

seen fragmentarily in the reversal, and even the up-or-down-turning, of single letters, figures, &c., and in the writing with the left hand of many adults who write normally with the right hand. A simple test is: starting with both hands together before the body, trace one's autograph naturally with each index-finger in mid-air. In many cases of right-handed persons the left hand then inscribes mirror writing more naturally than correct writing, performing movements symmetrical with those of the right hand, rather than analogous to them; that is, moving away from the right hand rather than following it.

Mirror writing furnishes an important problem to theorists on HANDWRITING (q.v.). It is probably due in children to the incomplete association of the series of hand-movement sensations with the control series of visual sensations. In some the hand unaccustomed to writing reproduces the muscular series to which the other hand is accustomed (symmetrical accompanying movements); this is in persons who think of writing mainly in terms of the muscular sensation series. Others, who do not produce mirror writing, think on the contrary of the visual form of the words, and so reproduce that, giving a correct imitation of the other hand (analogous accompanying movements).

Literature: see HANDWRITING, GRAPHOLOGY, and Agraphia under SPEECH AND ITS DEFECTS. (J.M.B.)

Misdemeanour (in law) [OF. *mesdemener*]: Ger. *Vergehen*, *Uebelverhalten*; Fr. *délit*, and for petty offences *contravention* (*Code Penal*, 1); Ital. *contravvenzione*. A crime less than a felony; a minor offence. 'In common usage the word "crimes" is made to denote such offences as are of a deeper and more atrocious dye; while smaller faults and omissions of less consequence are comprised under the gentler name of "misdemeanours" only' (Blackstone's *Commentaries*, iv. 4). (S.E.B.)

Misology [Gr. *μισεῖν*, to hate, + *λόγος*, reason]: Ger. *Misologie*; Fr. *misologie*; Ital. *misologia*. Hatred and despair of reason. Sometimes applied to intellectual PESSIMISM (q.v.). (J.M.B.)

Missing Link: the immediate ancestor of man. See ANTHROPOID, ad fin.

Mitosis [Gr. *μῖτος*, a thread]: Ger. *Mitose*; Fr. *mitose*; Ital. *mitosi*. The indirect mode of nuclear division, to which the term karyokinesis is also applied.

The chromatin of the nucleus forms a thread, which breaks up into a number of separate

CHROMOSOMES (q.v.); these become split each into two halves, which travel to the opposite poles of the achromatic spindle (amphaster), where they become reconstituted into the two daughter nuclei. Mitosis is the ordinary mode of nuclear division, and is found, with but little variation, in the cell division of the Protozoa and Metazoa, and of plants also. Cf. CELL THEORY (also for literature), AMITOSIS, and NUCLEUS. (E.S.G.)

Mixed [Lat. *mixtum*, from *miscere*, to mix]: Ger. *vermischt*; Fr. *composé*; Ital. *misto*. (1) Mixed proof: a proof which is partly analytic, partly synthetic.

(2) Mixed mode: a mode compounded of simple ideas of several kinds, put together to make one complex one (Locke, *Essay concerning Human Understanding*, Bk. II. chap. xii. § 5). See MODE.

(3) Mixed power: a power, at once active and passive, because the principle of change is in itself. (C.S.P.)

Mixture (linguistic): Ger. *Mischung*; Fr. *mélange*; Ital. *mescolanza*, *miscela*. Applied to the results of the borrowing from one language to another of words or other speech-elements.

Languages influence each other through individuals speaking two or more languages. Words of one language are fitted into the sentence framework of another. An inflectional or formative element cannot be 'borrowed,' i.e. become a loan-element, unless enough words containing it are borrowed to fix such element as an independent existence in the consciousness of the speech-community. In bilingual communities it is noticed that the tendency is for a single sentence-mould to suffice for two languages. This tendency to use a single mould of syntax with various vocabularies has brought about the 'modernizing' of the syntax of all European languages. (B.I.W.)

Mnemonic Verses and Words (in logic). Aids to memory in logic, of the sort described under MNEMONICS (q.v.). (J.M.B.)

1. *Instrumenta novem sunt, guttur, lingua, palatum*

Quattuor et dentes, et duo labra simul.

The following mnemonic verses are contained in the *Summulae Logicales* of Petrus Hispanus, but were older, perhaps very much older.

2. 'Quae?' ca. vel hyp., 'Qualis?' ne. vel aff., u. 'Quanta?' univ. par. in. velsing. [What is the substance of a proposition? categorical or hypothetical. What is its quality? negative

or affirmative. What is its quantity? universal, particular, indefinite, or singular.]

3. Simpliciter Feci, convertitur Eū per acci, Asto per contra: sic fit conversio tota. Asserit A, negat E, sed universaliter ambae; Asserit I, negat O, sed particulariter ambo.

[E and I are converted simply; E and A, per accidens; A and O, per contrapositionem.]

4. Prae, contradic.; post, contra.; prae postque, subalter. Non omnis, quidam non; omnis non, quasi nullus; Non nullus, quidam; sed 'nullus non' valet 'omnis'; Non aliquis, nullus; 'non quidam non' valet 'omnis'; Non alter, neuter; 'neuter non' praestat 'uterque'.

[Non placed before omnis or nullus gives the contradictory proposition; placed after, the contrary; both before and after, the subalter-nate.]

5. Primus, Amābimūs; Edentūli que, secundus; Tertius, Illiāce; Pūrpūrea, reliquus. Destruit ū totum, sed ā confirmat utrumque; Destruit ē dictum, destruit i que modum. Omne necessariat; impossibile, quasi nullus; Possibile, quidam; quidam non, possibile non. E dictum negat, i que modum, nihil ā, sed ū totum.

[The first syllable of each of the four vocables Amābimūs, Edentūli, Illiāce, Pūrpūrea, is for the possible mode; the second for the contingent; the third for the impossible; the fourth for the necessary. The vowel a signifies that both mode and 'dictum' are to be taken assertorically; e, that the dictum is to be denied; i, that the mode is to be denied; u, that both mode and dictum are to be denied. Each word refers to a line or order of equipollent modal forms.]

6. Tertius est quarto semper contrarius ordo. Sit tibi linea subcontraria prima secundae. Tertius est primo contradictorius ordo. Pugnat cum quarto contradicendū secundus. Prima subest quartae vice particularis habens se. Hanc habet ad seriem se lege secunda sequentem.

[The relation of 'Sortem impossibile est currere' and 'Sortem necesse est currere' is that of contraries; they cannot be true at once. The relation 'Sortem possibile est currere' and 'Sortem possibile est non currere' is that of subcontraries; they cannot be false at once. The relation of 'Sortem possibile est currere' and 'Sortem impossibile est currere' is that of contradictories. The relation of 'Sortem possibile est non currere' and 'Sortem necesse est currere' is likewise that of contradictories. 'Sortem possibile est currere' follows from 'Sortem necesse est currere,' as does 'Sortem possibile est non currere' from 'Sortem impossibile est currere.']

7. Sub. prae. prima, secundā prae. bis, tertia sub. bis.

[The first figure contains the middle term as subject and predicate; the second, the middle as predicated twice; the third, the middle twice as subject.]

8. Bārbārā, Cēlārēnt, Dārī, Fērīō, Bārālipton, Cēlāntēs, Dābītīs, Fāpēsēmō, Frīsēsōmōrum, Cēsārē, Cāmēstrēs, Fēstīnō, Bārōkō, Dārāpti, Fēlāptōn, Dīsāmīs, Dātīsī, Bōkārđō, Fērison.

[These are original names of the syllogistic moods, which there is no sufficient reason for abandoning. The direct moods of the first figure are recognizable by their containing no sign of conversion, s, p, or k; the indirect moods (or moods of the fourth figure) by their having those signs attached either to the third vowel or to the first two. In the second figure, one of the signs s, p is attached to the first vowel, or to the second and third, or k is attached to the second. In the names of the moods of the third figure, s or p is attached to the second vowel, or to the first and third, or k to the first. There are also names for syllogisms with weakened conclusions or strengthened premises, as well as for indirect moods of the first figure considered as belonging to a fourth. But the above rules will enable a reader to identify them. Thus, Bramantip can be nothing but Baralip-ton; while Barbari is Barbara with a weakened conclusion. Camenes can be nothing but Celantes; Dimaris nothing but Dabitīs; Fesapo nothing but Fapesmo; Fresison nothing but Frisesomorum. A writer who introduces an m into the name of a mood containing an s or p only after its third vowel, or who omits m from the name of a mood

having s or p after the first and second vowels, uses the fourth figure.]

9. Simpliciter vult s, verti p verō per acci. M vult transponi, k per impossibile duci.

Servat maiorem variatque secunda minorem;

Tertia maiorem variat servatque minorem. [s, in the name of a mood, shows that the proposition denoted by the preceding vowel is, in a preferred mode of reduction, to be converted simply; p, that it is to be converted per accidens; m shows that the premises are to be transposed; k, that the preferred reduction is by reduction of the contradictory of the conclusion to an absurdity, this contradictory of the conclusion being, in the second figure, put in place of the minor premise (the major being retained), and in the third figure in the place of the major (the minor being retained).]

A great number of other memorial words and verses have been proposed by logicians.

(C.S.P.)

Mnemonics [Gr. μνημονικός, pertaining to memory]: Ger. *Mnemonik*, *Gedächtniskunst*; Fr. *mnémotechnie*; Ital. *mnemonica*, *mnemotecnica*. Mnemonics or memoria technica is the art of memory, a code of rules for remembering. The method consists usually in a framework learned mechanically, of which the mind is supposed to remain in permanent and secure possession. Then, whatever is to be remembered is deliberately associated by some fanciful analogy or connection with some part of this framework, and this connection thenceforward helps its recall (James, *Princ. of Psychol.*, i. 668).

(E.B.T.)

Mob [abb. of Lat. *mobilis*, mobile]: Ger. *Pöbel*; Fr. *populace*, *foule*; Ital. *plebaglia*. See *Crowd*. A 'rabble,' the most disreputable sort of mob, is designated in Ger. by *Gesinde*, in Fr. by *canaille*, and in Ital. by *marzaglia*.

(J.M.B., E.M.)

Mobility [Lat. *mobilis*]: Ger. *Beweglichkeit*; Fr. *mobilité*; Ital. *mobilità*. That property of matter by virtue of which it may change its position in space unless impeded by other matter.

(S.N.)

Modalism (in theology) [Lat. *modus*, manner]: Ger. *Modalismus*; Fr. *modalisme*; Ital. *modalismo*. The doctrine that the divine nature is unitary in both substance and personality, and that Father, Son, and Holy Spirit represent simply three different modes of temporal manifestation. See *SABELLIANISM*.

(A.T.O.)

Modality [Lat. *modus*; see *MODE*]: Ger. *Modalität*; Fr. *modalité*; Ital. *modalità*. There is no agreement among logicians as to what modality consists in; but it is the logical qualification of a proposition or its copula, or the corresponding qualification of a fact or its form, in the ways expressed by the modes *possibile*, *impossibile*, *contingens*, *necessarium*.

Any qualification of a predication is a mode; and Hamilton says (*Lects. on Logic*, xiv) that 'all logicians' call any proposition affected by a mode a modal proposition. This, however, is going much too far; for not only has the term usually been restricted in practice, from the age of Abelard, when it first appeared, until now, to propositions qualified by the four modes 'possible,' 'impossible,' 'necessary,' and 'contingent,' with only occasional extension to any others, but positive testimonies to that effect might be cited in abundance.

The simplest account of modality is the scholastic, according to which the necessary (or impossible) proposition is a sort of universal proposition; the possible (or contingent, in the sense of not necessary) proposition, a sort of particular proposition. That is, to assert 'A must be true' is to assert not only that A is true, but that all propositions analogous to A are true; and to assert 'A may be true' is to assert only that some proposition analogous to A is true. If it be asked what is here meant by analogous propositions, the answer is—all those of a certain class which the conveniences of reasoning establish. Or we may say the propositions analogous to A are all those propositions which in some conceivable state of ignorance would be indistinguishable from A. Error is to be put out of the question; only ignorance is to be considered. This ignorance will consist in its subject being unable to reject certain potentially hypothetical states of the universe, each absolutely determinate in every respect, but all of which are, in fact, false. The aggregate of these unrejected falsities constitute the 'range of possibility,' or better, 'of ignorance.' Were there no ignorance, this aggregate would be reduced to zero. The state of knowledge supposed is, in necessary propositions, usually fictitious, in possible propositions more often the actual state of the speaker. The necessary proposition asserts that, in the assumed state of knowledge, there is no case in the whole range of ignorance in which the proposition is false. In this sense it may be said that an impossibility underlies