

familiar with Cartesianism. Became acquainted, later, with Spinoza. Journeyed to England, to Italy, to Vienna, and for a second time to France, where he became member of the Academy. After 1695 he lived at his castle, ground lenses, made chemical experiments, and died deeply regretted by Leibnitz.

Tucker, Abraham. (1705-74.) Born in London, and educated at Merton College, Oxford. He entered the Inner Temple, but retired to private life at Betchworth, where he died.

Twofold Truth (doctrine of the): see SCHOLASTICISM, II (1).

Tychism [Gr. *τύχη*, chance]: not in use in the other languages. A term introduced by C. S. Peirce to denote the theories which give to chance an objective existence in the universe, instead of regarding it as due to our lack of knowledge; a theory which gives both chance and necessity share in the process of evolution.

'The mere proposition that absolute chance . . . is operative in the cosmos may receive the name of Tychism.' Evolution by fortuitous variation he calls tychasm, and the theory that regards this as of principal importance tychasticism (*Monist*, iii. 188). The term appears to be first used (*ibid.* ii. 533) as follows: 'I endeavoured to show what ideas ought to form the warp of a system of philosophy, and particularly emphasized that of absolute chance. In the number for April, 1892, I argued further in favour of that way of thinking, which it will be convenient to christen *tychism* (from *τύχη*, chance).' (J.D.)

Type (in biology) [Gr. *τύπος*, a print, impression]: Ger. *Typus*; Fr. *type*; Ital. *tipo*. (1) The central form about which the VARIATIONS (q. v.) centre.

(2) In systematic botany and zoology: the individual specimen upon which the first description of a species is based.

The modern idea of type is essentially statistical. It was first established by Quetelet (*Anthropométrie*) and has been greatly developed by Francis Galton. For a discussion of the statistical type as applied to species see C. B. Davenport, in *Science*, vii. 685, and xiv. 315; also *Statistical Methods* (1900). (C.S.M.)

The older philosophical conception of type, which meaning (1) above puts into mathematical form, is that of a perfect or universal example or *idéa*, to which particular instances more or less fully approximate. This existed either as a pattern in the creator's mind or as an immanent teleological principle. Agassiz,

among naturalists, made the type a 'divine thought.' Cf. ARCHETYPE (with citations).

Literature: PLATO, *Rep.*, 379, 380 c, 388 b; ARISTOTLE, *De An.*, II. i. 413 a 9. (J.M.B.)

Type and **Typical** (in aesthetics). A concrete embodiment or exemplification of a characteristic quality.

Usually, the embodiment of a quality conceived to be characteristic of a species or group; hence, the ideal representative of a species or group. So the Greek gods as represented in sculpture were types of the various qualities characteristic of the Greek ideal world of intelligence and order.

The formation of a type by an artist (or people) may take any one of three methods: (1) the accidental may be neglected and only the central emphasized; or (2) this may be pushed further and the complex reduced to the simple, as a character in literature may be simply avarice personified; or (3) a certain average or normal example may be sought, as if to portray what nature seems to be aiming at in the species in question. See IDEAL, and IDEALIZATION.

Literature: VOLKELT, *Aesth. Zeitfragen* (1895), 134 ff.; BROWN, *Fine Arts* (1891), 54-70; SANTAYANA, *Sense of Beauty* (1896), 112-63; HERCKENRATH, *Problèmes d'Esthétique et de Morale* (1898), 1-66. (J.H.T.)

Type (and **Typology**) (in theology). An object in the Old Testament dispensation which symbolized or prefigured something in the Christian dispensation; the former is called also the 'prototype' of the latter.

Typology is the system of such symbols and prefigurations as are found in the Old Testament. The Paschal Lamb, for example, symbolizes the sacrifice of Christ in the new dispensation, and more specifically the Sacrament of the Eucharist, which has taken its place.

Literature: HILLER, *Neues Syst. alter Vorbilder* (1858); HOFMANN, *Wahrsagung und Erfahrung* (1841); ED. BÖHMER, *Die Offenbarung* (1855). (A.T.O.)

Types (mental): Ger. (*Gemüths- &c.*) *Typen*, *geistige Eigenarten*; Fr. *types mentaux*; Ital. *tipi mentali*. A term employed in VARIATIONAL PSYCHOLOGY (q. v.) to designate certain well-marked differences of mental constitution, or certain modes of mental functioning, which characterize groups of individuals. The characters are thus 'typical' rather than 'individual.' (E.N.T.-J.M.B.)

Thus we speak of the adolescent type, the criminal type, the South German type, &c.