

This characteristic is regarded as significant zoologically in the evolution of the higher animals, and ethnologically in the differentiation of races. It is measured either by the FACIAL ANGLE (q.v.), or by the subnasal facial, gnathic, or alveolar index (Flower), which is the ratio of the length from the basion to the alveolar point, to the length from the basion to the subnasal point or nasion (lines BA and BN in the figure under CRANIOLOGY). When this index is below 98, the skull is orthognathous; when between 98 and 103, mesognathous; when above 103, prognathous. The figures illustrate the difference in appearance of prognathous and orthognathous skulls. (J.J.)

Prognosis and Prognostication: see PROPHECY, and MAGIC.

Progress [Lat. *progressus*, advance]: Ger. *Fortschritt*; Fr. *progrès*; Ital. *progresso*. Used loosely for any sort of continuous change towards a terminus, end, or ideal. It is opposed to regress, or change in a reverse direction (also loosely used). See the following topics. (J.M.B.)

Progress (economic). Increased command over the forces of nature for purposes of production, combined, as it generally is, with increased intelligence in utilizing the product for purposes of consumption.

Before the time of Malthus, increase in population would have been regarded as the clearest criterion of progress. After Malthus, population is relegated to the background as compared with production; for instance, in Mill's well-known treatment of the subject. The definition given is based on Bagehot's *Physics and Politics*.

The criterion accepted by most writers of the younger generation to determine whether an economic change did or did not represent progress, would be its effect on the survival of the community which adopted it, in the struggle for existence. (A.T.H.)

Progress (moral and social): see MORAL PROGRESS, and SOCIAL EVOLUTION AND PROGRESS.

Progressive: Ger. *progressiv*, *fortschreitend*; Fr. *progressif*; Ital. *progressivo*. (1) In medicine: progressive with regard to a disease indicates a gradual sequence of development, often with a predictable order of symptoms.

It serves, along with the words acute and chronic, to indicate types of onset and development of various diseases. Progressive paralysis (also termed general PARALYSIS, q.v., in the insane) is a well-recognized clinical form of

insanity in which sequences of stages of increasing debility and dementia occur. Progressive muscular atrophy is a gradual wasting of muscular tissue, beginning in certain muscle groups and extending in a more or less definite order to others. (J.J.)

(2) In logic: proceeding through a linear series in the natural order. Opposed to regressive, or proceeding in a reverse order.

Progressive method: the method which proceeds from generals to particulars.

Progressive sorites: a SORITES (q.v.) in which the premises are so arranged as to proceed from what is regarded as whole to what is regarded as part. See Hamilton, *Lect. on Logic*, xix. (O.S.P.)

Project [Lat. *proicere*, to throw forward]: Ger. *Projekt* (Sigwart); Fr. *projet*; Ital. *progetto*. (1) A possible course of action conceived simply, but not decided upon.

This follows the usage of Sigwart and Höfler (*Psychologie*, 518, 562), who make *Projekt* 'ein bloss vorgestelltes Willensziel.'

(2) That which is 'projected' in the second sense given under PROJECTION. (J.M.B.)

Projection: Ger. *Projektion*; Fr. *projection*; Ital. *proiezione*. (1) The spatial objectivation of objects in sense perception. See LOCALIZATION (in space).

This usage is vague and descriptive, varying from the mere recognition of a spatial datum to the hypothesis of the spatial projection of states at first purely 'inner' and unspatial. It is also complicated with the hypothesis (Leconte, for vision) that nervous PROJECTION (q.v.), to the periphery, sometimes extends out in lines at right angles to the sensitive surface.

(2) A stage in the genetic construction of objects antecedent to the conscious antithesis between subject and object. This meaning, suggested by Baldwin (*Ment. Devel. in the Child and the Race*, and *Social and Eth. Interpret.*), applies especially to the material of the consciousness of self. The project is considered in contrast with SUBJECT (q.v.) and EJECT (q.v.)—the latter terms designating later phases in the genetic process.

Literature to (1): JAMES, *Princ. of Psychol.*, ii. 31 (with numerous references); many citations in EISLER, *Wörterb. d. philos. Begriffe*, sub verbo (where projection is made equivalent to spatial localization). (J.M.B.—G.F.S.)

Projection (nervous, or 'eccentric'). (1) The property of the nervous system whereby

stimulations are referred to the periphery of the body or to the end-organs. Cf. LOCALIZATION.

There is considerable scepticism as to whether this is an original property of the nervous system. It is undoubtedly developed by experience, but may probably be considered as in some way having a rudiment in the nerve structure. (J.M.B.—G.F.S.)

(2) Projection system: see RADIATION.

Prolepsis [Gr. *προληψις*, anticipation; Lat. *anticipatio*]. A term of the Stoic philosophy denoting a concept derived immediately from perception. It was variously interpreted by ancient and mediaeval writers. Cf. Eisler, *Wörterb. d. philos. Begriffe*, 'Prolepsis.' (J.M.B.)

Proliferation (neural) [Lat. *proles*, offspring, + *ferre*, to bear]: Ger. *Zellvermehrung*, *Proliferation*; Fr. *prolifération*; Ital. *proliferazione*. The multiplication of nerve-cells by division of the pre-existing cells.

In an early embryonic stage such multiplication is very rapid, and is accompanied by mitosis. In these stages it plays a very important part in the formation of the peripheral nerves and their ganglia. Cf. CONCATENATION and the works there cited. Migratory neuroblasts form proliferating centres in various regions cut off from the ventricular epithelium. Recent writers (Herrick, Turner, Ayers) claim to find centres of permanent proliferation in older stages. The process is then apparently amitotic.

Literature: C. L. HERRICK, Notes on the Brain of the Alligator, *J. Cincinnati Soc. Nat. Hist.*, xii (1890); Contributions to the Comparative Morphology of the Central Nervous System, *J. of Compar. Neurol.*, i. (1891) 21; C. H. TURNER, Morphology of the Avian Brain, *J. of Compar. Neurol.*, i (1891); H. AYERS, The Origin and Growth of Brain-cells in the Adult Body, *J. of Compar. Neurol.*, vi (1896); W. HIS, Die Neuroblasten, &c., *Abhandl. d. math.-phys. Cl. d. k. sächs. Gesell. d. Wiss.*, Leipzig, xv. 313-72 (1889), and *Verhandl. d. 10. int. med. Congr.*, Berlin, ii (1890); C. S. MINOT, Human Embryol. (1892), and Merkel and Bonnet's *Ergebnisse*, vi (for 1896) (1897); S. PATON, in *Contrib. to the Sci. of Med.*, dedicated to Wm. Henry Welch (1900); A. SCHAPER, Die frühesten Differenzierungsvorgänge im Centralnervensystem, *Arch. f. Entwicklungsmech.*, v (1897). (H.H.)

Proof [Lat. *probare*, to prove, through Fr.; it translates Lat. *probatio*]: Ger. *Probe*; Fr. *preuve*; Ital. *prova*. An argument which

suffices to remove all real doubt from a mind that apprehends it.

It is either mathematical demonstration; a probable deduction of so high probability that no real doubt remains; or an inductive, i.e. experimental, proof. No presumption can amount to proof. Upon the nature of proof see Lange, *Logische Studien*, who maintains that deductive proof must be mathematical; that is, must depend upon observation of diagrammatic images or schemata. Mathematical proof is probably accomplished by appeal to experiment upon images or other signs, just as inductive proof appeals to outward experiment. (O.S.P.)

The entire psychological machinery of REASONING (q.v.) is the instrument of proof. The verb prove means to produce adequate proof, which may be either 'direct' or 'indirect,' according as the proof process consists or not of the direct application of a rule or statement to a particular case coming under it.

Literature: LANGE, as cited; VENN, *Empirical Logic*; JEVONS, *Princ. of Sci.*; systematic works on logic. See BIBLIOG. C, 1, b, and 2, j. (J.M.B.)

Propensity and Propension [Lat. *pro* + *pendere*, to hang]: Ger. *Neigung*, *Hang*; Fr. *propension*; Ital. *propensione*. A term used loosely for any sort of more permanent active TENDENCY (q.v.).

Martineau (*Types of Ethical Theory*, ii. chap. v) uses propensions to designate the 'primary springs of action,' i.e. 'organic appetites and animal spontaneity.' James discusses the 'religious propensities' in *Varieties of Religious Experience* (*Gifford Lectures*, 1901).

In view of the meanings given (q.v.) to DISPOSITION, PREDISPOSITION, TENDENCY, IMPULSE, APPETITE, this general usage seems best. (J.M.B., G.F.S.)

Proper (1) and (2) **Propriety** [Lat. *proprius*, one's own]: Ger. (1) *passend*, *angemessen*, (2) *Angemessenheit*, *Anstand*; Fr. (1) *convenable*, (2) *convenances* (pl.); Ital. (1) *conveniente*, (2) *convenienza*. (1) Fit. See FITNESS (various meanings).

(2) Ethical and social FITNESS (q.v.); but especially restricted to the social, meaning strict conformity to social convention, custom, and expectation. (J.M.B.)

Property [Lat. *proprium*, one's own, belonging to; trans. of Gr. *ἐξῆς*, a technical term of the Stoics, also of Gr. *ἰδιον*]: Ger. *Eigenschaft*; Fr. *propriété*; Ital. *proprietà*, *qualità*. (1) One of the logical PREDICABLES