

# Philosophy of the Human Person

## Lecture #2

### Logic: Fundamental Concepts

#### Definition Of Logic

“Logic is an art directive of the acts of reason themselves”—St. Thomas Aquinas

what is an art?

a skill at making things, one of the intellectual virtues

what are the acts of reason?

Apprehension of concepts, expressed in terms

Making judgments, expressed in propositions or sentences

Reasoning, expressed in arguments

[both of these topics will be taken up systematically later in the course]

#### Two comments on the definition

what does logic do?

“Logic teaches the principles by which one can arrive at the knowledge of things unknown through that which is known.”—St. Albert the Great

why should we study logic?

“so that we may proceed orderly, easily, and without error in the very act of reason itself.”—St. Thomas Aquinas

#### The definition of “argument”

a discourse in which, certain things being asserted [the premises], something else [the conclusion] follows from their being so

#### Three ways of dividing arguments into kinds

kinds of arguments, 1:

an argument might begin with what is known and proceed to draw an inference to something new

e.g., Since all warm-blooded animals must have some way to cool themselves off and human beings are warm-blooded animals, human beings must have some way to cool themselves off

or it might begin with a proposition and then offer reasons for believing the proposition to be true

e.g., The bombing of Hiroshima was wrong, since it was a deliberate attempt to kill non-combatants and all deliberate attempts to kill non-combatants are wrong

kinds of arguments, 2:

elaborating on “follows”

“follows of necessity”

apodictic reasoning

reasoning in which the truth of the premises guarantees the truth of the conclusion

“follows with probability”

probable reasoning

reasoning in which the truth of the premises provides good reason for, but does not guarantee, the truth of the conclusion

kinds of arguments, 3:

deductive—reasoning from general principles to more specific principles or instances(particulars)

inductive—reasoning from particulars to general principles

### Criteria of a Good Argument

good argument is an argument which gets us to truth

(NB: not an argument which is, as a matter of psychological fact, persuasive, but an argument which is, as a matter of logical fact, compelling)

such an argument does what an argument is supposed to do

three things are needed

a proper form—proper relation between premises and conclusion

e.g., improper relation—“All the students in the German class know what *die Friedhofwärterswitwenundwaisenrentenempfangsbescheinigung* means. Mary knows what the word means. So, she is in the German class.”

proper relation—“All the students in the German class know what the word means. John does not know. So, he’s not in the class.”

what *kinds* of proposition are being used as evidence for what?

the ideal relation between premises & conclusion—validity

valid argument—an argument in which the conclusion follows with necessity from the premises

or (equivalently), ... in which the truth of the premises guarantees the truth of the conclusion

or ... for which the assertion of the premises and the denial of the conclusion would be a contradiction

true premises

a sound argument must have true premises as well as a valid form

premises that are in some sense prior to the conclusion

this avoids triviality

two forms of priority

premises better known than the conclusion

e.g., Planets move in elliptical orbits, so they must move under the influence of an inverse-square law.

here, the observed fact is better known than the scientific law

premises state cause of conclusion

e.g., Planets move under the influence of an inverse-square law and ..., so they must move in elliptical orbits.

here the scientific law gives the cause of the observed fact