

Some of the following arguments are invalid. Which? Use the counterexample technique to prove invalid the ones that are.

1. *Many ordinary people are corrupt, and politicians are ordinary people. So, some politicians are corrupt.*

Invalid. Compare e.g. ‘Many humans are men, and women are humans. So, some women are men.’

2. *Many great pianists admire Glenn Gould. Few, if any, unmusical people admire Glenn Gould. So few, if any, great pianists are unmusical.*

Invalid. The relevant form can be displayed thus:

Many F are G

Few if any H are G

So: Few if any F are H

For an instance with true premisses and a false conclusion, ‘Many humans are over two metres tall. Few if any women are over two metres tall. So, few if any humans are women.’

3. *Everyone who admires Bach loves the Goldberg Variations; some who admire Chopin do not love the Goldberg Variations; so some admirers of Chopin do not admire Bach.*

Valid, so no counterexample.

4. *Some nerds are trainspotters. Some nerds wear parkas. So some trainspotters wear parkas.*

Invalid. Compare e.g. ‘Some humans are men. Some humans are women. So some men are women.’

5. *Anyone who is good at logic is good at assessing philosophical arguments. Anyone who is mathematically competent is good at logic. Anyone who is good at assessing philosophical arguments admires Bertrand Russell. Hence no-one who admires Bertrand Russell lacks mathematical competence.*

Invalid. The relevant form is:

All F are G

All H are F

All G are K

So: No K are not- H

The premisses allow us to infer ‘All H are K ’. But the conclusion ‘No K are not- H ’ is equivalent to ‘No not- H are K ’ i.e. ‘Only H are K ’ which is very different. Compare e.g. ‘All philosophers are rational thinkers; all logicians are philosophers; all rational thinkers are humans. So, no humans are not logicians.’!

6. *(Lewis Carroll) Everyone who is not a lunatic can do logic. No lunatics are fit to serve on a jury. None of your cousins can do logic. Therefore none of your cousins is fit to serve on a jury.*

Valid (none of your cousins can do logic, so they are all lunatics—other wise they would be able to do logic—hence they are not fit for jury service)! So no counterexamples.

7. *Most logicians are philosophers; few philosophers are unwise; so at least some logicians are wise.*

Invalid. Maybe all the logicians belong to the small proportion of philosophers who are unwise!

8. *Few Sicilians approve of abortion; many atheists approve of abortion; so few atheists are Sicilians.*

Invalid. Compare 'Few humans are good at logic. Many philosophers are good at logic. So few philosophers are human.'

9. *All logicians are rational; no existentialists are logicians; so if Sartre is an existentialist, he isn't rational.*

Invalid. Compare 'All women are human; no men are women; so if Jack is a man, he isn't human.'

10. *If Sartre is an existentialist, he isn't rational; so if he is irrational, he is an existentialist.*

Invalid. Compare 'If Felix is a dog, he isn't human; so if Felix isn't human, he is a dog'.