

# Logic Notes #6

## Aristotelian Logic: Definition

### The *Euthyphro*

what is the *Euthyphro* about?

superficially, about piety

really (I say), about definitions

no conclusion about the nature of piety is reached

but the dialog does leave us with an account of what a good definition is

the outline of the dialog

Euthyphros' first definition

"The pious is to do what I am doing now ..." [5d]

Euthyphros' second definition

"... what is dear to the gods" [7a]

later amended: "... what is dear to *all* the gods" [7a]

Euthyphros' third definition

"the pious is the part of the just that is concerned with the care of the gods" [12d–e]

more definitions are offered, but they have the same form as this  
see below

### Socrates' Doctrine of Definition

1. Definitions are about things, not about words [5c–d]

"nominal" definitions (< Latin *nomen*, "name") define words

nominal definitions might be

descriptive (or conventional)—reporting usage

precising—making the use of a term more precise

cf. the statutory definition of *terrorism*

stipulative—announcing how one intends to use a word

useful for neologisms—how else is one to know what a new word means?

but dangerous for ordinary words

cf. Humpty Dumpty

"real" definitions (< Latin *res*, "thing") define things

cf. the attempt to give a definition of *electron* or *acid*

2. Definitions give the essence (or nature) of a thing [11a]

they are not merely lists and examples

these do not even give a criterion for identifying instances [6e]

they are more than just a characteristic ("quality or affect") of the thing

so, "an acid is a substance that turn litmus paper red" is not an adequate definition

3. The form of a definition is genus + specific difference

this approach to definition identifies ...

the kind of thing the thing being defined is (the genus)  
the features which distinguish this thing from all other things of that  
kind (the specific difference)  
the objective—to provide a list of what is ...  
necessary for the term to apply  
sufficient for the term to apply  
examples

man is a rational animal

[GENUS]: animal

[DIFFERENCE]: rational

justice is a habit of giving each person his due

[GENUS]: habit

[DIFFERENCE]: giving each person his due

#### Evaluating definitions

the term and the phrase which serves as the definition of the term should name  
exactly the same objects

a definition can fail

by being too broad—the defining phrase includes things not covered by the  
term being defined

e.g., “a cow is a four-legged mammal” (includes horses)

by being too narrow—the defining phrase excludes things covered by the  
term being defined

e.g., “a mammal is a hairy vertebrate that bears live young” (excludes  
platypusses)

#### Aristotle’s distinction of five kinds of predication

definition or part of a definition

definition e.g., Man is a rational animal

genus e.g., Man is an animal

specific difference e.g., Man is rational

what follows from a definition, but is not part of it

( = what is consequent on a thing’s nature)

property e.g., Man is capable of using language

what is true of a thing, even though not part of its nature

accident e.g., Man lives on Earth