Philosophy 2302 Intro to Logic
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Distribution of Terms
Parts of a Syllogism[i]

Introduction:

Every syllogism is made up of propositions and every proposition is made
up of two terms: subject and predicate. These terms are related to each
other by is/is not and are/are not.

Thus there are four possible types of propositions. Now we want to talk
about the two basic terms of categori-cal propositions under the headings
of distributed and undistributed.

I. Distribution of Terms

A. Definition of the distribution of terms

The distribution of terms is concerned with two basic points: (1) the
classes designated by the subject and predicate terms (roses,
redness); and (2) the extent to which these classes are occupied or
distributed (all or only part).

1. Classes: reference is made in all four types of categorical
propositions to various classes designated by the two primary
terms, the subject and the predicate. What we need to know is
whether the reference is to the whole of the class or only to part of
the class.

2. Distributed: If the reference is to the whole of the class, then the
class is said to be distributed. A term is distributed when it refers to
all the members of the class (fully occupied). Distribution can be
designated by a stated or implied *all.*

3. Undistributed: If the reference is only to part of the class, then
the class is said to be undistributed. A term is undistributed when it
refers to less than all the members of its class (not fully occupied).

B. The relation of distributed subject and predicate terms to the quantity of
propositions (universal and/or particular):

Terms have distribution; propositions have quantity which itself
depends on the distribution of the subject. First we look for the
distribution of the subject-class and then seek the distribution of the

predicate-class. The distribution of terms follows a set, consistent pattern for the four types of categorical propositions (A, E, I, O).

II. Distribution of Terms in the Four Types of Categorical Propositions

A. Type A propositions: All S is P (universal affirmative)

{S= Distributed, P = undistributed}

The A proposition asserts that every member of the subject class is a member of (but not the whole of) the predicate class. Since reference is made to every member of the subject class (**All** S…), the subject is said to be distributed. But is reference being made to every member of the predicate class? NO. For example, if you say:
"All artists are eccentric."

you are not saying that only artists are eccentric, nor are you saying that artists make up the **whole class** of eccentric people. You are only saying that if a person is an artist, he is a member of the class of eccentric people (which includes, but goes beyond artists; philosophers are eccentric too!). So, the predicate term of an A proposition is **undistributed**.

In other words, the sum total of all artists (distributed!) is only a part of the class of eccentric people (undistributed). To demonstrate the undistributed nature of the predicate, this proposition cannot be converted to say: "All eccentric people are artists" since this would be jumping from a knowledge of some things (all artists who are eccentric) to a presumed knowledge of all things (all eccentrics are artists). Try another example:

"All horses are four-legged animals."

B. Type E propositions: No S is P (universal negative)

{S = distributed, P = distributed}

The E proposition's quantifier (No S…) makes reference in a negative way to every member of the subject class. Thus it is universal. E propositions also state that not a single member of the S class is a member of the P class, and thus the reference is to the whole of the predicate class. This could be only if the whole of the P class were surveyed and no S were found. Therefore, the predicate of E propositions is distributed. For example, if you say:

"No cats are dogs."

you would have to be aware of every member of the predicate class dogs to make sure there were no cats in that class. So not only is the subject in this case distributed, but so also is the predicate. Because both terms are distributed, this E proposition converts simply: "No dogs are cats." Like in math, the function of addition is transitive: "4 + 2 = 6 and 2 + 4 = 6." Or try another example:

No republicans are pacifists.

C. Type I propositions: Some S are P (particular affirmative)

{S = undistributed, P = undistributed}

The quantifier makes it clear that only some members of the subject class are being referred to, so the subject is undistributed (Some S …). Therefore, the proposition as a whole is particular. But is the predicate class similarly undistributed? YES, because reference is being made to only some of the members of that class not the whole of it. For example, if you say:

"Some men are wealthy."

you are identifying only some members of the wealthy class who are members of the subject class (i.e., men). You are not concerned with the rest of the P class (the wealthy) who are of another kind (women who are wealthy). Hence, in I propositions, both the subject class and the predicate class are undistributed, and consequently such a proposition can be converted simply:

"Some of the wealthy are men."

D. Type O propositions: Some S is not P (particular negative)

{S = undistributed, P = distributed}

The quantifier "some" in type O propositions indicates that reference is being made to only some of the subject class (Some S …). The subject term of the O propositions is therefore undistributed and the proposition as a whole is particular. Is the predicate class also undistributed? NO, it is distributed, because to say that Some S is not P, you have to know the sum total of the P class to make this assertion. For example, if you say:

"Some registered voters are not property owners."

you have to know the sum total of property owners to assert that some registered voters do not belong or are not found anywhere in the class of property owners.

If you deny that something is inside a certain circle (property owners), you have to deny that it can be found anywhere in that circle (you have to know the contents of the whole circle!). You have to refer to the whole circle, not just part of it. Hence, in type O propositions, the subject is always undistributed and the predicate is always distributed and for this reason, type O propositions cannot be converted. Try this one:

"Some people are not happy."

Another source explains it like this: "The particular negative (O) propositions asserts that at least one member of S is not a member of P. Since the other members of S may or may not be outside of P, it is clear that the statement "Some S are not P does not make a claim about every member of S, so S is undistributed. But, as may be seen from the diagram, the statement does assert that the entire P class is separated from this one member of S that is outside; that is, it does make a claim about every member of P. Thus, in the particular negative (O) propositions, P is distributed and S is undistributed.

E. Summary

1. Universal subjects and negative predicates are distributed.
2. Particular subjects and affirmative predicates are undistributed.

Proposition Form	Subject Term	Predicate Term
A (+)	D	U
E (-)	D	D
I (+)	U	U
O (-)	U	D