

Rules (A)-(E) to test for validity of the SFCS may seem a little arcane, when you first look at them. The counterexamples (examples of violations) below are meant to show their basis in ordinary reasoning. Also, to help you get an intuitive 'feel' for their sense. (**Warning 1:** Note however, that there are no shortcuts to demonstrating an SFCS *is* valid by way of example...you have to run the SFCS through Rules (A) - (E). **Warning 2:** Common sense, as illustrated in the examples below, can be a good 'red flag' for discovering cases of *invalidity*. However, many weird-looking SFCSs can still turn out to be valid. That's the whole point of learning the rules...your intuition can fail in the subtle case of confirming an SFCS is indeed valid...It's easier to show some SFCS is invalid)

1. **Rule A (paraphrase):** No SFCS is valid with two negative premises.

Consider these two premises: (Major-E form): "No cats are dogs" (Minor-O form): "Some cats aren't friendly". They're both true, obviously. No try and crank out all four possible conclusion from the above (in A, E, I, O form, with P being the class of things that are dogs, and S being the class of things that are friendly.) Conclusion 1(A form) All friendly things are dogs. Conclusion 2(E form): No friendly things are dogs. Conclusion 3(I form) Some friendly things are dogs. Conclusion 4(O form) Some friendly things aren't dogs.

It all looks pretty strange, doesn't it? It should! Even if you don't know any logic, your common sense probably tells you that the *truth* all of those 4 conclusions don't seem at all warranted or guaranteed by the premises. More precisely, though conclusion 3 and 4 are true, conclusions 1 and 2 aren't. But for the argument to valid, the truth of the premises must *guarantee* the truth of the conclusion, no matter what. But we've just seen it's a contingent matter in this case. So the truth of any possible conclusion (A,E,I,O form) is not guaranteed

2. **Rule B (paraphrase):** No SFCS is valid with a negative premise and no negative conclusion or vice versa.

Consider this example (for the vice versa case)" (Major A form): "All men are mortals." (Minor A form): "All men are mammals." So P is the class of all mortal things, and S is the class of all mammals. Consider the two negative conclusions: Conclusion 1(E form): No mammals are mortals. Conclusion 2 (O form) Some mammals are not mortal.

That looks even worse! Those two conclusions are obviously false, but the two premises are obviously true.

3. **Rule C (paraphrase) :** No SFCS is valid unless M is distributed in at least one occurrence.

Consider these two premises: (Major-I form): "Some students are rich" (Minor-O form): "Some students aren't healthy". They're both true, obviously. No try and crank out

all four possible conclusion from the above (in A, E, I, O form, with P being the class of things that are rich, and S being the class of beings that are healthy.) Conclusion 1(A form) All healthy beings are rich. Conclusion 2(E form): No healthy beings are rich. Conclusion 3(I form) Some healthy beings are rich. Conclusion 4(O form) Some healthy beings aren't rich.

Again, like in 1. Though Conclusion 3 and 4 are true, conclusions 1 and 2 aren't. So the truth of the conclusion (no matter what form) is *not* guaranteed from the two true premises. So the argument can't be valid.

**4. Rule D (paraphrase) :** No SFCS is valid if the occurrence of a distributed term in the conclusion doesn't also occur in its premise(s)

Consider this example (Major I form): "Some men are happy." (Minor I form): "Some students are men." So P is the class of all happy beings, and S is the class of all students. Consider the conclusion: (A form-S is distributed) "All students are happy." Clearly false, though the above two premise are true. As an exercise, do the other three cases for the possible conclusions.

**5. Rule E (paraphrase):** No SFCS is valid with 2 universal premises and a particular conclusion.

Consider this example (for the vice versa case)" (Major A form): "All integers are real numbers." (Minor A form): "All integers are rational numbers." So P is the class of all real numbers and S is the class of rational numbers. Consider the two particular conclusions: Conclusion 1(I form): Some rational numbers are real numbers. Conclusion 2 (O form) Some rational numbers are not real numbers

These are both obviously false, though the two premises are true.