case can be. If we can supply a sufficient middle term that makes the above syllogism true that concealable weapons should be banned, then we probably have the makings of a pretty sound case. If we can not provide a good middle term then perhaps we need to go back to the original syllogism and question whether the selected middle term of "concealable weapons" was a defensible subject for the major premise of our case. The same kind of analysis should be done with the minor premise as well.

(middle term) are concealable weapons
handguns are (middle term).
Therefore handguns are concealable weapons.

The process of breaking down each premise continues until it is no longer possible because you have reached what I suppose one could call, the essential truths of the resolution.

Alternative Reasons As Contentions

When deriving premises for a resolution, one can propose other middle terms which may be equally valid. For example, looking at the original hand-gun resolution let us use another middle term for the original premises.

Multi-shot weapons should be banned
Handguns are multi-shot weapons
therefore handguns should be banned.

If the premises prove to be defensible, we have another reason why hand guns should be banned so now we can construct a case with multiple premises leading to the same conclusion.
Resolved: Private ownership of handguns should be banned in the United States.
Contention 1 - Concealable weapons should be banned
Contention 2 - Multi-shot weapons should be banned
Contention 3 - Handguns are concealable, multi-shot weapons

Obviously, it makes sense to have several, separate argument paths leading to the same conclusion. In the above example, if the Negative can completely destroy the second contention, the judge may still see the first contention as a good enough reason to vote Affirmative since she may deem the conclusion logical and true. On the other hand, if a case is built such that one conclusion becomes a premise for the next and that conclusion as a premise for the next and so on, if Negative can break the chain of conclusions, the entire case may collapse. Therefore, each case should be built with multiple lines of reasoning leading to the conclusion and the selection of the terms used to construct the premises be examined step-wise until the essential truths are derived. Of course, when the case is presented, one begins at the essentials and builds the case toward the inevitable conclusion.

Its Not Always Easy

Doing a logical analysis of a resolution, is not always easy, especially if one is not accustomed to doing it. Further, the wording of many debate resolutions often complicates the task. Frankly, there are times when one may question if the resolution is a logical conclusion at all. In a later expansion of this discussion, I would like to explore some ideas about how to apply syllogistic analysis to Lincoln Douglas debate resolutions. The interesting thing about LD is it gives us an opportunity to demonstrate techniques for shifting the burden of proof away from the resolution and on to abstract concepts, like values, or frameworks and this may also benefit PF debaters who are looking for new ways to approach difficult positions.