[The above threefold division is called by Kant the division of judgments according to *Relation*. Some logicians commence with a twofold division, the second member of which is again subdivided, the term *hypothetical* being employed sometimes in a wider and sometimes in a narrower sense. To prevent confusion, it may be helpful to give the following table of the usage of one or two modern logicians with regard to this division.

Whately, Mill and Bain:—

1. Categorical.
2. Hypothetical, or Compound, or Complex. { (1) Conditional. (2) Disjunctive.

Hamilton and Thomson:—

1. Categorical.
2. Conditional. { (1) Hypothetical. (2) Disjunctive.

Fowler (following Boethius):—

1. Categorical.
2. Conditional or Hypothetical. { (1) Conjunctive. (2) Disjunctive.

Mansel gives at once the threefold division:—

1. Categorical.
2. Hypothetical or Conditional.
3. Disjunctive.

He states his reasons for his own choice of terms as follows:—"Nothing can be more clumsy than the employment of the word *conditional* in a specific sense, while its Greek equivalent, *hypothetical*, is used generically. In Boethius, both terms are properly used as synonymous, and generic; the two species being called *conjunctivi, conjuncti,*

or *connexi*, and *disjunctivi* or *disjuncti*. With reference to modern usage, however, it will be better to contract the Greek word than to extend the Latin one. *Hypothetical* in the following notes, will be used as synonymous with *conditional*" (Mansel's edition of *Aldrich*, p. 103). A distinction between *Conditionals* and *Hypotheticals*, differing from all the above, will be suggested in a later section.]

35. An analysis of the Categorical Proposition.

The categorical proposition consists of two terms united by a copula.

The *subject* is that term about which affirmation or denial is made.

The *predicate* is that term which is affirmed or denied of the subject.

The *copula* is the link of connexion between the subject and the predicate, and consists of the words *is* or *is not* according as we affirm or deny the latter of the former.

In attempting to apply the above analysis to such a proposition as "All that love virtue love angling," we find that, as it stands, the copula is not separately expressed. It may however be written,—

subj.	cop.	pred.
All lovers of virtue	are	lovers of angling;

and in this form the three different elements of the proposition are made distinct. An analysis of this kind is useful in the case of any proposition that may at first present itself in an abnormal form. A difficulty that may sometimes arise in discriminating the subject and the predicate is dealt with subsequently,—see section 48.

The older logicians distinguished propositions *secundi adjacentis*, and propositions *tertii adjacentis*. In the former,

the copula and the predicate are not separated; *e.g.*, The man runs, All that love virtue love angling. In the latter, the copula and the predicate are made distinct; *e.g.*, The man is running, All lovers of virtue are lovers of angling.

To complete our analysis we ought to note a fourth element in the categorical proposition, namely, the sign of quantity attached to the subject. In the proposition *All S is P* that sign of quantity is *all*, and we accordingly understand the affirmation to be made of each and every individual denoted by the term *S*.

36. The Quantity and Quality of Propositions[1].

The *Quality* of a proposition is determined by the copula, being *affirmative* or *negative* according as the copula is of the form "is" or "is not."

Propositions are also divided into *universal* and *particular*[2], according as the affirmation or denial is made of the whole or of a part of the subject. This division of Propositions is said to be according to their *Quantity*.

Combining the two principles of division, we get four fundamental forms of propositions :—

(1) the *universal affirmative*, All *S* is *P*, (or Every *S* is *P*, or Any *S* is *P*, or All *S*'s are *P*'s), usually denoted by the symbol **A**;

(2) the *particular affirmative*, Some *S* is *P*, (or Some *S*'s are *P*'s), usually denoted by the symbol **I**;

(3) the *universal negative*, No *S* is *P*, (or No *S*'s are *P*'s), usually denoted by the symbol **E**;

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[1] We may say that the subject and predicate of a proposition constitute its *matter*; while its quantity and quality constitute its *form*.

[2] Instead of these terms Professor Bain suggests the terms *total* and *partial*.

(4) the *particular negative*, Some *S* is not *P*, (or Not all *S* is *P*, or Some *S*'s are not *P*'s, or Not all *S*'s are *P*'s), usually denoted by the symbol **O**.

These symbols A, I, and E, O, are taken from the Latin words *affirmo* and *nego*, the affirmative symbols being the first two vowels of the former, and the negative symbols the two vowels of the latter.

Besides these symbols, it will also be found convenient sometimes to use the following,—

$$SaP = \text{All } S \text{ is } P;$$
$$SiP = \text{Some } S \text{ is } P;$$
$$SeP = \text{No } S \text{ is } P;$$
$$SoP = \text{Some } S \text{ is not } P.$$

The above are useful when we wish that the symbol which is used to denote the proposition as a whole should also indicate what symbols have been chosen for the subject and the predicate respectively. Thus,

$$MaP = \text{All } M \text{ is } P;$$
$$PoQ = \text{Some } P \text{ is not } Q.$$

The universal negative should not be written in the form *All S is not P*; for this form is ambiguous and would usually be understood to be merely particular. Thus, "All that glitters is not gold" is really an **O** proposition, and is equivalent to "Some things that glitter are not gold."

37. Exponible, Copulative, Remotive, and Exceptive Propositions.

Propositions that are resolvable into more propositions than one have been called *exponible*, in consequence of their susceptibility of analysis. *Copulative* propositions are formed by a direct combination of simple affirmative propositions;

e.g., All *P* is both *Q* and *R*, (*i e.*, All *P* is *Q*, All *P* is *R*). *Remotive* propositions are formed by a similar combination of negatives; *e.g.*, No *P* is either *Q* or *R*, (*i.e.*, No *P* is *Q*, No *P* is *R*). Copulatives and remotives fall within the class of exponibles. *Exceptive* propositions limit the subject by such a word as "unless" or "except"; *e.g.*, All *P* is *Q*, unless it happens to be *R*. Exceptives may be regarded as forming another class of exponibles[1]

38.   Exclusive Propositions.

Exclusive propositions contain some such word as *only* or *alone* thereby limiting the predicate to the subject; *e.g.*, *Only S is P.* Propositions of this kind may be written in the form *Some S is all P*[2]; but this is not one of the forms recognised in the traditional scheme as given in section 36[3]. In order to deal with exclusives under the traditional scheme it is necessary to replace them by one of the equivalent forms,—*All P is S, No not-S is P.* But it has to be observed that this is not very satisfactory. We have not kept the original subject and predicate, and have in truth performed upon the given proposition a process of immediate inference.

[1] Only on the supposition however that the above proposition implies not merely that if *P* is not *R* then it is *Q*, but also that if *P* is *R* then it is not *Q*. Thus interpreted it is equivalent to the following,—*All P is either Q or R*, but no *P* is both of these.

[2] It is to be observed that the exclusive proposition "Only *S* is *P*" does not necessarily imply that *all S* is *P*, though it does imply that all *P* is *S*; *e.g.*, "Only graduates are eligible" does not imply that all graduates are so, for some may be disqualified for other reasons.

[3] For Sir William Hamilton's scheme of propositions in which "Some *S* is all *P*" does receive distinctive recognition, see Part III., Chapter 9.

39.   Indefinite Propositions.

According to Quantity, Propositions have sometimes been divided into (1) Universal, (2) Particular, (3) Singular, (4) Indefinite. Singular propositions are discussed in the following section.

By an *indefinite* proposition is meant one "in which the Quantity is not explicitly declared by one of the designatory terms *all, every, some, many*, &c."; *e.g.*, S is P, Cretans are liars. We may perhaps say with Hamilton that *indesignate* or *preindesignate* would be a better term to employ. There can be no doubt that, as Mansel remarks, "the true indefinite proposition is in fact the particular; the statement 'some *A* is *B*' being applicable to an uncertain number of instances, from the whole class down to any portion of it. For this reason particular propositions were called indefinite by Theophrastus" (*Aldrich*, p. 49).

When a proposition is given in the indesignate form, we can generally tell from our knowledge of the subject matter or from the context whether it is meant to be universal or particular. Probably indesignate propositions are in general intended to be understood as universals[1], *e.g.*, Comets are subject to the law of gravitation; but if we are really in doubt with regard to the quantity of the proposition it must logically be regarded as particular.

Other designations of quantity besides *all* and *some, e.g., most*, are discussed in section 41.

40.   Singular Propositions.

Singular Prop.

By a *singular* or *individual* proposition is meant a proposition in which the affirmation or denial is made of a

[1] And I do not think that any confusion would result from the understanding that this should be their logical interpretation.

single individual only; *e.g.*, Brutus is an honourable man; Much Ado about Nothing is a play of Shakespeare's; My boat is on the shore.

Singular propositions may usually be regarded as forming a sub-class of universals, since in every singular proposition the affirmation or denial is of the *whole* of the subject. Such propositions have however certain peculiarities of their own, as we shall note subsequently; *e.g.*, they have not like other universal propositions a contrary distinct from their contradictory[1].

Hamilton distinguishes between Universal and Singular Propositions, the predication being in the former case of a *Whole Undivided*, and in the latter case of a *Unit Indivisible*. This separation is sometimes useful; but I think it better not to make it absolute. A singular proposition may generally without risk of confusion be denoted by one of the symbols **A** or **E**; and in syllogistic inferences, a singular may ordinarily be treated as equivalent to a universal proposition. The use of independent symbols for affirmative and negative singular propositions would introduce considerable additional complexity into the treatment of the Syllogism; and for this reason it seems desirable as a rule to include singulars under universals. We may however divide universal propositions into *general*[2] and *singular*, and we

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[1] It may also be held that they imply the existence of their subjects while this is not the case with ordinary universal propositions. Cf. section 107.

[2] Lotze (*Logic*, § 68) distinguishes between *general* and *universal* judgments. In the former the predication is of the whole of an indefinite class, including both examined and unexamined cases. In the latter we have merely a summation of what is found to be true in every individual instance of the subject. "The universal judgment is only a collection of many singular judgments, the sum of whose subjects does as a matter of fact fill up the whole extent of the universal concept;...the universal

shall then have terms whereby to call attention to the distinction wherever it may be necessary or useful to do so.

There is also a certain class of propositions which, while *singular* inasmuch as they relate but to a single individual, possess also the indefinite character which belongs to the *particular* proposition: for example, A certain man had two sons; A great statesman was present; An English officer was killed. Having two such propositions in the same discourse we cannot, apart from the context, be sure that the same individual is referred to in both cases. Carrying the distinction indicated in the preceding paragraph a little further, Mr W. E. Johnson suggests a fourfold division of propositions:—*general universal*, "All *S* is *P*"; *general particular*, "Some *S* is *P*"; *singular universal*, "This *S* is *P*"; *singular particular*, "A certain *S* is *P*." This classification admits of our working with the ordinary two-fold distinction into universal and particular wherever this is adequate, as in the traditional doctrine of the syllogism; at the same time it introduces a further distinction which in certain connexions is of considerable importance.

proposition, 'all men are mortal,' leaves it still an open question whether, strictly speaking, they *might* not all live for ever, and whether it is not merely a remarkable concatenation of circumstances, different in every different case, which finally results in the fact that no one remains alive. The general judgment on the other hand, 'man is mortal,' asserts by its form that it lies in the character of mankind that mortality is inseparable from every one who partakes in it." In Applied Logic the distinction here indicated may be of importance; a somewhat similar distinction is indicated by Mill in his treatment of "inductions improperly so-called." But it cannot be regarded as a *formal* distinction; it depends not so much on the propositions themselves as on the manner in which they are obtained. I cannot agree with Lotze's implication that propositions of the form "all *S* is *P*" are always in his sense universal, while those of the form "*S* is *P*" are always in his sense general.