

is perhaps preferable, since timidity and timid are used sometimes for 'fear.'

Literature: DARWIN, Expression of the Emotions; MOSSO, Fear; GRÖÖS, The Play of Animals, 243 f., 283 f.; DUGAS, La Timidité; H. CAMPBELL, Brit. Med. J., Sept. 26, 1896; BALDWIN, Ment. Devel. in the Child and the Race, chap. vi. § 5; Social and Eth. Interpret., chap. vi; HARTENBERG, Les timides et la timidité (1901). (J.M.B.)

Sibilants: see PHONETICS.

Sibylline Books [Lat. *sibyllinus*, pertaining to a sibyl]: Ger. *die Sibyllinischen Bücher*; Fr. *les livres sibyllins*; Ital. *i libri sibillini*. The books of prophecy which Herophile, the most famous of the ancient sibyls, is said to have sold to Tarquinius Superbus, and which were preserved by the Romans and consulted in urgent matters.

The Sibylline books were lost in the destruction of the temple of Jupiter by fire in 83 B.C. A new collection was made, which has also been lost. The extant twelve books of so-called Sibylline prophecies are of later and mostly spurious origin. (A.T.O.)

Side Window Experiment: Ger. *seitlicher Fensterversuch*; Fr. (not in use—L.M.); Ital. *esperimento della finestra laterale*. An experiment in binocular contrast: standing unsymmetrically with respect to a window, obtain double images of a white surface on a dark ground; the single image appears faintly blue (blue-green) on the window side, and faintly red (orange) on the other side.

Literature: FECHNER, Binoc. Sehen, 511 ff.; SANFORD, Course in Exper. Psychol., expt. 168. (E.B.T.—C.L.F.)

Sidgwick, Henry. (1838–1900.) Born in Yorkshire, England, educated at Rugby School and Trinity College, Cambridge, he became a fellow and lecturer at Trinity College in 1859, reader in moral science in 1875, professor of moral philosophy in Cambridge University, 1883. He was identified with the movement in England for the higher education of women, and especially with the interests of Newnham College for women, at Cambridge. His principal works are in ETHICS (q.v.) and politics, his position in ethics being that of a 'modified' utilitarian. Cf. UTILITARIANISM. He was one of the 'Consulting Editors' of this DICTIONARY. See an 'auto-historical' note in his *Methods of Ethics* (6th ed.); Hayward, *The Ethical Philosophy of Sidgwick* (1901), and L. Stephen, in *Dict. of Nat. Biog.*, Sup. iii, sub verbo.

Sighting Line: Ger. *Visirlinie*; Fr. *ligne*

de visée; Ital. *linea di sguardo*. The straight line connecting two luminous points which appear to be in exactly the same direction from the observer.

The sighting lines intersect at the centre of the image of the pupil made by the cornea (which is only 0.6 mm. in front of the true position of the pupil). The principal sighting line is practically identical with the principal ray of direction (line of sight).

Literature: HELMHOLTZ, Physiol. Optik (2nd ed.), 115, 127, 617, 672; SANFORD, Course in Exper. Psychol., 187; WUNDT, Physiol. Psychol. (4th ed.), ii. 106. (E.B.T.)

Sign [Lat. *signum*, a mark, a token]: Ger. *Zeichen*; Fr. *signe*; Ital. *segno*. (1) Anything which determines something else (its *interpretant*) to refer to an object to which itself refers (its *object*) in the same way, the interpretant becoming in turn a sign, and so on *ad infinitum*.

No doubt, intelligent consciousness must enter into the series. If the series of successive interpretants comes to an end, the sign is thereby rendered imperfect, at least. If an interpretant idea having been determined in an individual consciousness, it determines no outward sign, but that consciousness becomes annihilated, or otherwise loses all memory or other significant effect of the sign, it becomes absolutely undiscoverable that there ever was such an idea in that consciousness; and in that case it is difficult to see how it could have any meaning to say that that consciousness ever had that idea, since the saying so would be an interpretant of that idea.

A sign is either an *icon*, an *index*, or a *symbol*. An *icon* is a sign which would possess the character which renders it significant, even though its object had no existence; such as a lead-pencil streak as representing a geometrical line. An *index* is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant. Such, for instance, is a piece of mould with a bullet-hole in it as sign of a shot; for without the shot there would have been no hole; but there is a hole there, whether anybody has the sense to attribute it to a shot or not. A *symbol* is a sign which would lose the character which renders it a sign if there were no interpretant. Such is any utterance of speech which signifies what it does only by virtue of its being understood to have that signification.

(2) Used for COEFFICIENT (q.v.) or MARK

(q.v.). Cf. LOCAL SIGN, and TEMPORAL SIGN. (C.S.P.)

This division of signs, suggested by C.S.P., may be compared with the more generally recognized classification given under SIGN-MAKING FUNCTION; they serve different purposes, and do not seem to be inconsistent. (J.M.B.)

Sign (and **Signature**, in psychology). (1) See SIGN (1), and cf. LOCAL SIGN, TEMPORAL SIGN, SYMBOL, and SYMPTOM.

(2) Used also for the various symbols—written, spoken, &c.—of the LANGUAGE FUNCTION (q.v.), such as vocal sign, gesture sign, graphic sign, &c. (J.M.B.)

Sign (logical). Any symbol employed in logical writing. Cf. LOGICAL DIAGRAM, SYMBOL, and see the signs employed in the longer logical articles, e.g. LOGIC, LOGIC (exact), TERM, and SYMBOLIC LOGIC.

In regard to the use of signs for logical aggregation and multiplication, it is recommended that the traditional symbols be adhered to as follows:

(1) For aggregation, the plus sign +: something which is either *a* or *b*.

(2) For multiplication, the form *ab*: something which is at once *a* and *b*. (C.L.F., J.M.B.)

Signal (of Deprez): see LABORATORY AND APPARATUS, II (general).

Significance: see SIGNIFICS (1, c).

Signification (and **Application**, in logic): Ger. *Bedeutung*; Fr. *signification*; Ital. *significato*. See CONNOTATION (2), and DENOTATION, and cf. MEANING, SIGNIFICS, and SEMANTICS.

These are substitute terms for what are called by Mill and others connotation and denotation; for (1) the previously well-established use of connote was somewhat warped by Mill and his followers, and (2) these words may be applied to the corresponding properties of propositions as well as terms. The application of a term is the collection of objects which it refers to; of a proposition it is the instances of its holding good. The 'signification' of a term is all the qualities which are indicated by it; of a proposition it is all its different implications.

Great confusion has arisen in logic from failing to distinguish between the different sorts of signification, or connotation, of a term: thus to the question, Are proper names connotative? 'contradictory answers are given by ordinarily clear thinkers as being obviously correct,' for the reason that they have not the same thing in mind under the term connotation. It is necessary to distinguish between

(1) the indispensable signification; (2) the banal signification; (3) the informational signification; and (4) the complete signification. (1) is so much as is contained in whatever may be fixed upon as the definition of the term—all those elements of the meaning in the absence of any one of which the name would not be applied; (2) is what 'goes without saying,' what is known to every one, and (3) is what there is occasion to give utterance to: these of course vary with the different individuals to whom the proposition is given out—that oxygen is exhilarating is informational to the student of chemistry, and banal to the teacher of chemistry (but false to those who are familiar with the latest results of the science); (4) consists of all the valid predicates of the term in question. When I say, 'The one I saw yesterday was John Peter,' the indispensable signification of John Peter is simply an individual object of consciousness (usually a man, though it may be a dog, or a doll) whom it has been agreed to designate by that name; but the banal signification, to one who knows John Peter well, is very extensive.

The same characteristics apply to propositions as well as to terms: thus the complete signification (or implication) of *All x is y* is all its valid consequences, and its complete application (or range) is all those descriptions of circumstances under which it holds good—that is to say, all its sufficient antecedents. (C.L.F., C.S.P.)

A general term denotes whatever there may be which possesses the characters which it signifies; J. S. Mill uses, in place of signifies, the term connotes, a word which he or his father picked up in Ockham. But signify has been in uninterrupted use in this sense since the 12th century, when John of Salisbury spoke of 'quod fere in omnium ore celebre est, aliud scilicet esse appellativa significant, et aliud esse quod nominant. Nominantur singularia; sed universalia significantur.' Nothing can be clearer. There is no known occurrence of connote as early as this. Alexander of Hales (*Summa Theol.*, I. liii) makes *nomen connotans* the equivalent of *appellatio relativa*, and takes the relation itself as the accusative object of *connotare*, speaking of 'creator' as connoting the relation of creator to creature. So Aquinas, *In sentent.*, I. dist. viii. q. 1, Art. 1. Subsequently, because adjectives were looked upon as relative terms, *white* being defined as 'having whiteness,' &c., the adjective was

looked upon as connoting the abstraction, but never unless its supposed relative character was under consideration. Tataretus, for example, who wrote when the usage was fully established, will be found using such phraseology as the following: 'Nulla relativa secundum se habent contrarium, cum non sint qualitates primae, sed solum relativa secundum dici, et hoc secundum esse absolutum et significatum principale eorum et non secundum esse respectivum et connotativum.' Chauvin (1st ed.) says: 'Connotativum illud est cuius significatum non sistit in se, sed necessario ad aliud refertur, vel aliud connotat. V.g. *Rex, magister, primus*.' It unfortunately happened, as the above quotations show, that the precise meaning recognized as proper to the word 'signify' at the time of John of Salisbury (a younger contemporary of Abelard) was never strictly observed, either before or since; and, on the contrary, the meaning tended to slip towards that of 'denote.' Yet even now the propriety of John's remark must be recognized.

A number of works were written in the middle ages *De modis significandi*, based upon Priscian (a contemporary of Boethius), who in turn followed Apollonius the bad-tempered, 'grammaticorum princeps,' who lived in the time of Hadrian and Antoninus Pius. Cf. also Thurot, *Notices et Extraits des MSS.*, xxii. Pt. II, and Duns Scotus, *Works*, Lyons ed., I. (C.S.P.)

Significs: Ger. *Bedeutungslehre*; Fr. *théorie des significations*; Ital. *teoria delle significazioni* (the foreign equivalents are suggested). (1) Significs implies a careful distinction between (a) sense or SIGNIFICATION (q.v.), (b) meaning or INTENTION (q.v.), and (c) significance or ideal WORTH (q.v.). It will be seen that the reference of the first is mainly verbal (or rather SENSAT, q.v.), of the second volitional, and of the third moral (e.g. we speak of some event 'the significance of which cannot be overrated'; it would be impossible in such a case to substitute the 'sense' or the 'meaning' of such event, without serious loss). Significs treats of the relation of the sign in the widest sense to each of these.

(2) A proposed method of mental training, aiming at the concentration of intellectual activities on that which is implicitly assumed to constitute the primary and ultimate value of every form of study: i.e. what is at present indifferently called its meaning or sense, its import or significance.

Significs affords also a means of calling attention to the backwardness of language in

comparison with other modes of human communication, and to the urgent need of stimulating thought by the creation of a general interest in the logical and practical as well as the aesthetical value of all forms of expression. And it provides a convenient general term under which to work perhaps for an international consensus, and for a natural check upon wilful waste or misuse of the existing resources of language, by bringing to bear upon it a certain deterrent of social and academic 'constraint' (cf. the Editor's Preface, viii).

Significs make practically for the detection of lurking confusion or specious assertion in directions where the discipline of formal logic would help less directly and simply. But it is suggested that this study, so far from superseding or displacing or even distracting attention from the disciplines already recognized, would rather render them more effectual because more vitally significant: more obviously related to ordinary experience and interests. It would also bring out the moral value of a greater respect for the traditions and the future of language, and would in fact, while preparing the ground for an expansion of the limits of articulate expression, tend to create a linguistic conscience which must beneficially react upon thought, thus bringing about gradually and naturally a spontaneous consensus in definition.

Much work is already being done in this direction. Significs as a science would centralize and co-ordinate, interpret, interrelate, and concentrate the efforts to bring out meanings in every form, and in so doing to classify the various applications of the signifying property clearly and distinctly.

Literature: A. SIDGWICK, *Distinction and Criticism of Beliefs*; KARL PEARSON, *Grammar of Science*; MAHAFFY, *Modern Babel*, in *Nineteenth Cent.*, November, 1896; EUCKEN, *Gesch. d. philos. Terminologie* (1879); and *Monist*, July, 1896; BRÉAL, *Essai de Sémantique*; JESPERSEN, *Progress in Language*; F. TÖNNIES, *Welby Prize Essay*, *Mind*, January and April, 1899; BACON, HOBBS, and later WHATELEY, G. CORNEWALL LEWIS, and J. S. MILL are among those who have discussed the general subject. See also E. MARTINAK, *Psychol. Untersuch. z. Bedeutungslehre* (1901). (V.W., G.F.S., J.M.B.)

Sign-making Function: (not in use in the other languages). The selection or construction of certain objects—the signs—in order that by mentally operating with these,

results may be obtained applying to other objects—the things signified. It is also called (McCosh) the symbolic function.

The possibility of this procedure depends upon the existence of an appropriate connection between the signs and what they signify. But the nature of the connection may vary so as to constitute different kinds of signs. We may distinguish (1) the demonstrative sign, (2) the discriminative sign, (3) the mnemonic sign, (4) the expressive sign, (5) the substitute or symbolic sign. Cf. SIGN.

(1) The demonstrative sign is the simplest and most primitive. It is used by animals as well as by men. It consists in some act by which one individual, who is interested in an object present to the senses, draws the attention of another individual to that object. The second individual attends primarily to the action of the first, and is thus indirectly led to attend to something else. Pointing with the finger is a typical illustration.

(2) The discriminative sign consists in some modification of an object or addition to it, made with the view of enabling us to identify and distinguish it in the future. Thus the robber who made a chalk-mark on Ali Baba's door used a discriminative sign. The house he desired to identify in the future was so like others in the neighbourhood that he feared it would be indistinguishable. But he was convinced that he could always distinguish a door with a chalk-mark on it from a door with no chalk-mark. He accordingly made a chalk-mark on Ali Baba's door. Morgiana destroyed its discriminative value by making similar marks on the neighbouring doors.

(3) The mnemonic sign is simply an aid to memory. *A* is so connected with *B* that when we think of *A* we shall probably or certainly think of *B*. Now, if *B* is something which we are in danger of forgetting, and if we attempt to obviate this risk by arranging so that the recall of *A* shall be practically certain at the proper moment, and thus call up the idea of *B* when we want it, we are using *A* as a mnemonic sign. Some people, for instance, tie a string round one of the fingers to prevent their forgetting something which they have to do. The assumption is that they will frequently notice the string round the finger, and be thereby reminded of the business which they wish to remember. The device may fail, either because they are oblivious of the string at the critical time, or because, when they do notice it, it fails to yield the required reminder

(4) The expressive sign is not merely, like the mnemonic, a means of calling up the idea of an object. It is a means of attending to the object while it is present to consciousness. When the mnemonic sign has reminded us of that which it signifies, it has no longer any function to discharge, and may be dismissed. But words and the gestures composing the language of natural signs are constituent factors of the very act of thinking of the objects which they signify. They are means of thinking of the object, as the handle of a box is a means of lifting it; and just as some things cannot be lifted without a handle, so some objects—concepts—cannot be thought of without words, or other expressive signs. See LANGUAGE FUNCTION, and cf. SPEECH.

(5) The substitute or symbolic sign is antithetically opposed in its nature to the expressive sign. The expressive sign is a means of attending to the object signified; the substitute sign is a means of dispensing with attention to the object signified. Thus in cribbage the relative position of the pegs in the cribbage board is substituted for the relative number of points won by the players. In solving a problem by algebraical methods, when we have once assigned suitable symbols to the several quantities, we need not in the actual process think of anything but these symbols, and the rules of operation applying to them. The equation might be solved by some one who did not know what problem it represented. It is only when the solution of the equation is obtained that the need arises to retranslate our symbols in terms of that which they signify. Working with logarithms is another example. (G.F.S.)

Sigwart, Heinrich Christoph Wilhelm. (1789–1844.) Born and brought up at Remmingsheim in Württemberg, he became Privatdocent in philosophy at Tübingen in 1813; professor extraordinary in 1816; and ordinary in 1818. He died at Stuttgart.

Similar (with **Similarity, Similitude**) [Lat. *similis*, like]: Ger. *ähnlich, gleichartig*; Fr. *semblable*; Ital. *similare*. See RESEMBLANCE.

Similar (in exact logic): having a common predicate of some considerable logical depth.

Similar whole: a whole of similar parts.

Term of similitude: a general name. (C.S.P.)

Similarity (consciousness of, law of): see LIKENESS (consciousness of, and law of), and RESEMBLANCE.

Similia similibus percipiuntur [Lat.]: see PERCEPTION, ad fin.

Simple [Lat. *simplex*, from *sim*, same, one, + *plicare*, to fold]: Ger. *einfach*; Fr. *simple*; Ital. *semplice*. Original or first in its nature; elementary; without parts or complication: opposed to COMPLEX (q. v.), COMPOUND (q. v.), and derived. (C.S.P.—J.M.B.)

Simple acceptance: the acceptance of a term to signify a nature abstracted from existence, as 'animal is the genus of man' (*Century Dict.*). (C.S.P.)

Simple agreement: the agreement of one thing with another; opposed to analogy or the agreement of many things with many. **Simple agreement** is either *essential* (which is identity in the sense of unity of essence) or *accidental*. Accidental simple agreement is either internal or external; the former being either equality or likeness, the latter co-relationship to thirds which agree.

Simple apprehension: (1) the faculty or act of apprehending without forming judgments. See APPREHENSION (2). (2) INTUITION (q. v., in philosophy).

Simple comparison (q. v.): the faculty or act by which the subject and predicate of a judgment are compared (cf. *Century Dict.*). (C.S.P.—J.M.B.)

Simple concept: a concept of which no other definite concept (at any rate, no first-intentional concept) can be predicated.

Simple consequence: (1) an inference drawn from a single premise. This was the standard form of setting forth arguments in the scholastic writings of the middle ages. The suppressed major premise was called the *consequentia*. (2) An inference drawn from a single premise, from which the conclusion follows by virtue of the meaning of the middle term.

Simple conversion (q. v.): the immediate inference from a proposition to another proposition differing from the former only by the interchange of subject-term and predicate-term.

Simple enumeration: a term of Francis Bacon's, by which he means mentioning a number of instances of *a*'s which are *b*'s, and thence concluding that every single *a* is a *b*, of which he well says: 'Inductio quæ procedit per enumerationem simplicem res puerilis est, et precario concludit, et periculo exponitur ab instantia contradictoria, et plerumque secundum pauciora quam par est, et ex his tantummodo quæ præsto sunt, pronunciat.' It is not in truth induction, but a singularly futile sort of presumption.

Simple enunciation: a proposition which is not resolvable into copulative or disjunctive parts. Thus, 'All men are all rational animals' is resolvable into 'Every man is a rational animal, and every rational animal is a man.' So 'Every man is a rational animal' is resolvable into 'Every man is rational, and every man is an animal.' But though perhaps every proposition of the form 'Every *S* is *P*' is composite, yet the form itself may be regarded as simple.

Simple interpretation. In this phrase, interpretation means the subject of Aristotle's *Peri hermeneias*, that is to say, a SYMBOL (q. v.). A simple interpretation is one which does not have (either expressed in words or in circumstances) one part to show what it denotes and another to show what it signifies; that is to say, it is a term or *rhema* (PREDICATE, q. v., 2).

Simple Mode (q. v., ad fin.): a term of Locke's (*Essay*, II. xii. 5); a variation of one simple idea.

Simple necessity: the necessity of that whose contradictory involves contradiction (Scotus, *Opus Oxon.*, IV. xii. 7).

Simple part: a part which has no parts in the sense in which it is itself a part.

Simple power: the same as pure power, or that passive power which belongs to 'first' MATTER (q. v., Aristotle's use).

Simple probation: a proof consisting of a single syllogism.

Simple proposition: *simple enunciation* (q. v. above). Yet all categorical propositions are sometimes so called.

Simple question: a question which asks either *whether* or *what* anything is, as contradistinguished from a complex question which asks of a thing whether or why it has a certain character.

Simple supposition: *simple acceptance* (q. v. above). Petrus Hispanus says: 'Accidentalium suppositionum alia simplex; alia personalis. Suppositio accidentalis simplex est acceptio termini communis pro re universali significata per ipsum terminum: ut cum dicitur, homo est species, animal est genus.' Ockham (*Logica*, I. lxiv) says: 'Est autem primo sciendum quod suppositio primo dividitur in suppositionem simplicem, personalem, et materialem. . . . Suppositio simplex est quando terminus supponit pro intentione animæ sed non tenetur significative. Verbi gratia, dicendo sic, homo est species, ille terminus homo supponit pro intentione animæ, quia illa intentio est species,

et tamen proprie loquendo ille terminus homo non significat illam intentionem; sed illa vox et illa intentio animae sunt tantum signa subordinata in significando.

Simple syllogism: a SYLLOGISM (q. v.) which cannot be resolved into several syllogisms, nor contains any composite propositions.

Simple truth: that truth which pertains to the thing itself; otherwise called 'transcendental truth.' (C.S.P.)

Simplicity (in aesthetics) [Lat. *simplex*, from *sine* + *plico*, without fold]: Ger. *Einfachheit*; Fr. *simplicité*; Ital. *semplicità*. As aesthetic quality, the restriction of the number and variety of parts in an aesthetic whole, in the interest of unity and of ease of comprehension.

It excludes not only what is superfluous or exaggerated, but even elements that might have value by adding to the richness of the unity. It represents one pole (becoming in extreme form bareness or meagreness) of aesthetically pleasing form, as variety represents the other.

Literature: KÖSTLIN, *Asthetik*, 94 f.; see also UNITY IN VARIETY. (J.H.T.)

Simplicius. Lived in the first half of the 6th century A.D. Taught by Ammonius Saccus. He himself taught at Athens, and in 529 A.D., following the edict of Justinian closing the schools of philosophy at Athens, emigrated into Persia, but returned disappointed. A Neo-Platonic thinker, and commentator on Aristotle's works.

Simulation [Lat. *simulatio*, a feigning]: Ger. *Simulation*; Fr. *simulation*; Ital. *simulazione*: (1) MAKE-BELIEVE (q. v.); see also SEMBLANCE.

(2) Conscious perception, including EQUIVOCATION (q. v.) and LIE (q. v.).

(3) In medicine: the feigning or counterfeiting of the symptoms of a disease; also called malingering.

Mental symptoms, as well as such sensory defects as colour-blindness and deafness, seem especially liable to simulation, and are often counterfeited with the object of escape from military duty, or the consequences of a crime, or again for no very obvious intent (see below). Simulation is generally detected by the overacting of the symptoms, the absence of slight accessory characteristics, and the results of special tests. Of the various insanities, mania, melancholia, and delusional insanity (paranoia) are perhaps the most susceptible to simulation, but the number of cases

of successful simulation is probably extremely small. It should be noted, however, that in many cases a true abnormal condition is present (of which, indeed, the tendency to simulate or assume the symptoms is an expression), although not the specific disease which is simulated. Cases of moral insanity, and many of the borderland cases of mental abnormality, often exhibit a tendency to assume mental disorders which are not real. In hysteria this quasi-simulation is of an allied type. Hysterical symptoms are in a literal sense real and not simulated. But, on the one hand, while they are subject to a variety of psychical influences, and thus may be said to present a form of simulation *sui generis* (see HYSTERIA), on the other hand, medical writers note that many of the symptoms exhibited in hysteria are often produced by other and true organic disturbances.

Literature: art. Simulation of Hysteria, in Tuke's Dict. of Psychol. Med.; TOMELLINI, *Delle Malattie simulate* (1877). (J.J.)

Sin (in ethics and theology) [AS. *syn*, mischievous, harm]: Ger. *Sünde*; Fr. *péché*; Ital. *peccato*. Conscious nonconformity to or transgression of an ideal standard of right or duty as revealed in conscience or the divine law, together with the tendency or disposition to such nonconformity or transgression.

Sin is to be distinguished from crime, which is a breach of civil law, and vice, which is a breach of a social requirement, the standards of which are relative. Sin can arise only in view of an ideal requirement. Therefore only God can forgive sin. In Christian theology there are the two profoundly different views of sin and its relation to the nature of man, represented by AUGUSTINIANISM (q. v.) and PELAGIANISM (q. v.); the one finding sin deeply rooted in man's nature and rendering him helpless for good, and therefore a subject of sovereign grace, the other treating it as a disturbance which does not profoundly affect man's nature or his ability to do good.

Literature: besides the works of AUGUSTINE and the Pelagians, see JULIUS MÜLLER, *Die christl. Lehre v. d. Sünde* (Eng. trans.); JONATHAN EDWARDS, *The Great Doctrine of Original Sin defended*; A. BROWN, *The Doctrine of Sin* (1881). (A.T.O.)

Sincerity [Lat. *sincerus*, from *sine*, without, + *cera*, wax]: Ger. *Aufrichtigkeit*; Fr. *sincérité*; Ital. *sincerità*. Disposition not to mislead others either positively or negatively. Sincerity is thus wider than veracity. The sincere man aims to be truthfully understood,

whether he make positive representations or not. Honesty is often used for sincerity in this sense. Cf. VERACITY, and LIE. (J.M.B.)

Sine qua non [Lat.]. Abbreviation of *conditio sine qua non*: necessary condition. See NECESSARY AND SUFFICIENT CONDITION. (J.M.B.)

Single: see INDIVIDUAL (different topics).

Singular [Lat. *singulus*, separate; translates Gr. *καθ' ἑαυτον*]: Ger. (1) *einzel*, (1, 2) *individuell*; Fr. (1) *individuel*, (1, 2) *singulier*; Ital. (1) *singolo*, (2) *singolare*. (1) Applicable, as a sign, to a single individual.

(2) In mathematics: a singular place upon a continuum is a place whose properties differ from those of all other places in the vicinity, so as to constitute in one aspect a discontinuity. (C.S.P.)

Singular or Individual (in logic). A term which, during a given discussion, is not to be treated of in separate parts is a singular or individual term.

Like many expressions in logic, the signification is not absolute, but relative to the discussion in hand. Thus 'my palette' may be, upon one occasion, an indivisible object, and upon another it may be thought of as the field for many different colours. The technical definition is this: *A* is singular or individual if for every term whatever, *x*, either no *A* is *x* or else no *A* is non-*x*; in other words, there is nothing, *x*, such that *A* can be partly *x* and partly non-*x*. A proposition containing a singular term is called a 'singular proposition.' (C.L.F.)

Singularism: Ger. *Singularismus*; Fr. *singularisme* (suggested); Ital. *singolarismo* (suggested). A term used (cf. Külpe, *Introd. to Philos.*, § 14) to characterize philosophic schools 'explaining or deducing all the phenomena of the universe from one principle'; opposed to pluralism. See MONISM. (J.D.)

Sinistrality: see DEXTRALITY.

Sinking Fund: see AMORTIZATION.

Situation (social): see SOCIAL STATUS.

Skin: see CUTANEOUS SENSATION, *passim*.

Skin Sensation: Ger. *Hautempfindung*; Fr. *sensation de la peau*, *sensation cutanée*; Ital. *sensazione cutanea*. See CUTANEOUS SENSATION, PAIN, PRESSURE SENSATION, TEMPERATURE SENSATION, TOUCH, and HAPTICS.

Slavery: see SERVITUDE.

Sleep [AS. *slæp*]: Ger. *Schlaf*; Fr. *sommeil*; Ital. *sonno*. A normally periodic suspension, more or less complete, of conscious processes, due to organic conditions. Cf. DREAM. (J.M.B.)

The depth of sleep was measured by Kohl-schütter (*Festigkeit des Schlafes*, 1862), who found that it increased rapidly for the first hour, then became rapidly lighter, and continued light until waking. Mönninghoff and Piesbergen (*Zeitsch. f. Biol.*, 1883, 114) found a similar curve, with indication of a much shallower deepening of sleep between the fifth and sixth hours. See also Howell, 'Physiology of Sleep,' *J. of Exper. Med.*, ii. 313.

The chief cause of sleep is probably the using up of the highly organized protoplasm in the cells of the brain; during sleep this loss is made good. A secondary cause is generally stated to be accumulation of waste matter (fatigue products) in the blood. Mosso caused appearances of fatigue in a rested dog by transfusing the blood of a tired dog into its veins, but he fails to tell us whether sleep was required for recovery. Yet fatigue of the central nervous system is certainly a predisposing condition. But wakefulness sometimes persists even in conditions of extreme exhaustion, and on the other hand the mere slackening of mental activity is often sufficient to induce sleep without previous fatigue. Animals almost invariably go to sleep when accustomed sensory stimuli are withdrawn. There seems to be no doubt that sleep is essentially connected with alteration in the conditions of the blood supply of the brain. (C.F.H.—J.M.B.)

Abnormalities of sleep may occur as deficiency in amount or nature of sleep (see INSOMNIA); or as excessive tendency to sleep, known as sleep disease or narcolepsy; or as specially prolonged sleep, of which several cases are on record (see TRANCE); or, again, as SOMNAMBULISM (q. v.) or active sleep; or as artificially induced sleep (see HYPNOTISM, and PSYCHIC EFFECT OF DRUGS). The abnormal mental symptoms of sleep are considered under DREAMS (q. v.). It may be noted that mental disturbances, such as attacks of epileptic or acute frenzy, have been known to occur in sleep. (J.J.)

Experiments on the effects of artificially induced loss of sleep have been made by Patrick and Gibert on man (*Psychol. Rev.*, iii. 469), in which determinations are made of the possible length of the waking period, the organic variations induced, and the mental effects (hallucinations, &c.).

Literature: besides the papers cited, see a general résumé of theories by DE MANACÉINE, *Sleep*; its Physiol., Hygiene, and Psychol. (1897); DE SANCTIS, *I Sogni* (1899); and