

of the predicate, in consequence of its assuming that the entire purpose of deductive logic is to ascertain the necessary conditions of the truth of signs, without any regard to the accidents of Indo-European grammar, will be here briefly stated. Cf. NEGATION.

In any proposition, i.e. any statement which must be true or false, let some parts be struck out so that the remnant is not a proposition, but is such that it becomes a proposition when each blank is filled by a proper name. The erasures are not to be made in a mechanical way, but with such modifications as may be necessary to preserve the partial sense of the fragment. Such a residue is a *predicate*. The same proposition may be mutilated in various ways so that different fragments will appear as predicates. Thus, take the proposition 'Every man reveres some woman.' This contains the following predicates, among others:

- '— reveres some woman.'
- '— is either not a man or reveres some woman.'
- 'Any previously selected man reveres —.'
- 'Any previously selected man is —.'

See NEGATION. (C.S.P.)

**Predication** [Lat. *praedicare*, to assert]: Ger. *Aussage*, *Prädikation*; Fr. *attribution*, *détermination*; Ital. *affermazione*. (1) In psychology: the determination of a conceptual whole by the process of consciously including within it, or excluding from it, a new conceptual element.

The essential mark of the subject-predicate relation is that it constitutes that advance in thought which is expressed or expressible in a sentence. Thus we find that grammarians distinguish between the merely defining or determining use of adjectives, participles, &c., and their predicative or declarative function. To explain the nature of the subject-predicate relation is also to explain why discourse is broken up into distinct sentences. The required explanation is not far to seek, if we start from the popular use of the word subject as indicating the general topic or universe of discourse. The predicate of the subject, in this sense, is the whole discourse through which it receives determination and specification. Predication, from this point of view, consists just in the gradual definition and specification of what is at the outset relatively indefinite and indeterminate. It is because this process takes place gradually by a successive concentration of attention that language

is divided into sentences. 'The predicate of a sentence is the determination of what was previously indeterminate. The subject is the previous qualification of the general topic or universe of discourse to which the new qualification is attached. . . . Sentences are, in the process of thinking, what steps are in the process of walking. The foot on which the weight of the body rests corresponds to the subject. The foot which is moved forward to occupy new ground corresponds to the predicate' (Stout, as cited below, ii. 213). Symbolically, the process may be represented as follows:  $a = ab$ ,  $ab = abc$ ,  $abc = abcd$ , and so on, a formula suggested by Baldwin for such a 'conceptual interpretation' of the thinking processes. In continuous thought, so far as it is continuous, all determinations of the general topic which have emerged up to a certain point form an integral part of the subject, to which all subsequent determinations are attached as predicates. Consider the following: 'I took the train to London; I arrived at 12 p.m.; I went to an hotel; I found that all the rooms were taken.' The 'I,' which is the grammatical subject of the last sentence, is qualified by those which preceded. The full sentence is: 'I, having taken the train to London, and having arrived at 12 p.m., on going to an hotel found that all the rooms were taken' (Paul, *Princ. of the Hist. of Language*, Eng. trans., 144 ff.). See the adjacent topics, and cf. JUDGMENT.

*Literature*: BALDWIN, *Handb. of Psychol., Senses and Intellect*, 283 ff.; STOUT, *Analytic Psychol.*, ii. 212 ff.; BOSANQUET, *Essentials of Logic*, 108 ff.; PAUL, as cited above, 144 ff. (G.F.S., J.M.B., C.L.F.)

(2) In logic: the joining of a predicate to a subject of a PROPOSITION (q.v.) so as to increase the logical breadth without diminishing the logical depth.

On the relation between the psychological and the logical views of predication, see PROPOSITION (1).

This still leaves room for understanding predication in various ways, according to the conception entertained of the dissection of a proposition into subject and predicate. It is a question under dispute to-day whether predication is the essential function of the proposition. Some maintain that the proposition 'It rains' involves no predication. But if it is an assertion, it does not mean that it rains in fairyland, but the very act of saying anything with an appearance of seriously meaning it is an INDEX (q.v.) that forces the person

addressed to look about to see what it is to which what is being said refers. The 'rains' recalls to his mind an image of fine up-and-down lines over the field of view; and he looks sharply out of the window, fully understanding that that visible environment is indicated as the subject where the lines of falling drops will be seen. In like manner, there is a predication in a conditional or other hypothetical proposition, in the same sense that some recognized range of experience or thought is referred to. (C.S.P.)

So in all compound propositions, some recognized range of experience, thought, or belief is referred to, even though, in a given case, by an accident of language, we are permitted to completely suppress both subject and copula (cf. Baldwin, *Handb. of Psychol.*, i, chapter on Thought; Venn, *Empirical Logic*). Just as (1) 'Every  $a$  is  $b$ ' means 'Granted that any object is  $a$ , it may be safely concluded that it is also  $b$ ,' so (2) 'If  $a$  is  $b$ ,  $c$  is  $d$ ' means 'For whatever time, place, or combination of circumstances you grant that  $a$  is  $b$ , you may also be sure that  $c$  is  $d$ ,' and in particular, just as (1) is identical in logical import with 'Every object is either not  $a$  or else  $b$ ,' so (2) when expressed in the form 'Either  $a$  is not  $b$  or  $c$  is  $d$ ' has for its full meaning 'Time, place, and circumstance imply that  $a$  is not  $b$  or else that  $c$  is  $d$ ,' or, 'Whatever is,  $a$  is not  $b$  or  $c$  is  $d$ ,' or, 'What occurs is that  $a$  is not  $b$  or that  $c$  is  $d$ .' Hence in symbolic logic it is perfectly justifiable to use the same sign for the subject in both the simple and the compound proposition (and without regard to whether the subject is expressed or understood in common language):

- $$(1) \quad \infty \leq a + b$$
- $$(2) \quad \infty \leq (a \leq b + (c \leq d)).$$

For the symbols used see PROPOSITION. (C.L.F.)

A few of the most frequently recurring scholastic phrases follow.

*Abstract predication*: predication of a subject considered in the abstract.

*Accidental predication*: predication of an accident.

*Analogical predication*; a rather favourite expression of Aquinas: predication in which the predicate is taken neither in its strict sense nor in an unrelated sense, but in a peculiar sense for which there is a good reason, as when a statue is said to be a man.

*Complete predication*: predication in which the whole nature of the thing is formally affirmed.

*Denominative predication*: predication in which that whose nature it is to be a subject is taken as the subject, and something whose nature it is to be predicated is taken as the predicate; a predication of an accident of a substance. (It is well discussed by Scotus, *In univ. Porph.*, 9. 16, 'Utrum haec sit vera, *Homo est animalis*,' where, as in the majority of scholastic disputations, the conclusion is foregone, and the interest lies in the formidable difficulties and how they are to be overcome.) Denominative predication, in its proper sense, is predication of an accidental concrete term of its own subject; in a broad sense, it is the predication of any concrete of a suppositum, or of any subject of less breadth; in the widest sense, it is predication of any predicate of any subject. Denominative predication may be *a posteriori* or *a priori*, as *homo est albus*, *rationale est substantia*, *homo est animal*.

*Determinative predication*: same as *denominative predication*.

*Dialectic predication*, as defined by Aristotle (*I. Top.*, x): the predication of a general term in a proposition which may result from an argument in a probable place, and not reducible to anything prior.

*Direct predication*: predication in the usual sense of representing that the breadth of the subject belongs to the predicate, and the depth of the predicate to the subject; or, in scholastic language, it is predication of a higher term of a lower one, of a passion of a subject, of an accident of a subject, of a mode of a quiddity, of a difference of a genus. See *Indirect predication*, below.

*Equivocal predication*: predication which may be taken in two unrelated senses.

*Essential predication*: in which the predicate is wholly contained in the essence of the subject. It is, therefore, in Kant's sense, an analytical judgment. But neither Kant nor the scholastics provide for the fact that an indefinitely complicated proposition, very far from obvious, may often be deduced by mathematical reasoning, or necessary deduction, by the logic of relatives, from a definition of the utmost simplicity, without assuming any hypothesis whatever (indeed, such assumption could only render the proposition deduced simpler); and this may contain many notions not explicit in the definition. This may be illustrated by the following: Man is a rational animal; hence, whatever is not a man is either, on the one hand, not rational, while either at the same time being an animal or else benefiting nothing except such objects as love

nothing but fairies, or, on the other hand, is not an animal, while either being rational or standing to whatever fairy may exist in the relation of benefiting something that loves it. Now, if it be said that that is an analytical judgment, or essential predication, neither the definition of the scholastics nor that of Kant is adequate. But if it be said that it is not an essential predication, or analytical judgment, then the accidental predication and the synthetical judgment may be a necessary consequence, and a very recondite one, of a mere definition, quite contrary to what either Kant or the scholastics supposed and built upon. Cf. Scotus (*In univ. Porph.*, 9. 12), whomakes essential predication the predication of genus, species, or difference.

*Exercised predication.* The distinction between exercised and signate predication belongs to Scotus. (The passage which Prantl attributes to Antonius Andreas is a quotation *verbatim* from Scotus, as often naturally happens in Prantl's *Geschichte*.) A *signate* predication is one which is *said to be made*, an *exercised* predication is one which *is made*; so that Scotus says: 'A praedicari signato ad praedicari exercitum non tenet consequentia per se in eisdem terminis.' Scotus gives the following examples of the distinction, where the exercised predication is marked E, the signate S: S, *Genus praedicatur de specie*; E, *Homo est animal*. (The Lyons text here transposes the terms, which we give correctly.) S, *negotio*; E, *non*. E, *tantum*; S, *excludo*. The abstract definition of Scotus is: '*Esse in rebus primae intentionis illud exercet quod praedicari signat in secundis intentionibus*.' Exercised predication is distinguished into *praedicatio de proprio supposito* and *praedicatio de subiecto*; the former is essential, the latter accidental.

*Formal predication*: predication where the predicate is in the concept of the subject, independent of any extrinsic cause or of any particular matter *in qua*. The difference between formal and essential predication is somewhat trivial and confused.

*Identical predication*: the predication of a term of itself.

*Incomplete predication*: see *Complete predication*.

*Indirect predication* has two meanings. In one sense, it might better be called *relative* predication, since it is the predication of some term which occurs in the predicate in an oblique case, as angles are predicated of triangles. But, in another sense, Chau-

vinus (*Lexicon*, 2nd ed., 1713, 'Praedicatio') says: 'Praedicatio contra *naturam*, seu *inordinata*, quae alias etiam dicitur *indirecta*, ea est vel in qua inferius de superiori in eadem linea praedicamentali, aut id quod se habet per modum materiae de eo quod se habet per modum formae dicitur; . . . vel, in qua species de sua dicitur differentia . . . vel, in qua substantia dicitur de accidente connotativo.' Mauritius Hibernicus, in his *Expositio quaest. D. Subtilis in quinque Univ. Porph.*, qu. i. art. 31, says, 'Voco communiter praedicationem directam,' and proceeds to give substantially the definition of Chauvinus.

*Inordinate predication*: see quotation from Chauvinus under *Indirect predication*.

*Intrinsic predication*: one in which the predicate is in the subject independently of the relations of the latter to other things.

*Natural predication*: when the subject and predicate ought to be so related according to their nature. This is substantially the definition given in many books; but it conveys little idea of how the expression is used. Natural predication is always divided into the identical and direct; non-natural predication is either *indirect*, i. e. *contra naturam*, or it is *praeter naturam*, i. e. *per accidens*. Examples of indirect predication, where the subject is related to the predicate as form to matter, are *alba est nix*, *animal est homo*. Examples of predication *praeter naturam*, where subject and predicate are related to some third term, as form to matter, are *album est dulce*, *dulce est album*. Examples of direct predication: *nix est alba*, *homo est animal*. Examples of identical predication: *gladius est ensis*, *Plato est Plato* (Conimbricenses in *Praef. Porph.*, q. i. art. 4).

*Non-natural predication*: see *Natural predication*.

*Proper predication*: a predication in which the verb and predicate are taken in their proper signification.

*Qualificative predication*: see *Predication in quale*.

*Quidditative predication*: see *Predication in quid*.

*Signate predication*: see *Exercised predication*.

*Univocal predication*: predication of a univocal term.

*Predication de omni* is defined by Aristotle in the *dictum de omni*; that is, what is predicated of a subject universally, or *de omni*, is predicated of everything of which that subject is predicated.

*Predication in eo quod quid* (translation of

Porphyrus's *ἐν τῷ τί ἐστι κατηγορεῖσθαι*) occurs in the translation of the *Isagoge* by Marius Victorinus, and means predication of the genus and species. In some of the late scholastics it is distinguished from other predication *in quid*, and is confined to predication of the *genus* (see Eckius, *In Petr. Hosp.*). But others, as the Mainz doctors, retain the earlier meaning.

*Predication in eo quod quale*: same as predication *in quale*, from which, however, some of the later writers discriminate it.

*Predication in quale*, as most commonly used, is predication of difference, property, or accident. But it is also, not infrequently, restricted to predication of the property or accident. Albertus Magnus (*In predicabilibus*, tr. iii. cap. iv) distinguishes four different senses of predication *in quale*.

*Predication in quale quid*: predication of a specific difference.

*Predication in quid* (the expression appears in the 12th century. It is an abbreviation of *in eo quod quid*). Used in a number of senses, for which see any good mediaeval logic; and especially for predication of the genus and species, most strictly of the latter.

*Predication per accidens*: see *Natural predication*.

*Predication per causam*: a predication that the predicate stands in a causal relation to the subject.

*Predication per comitantiam* or *concomitantiam*: a predication that the predicate accompanies the subject.

*Predication per essentiam*: essential predication.

*Predication per se*: see *PER SE*.

*Predication quasi in quid* = *in quale quid*. (C.S.P.)

**Predicative Proposition.** The old name for a categorical PROPOSITION (q.v., also CATEGORICAL), used by Apuleius, Marcellus Capella, and Boethius. Cassiodorus, however, has *categoricus*, which was used by Abelard and subsequent logicians. The expression has been revived by some modern logicians who do not think that all propositions, nor even all categorical propositions, such as 'It rains,' predicate anything. (C.S.P.)

**Prediction** [Lat. *praedictio*, a foretelling]: Ger. *Prophetie*; Fr. *prédiction*; Ital. *predizione*. (1) One of the functions of prophecy by virtue of which the prophet becomes a seer and reader of the future. See PROPHECY. (A.T.O.)

(2) In logic: see *PREDESIGNATE* (2), and cf. *PROBABLE INFERENCE* (2).

**Predisposition** [Lat. *prae + dispositio*]: Ger. *Prädisposition*, *Anlage*; Fr. *prédisposition*; Ital. *predisposizione*. An inherited tendency to act in certain ways. A predisposition is thus an inherited DISPOSITION (q.v.). (J.M.B.-G.F.S.)

We are thus making predisposition or inherited disposition subject to the distinction of the older usage, which contrasted DISPOSITION (q.v., meaning 2) with habit. Hamilton finds the contrast in the Greek terms *διάθεσις* and *ἔξις* (*Metaphysics*, Mansel and Veitch, ed. N. Y., Lect. x. 124). The prefix of the latter term appropriately marks the innate character of predispositions. This meaning of predisposition covers the popular use of the term as referring to the permanent elements of character and endowment recognized as ingredients in temperament (noted by Aristotle, *Categories*, chap. viii; ref. supplied by eds. to Hamilton, in the passage quoted above). This also makes predisposition an adequate translation of *Anlage* (mental), following the translation of Groos' *Play of Man*, as against that of Külpe's *Outlines of Psychology*, in which disposition is used without qualification. (J.M.B., G.F.S.)

**Predisposition** (in medicine): Ger. *Prädisposition*; Fr. *prédisposition*; Ital. *predisposizione*. A physical or mental liability or susceptibility in a particular direction.

The word, like the terms bent, trait, temperament, diathesis, is an important one in the discussion of heredity and the distribution of endowment, to indicate an inborn tendency or capacity to develop readily in a given direction. Predisposition is used of general emotional and mental character rather than of individual traits; it is also frequently employed in regard to abnormal tendencies (see art. 'Predisposition in Disease,' in Quain's *Dictionary of Medicine*), such as a predisposition to neurasthenia, to hysteria, &c. In the discussion of the aetiology of a mental disorder the predisposing causes are always considered. See DIATHESIS. (J.J.)

**Pre-established Harmony**: Ger. *prästabilierte Harmonie*; Fr. *harmonie préétablie*; Ital. *armonia prestabilita*. The name given by Leibnitz to his theory (1) of the relation of the monads to one another; (2) of spirit to matter, of the soul to the body. The last is the commoner use, but is, relatively speaking, superficial.

The problem of the influence of mind upon body had been brought to the front by Descartes (see *OCCASIONALISM*). Leibnitz