

logy upon biology has raised the question of the relation of the facts of transmission in the two provinces respectively to each other. It is now seen, however, that the transmission of social material is by psychological processes, such as IMITATION (q. v.), &c., and that this differs essentially from that of biological heredity (cf. GALTON'S LAW, of ancestral inheritance, and REGRESSION).

Literature: WEISMANN, *Germ-Plasm*, and *Studies in Heredity*; recent expositions of EVOLUTION (q. v.). The literature of ORGANIC SELECTION, e.g., LL. MORGAN, *Habit and Instinct*; BALDWIN, *Development and Evolution* (1902); in both of which the relation of the two forms of transmission to each other is discussed. (J.M.B., E.B.P., C.L.L.M.)

Transmission (in neurology): see CONDUCTION under NERVE STIMULATION AND CONDUCTION.

Transmission (in theology and philology). Handing down by oral TRADITION (q. v.) as contrasted with written records. (J.M.B.)

Transposition (in logic) [Lat. *trans + ponere*, to place]: Ger. *Hinüberschaffen*; Fr. *transposition*; Ital. *trasposizione*. Transposition consists in transferring a term from the subject to the predicate, or the reverse, with no change in the character of the connection; as, *No artists who are bankers are clever*, *No artists are clever bankers*, *No bankers are clever artists*, *None are at once artists and bankers and clever*; or as *All but a is b*, *All but b is a*. Any proposition may be 'transformed' into other exactly equivalent forms; e.g. the transformation may consist in the change from one sort of connection to another (change of copula, in the extended meaning of that term), as—to take a compound proposition as an example—*It never rains but it pours = always either it pours or it does not rain*, but this is not transposition.

Certain copulas permit transposition simply, with no variation in the quality of the term transposed (as in the instances just given); but with the non-symmetrical copulas (see PROPOSITION) there must be a change from positive to negative or the reverse (and, if the proposition is complex, from the conjunctive to the alternative combination and the reverse), if the change can be made at all: He who is an astronomer and un-devout is mad = Any astronomer is mad or devout = All are mad or devout or not astronomers. When both the whole subject and the whole predicate is transposed the change is commonly called contraposition if the copula is non-

symmetrical (*All a is b = All non-b is non-a*; *None but a is b = None but non-b is non-a*), but simple conversion if it is symmetrical (*No a is b = No b is a*, *Some a is b = Some b is a*). The usual discussion in the logics of the doctrine of the equivalence of propositions is greatly simplified by taking this more general view of the subject (see PROPOSITION).

(C.L.F., C.S.P.)
Trans-subjective (the): Ger. (*das*) *Trans-subjektive* (Volkelt); Fr. (*le*) *transsubjectif*; Ital. (*il*) *transsubiettivo*. The objective considered as having reality independent of its apprehension by a subject.

It is used, however, in connection with knowledge, which is said to have a trans-subjective reference, or to demand a 'realm of the trans-subjective.' As used by Volkelt (*Erfahrung u. Denken*, 42), all is trans-subjective 'was ausserhalb meines eigenen Bewusstseins Vorgänge geben mag' (quoted by Eisler). (J.M.B.)

Transubstantiation [Lat. *transubstantiatio*, from *transubstantiare*, to change into another]: Ger. *Transubstantiation*; Fr. *transubstantiation*; Ital. *transustanziazione*. In Catholic theology, the change of the elements in the Sacrament of the Eucharist, through the act of consecration, into the real body and blood of Christ.

It is to be distinguished from consubstantiation, the doctrine of the coexistence of Christ's body and blood with the elements which remain unchanged; from the doctrine of impanation or subpanation, that the body and blood are in or under the elements; also from all theories of the spiritual presence merely, i. e. as not involving the actual conversion of the elements. The doctrine, first broached by some of the Greek Fathers, was a question of debate during the middle ages, although held by the principal schoolmen. It was formally confirmed by the Lateran Council, 1225, the Council of Trent, 1551, and has since that time been the authoritative belief of the Roman Catholic Church.

Literature: WISEMAN, *Lects. on the Holy Eucharist*. (A.T.O.)

Traumatism [Gr. *τραῦμα*, a wound]: Ger. *Traumatismus*; Fr. *traumatisme*; Ital. *traumatismo*. A diseased condition produced by a wound, or by external violence. (C.F.H.)

Traumatrope: see ILLUSIONS OF MOTION AND MOVEMENT (1).

Treason: see HIGH TREASON.

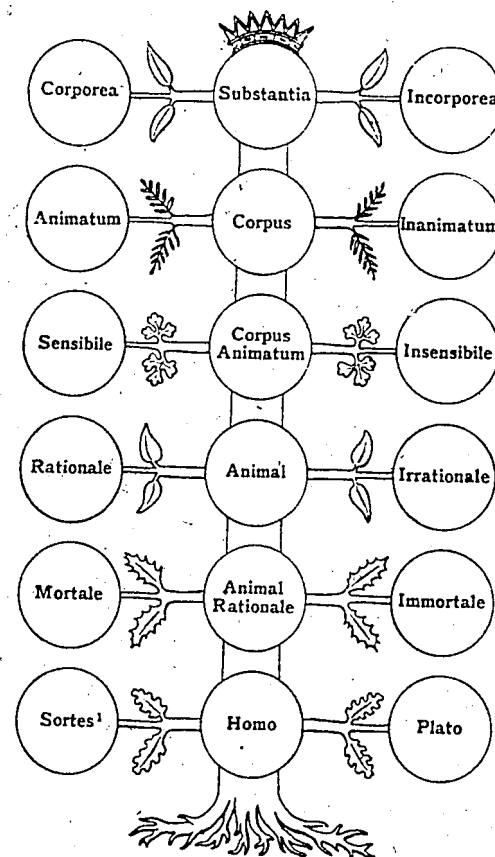
Tree of Porphyry: Ger. *Baum des Por-*

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TREE OF STRUCTURE — TRIBAL SELF

phyrius; Fr. *arbre de Porphyre*; Ital. *scala ternaria di Porferio* (E.M.). The name given to the figure of a tree which appears in all the old logics.

It is supposed to illustrate the second chapter of the Isagoge of Porphyry, showing the genera on the trunk of the tree, and the specific differences on the branches, with substance at the top; cf. the figure for an outline.



It is also sometimes called and figured as a ladder, κλίμαξ, *scala praedicamentalis*, *Jacob's-leiter*, &c. (C.S.P.)

¹ 'Sortes' is the name universally employed in mediaeval logics as the example of an individual. It grew, no doubt, from an abbreviated spelling of Socrates. But it was pronounced as well as spelled Sortes, and had no connection, in the minds of those who disputed about logic, with the historical Socrates. Indeed, for generations, during the time in which it was in use, only the very learned knew anything about Socrates. One gloss, attributed to the famous Scotus Erigena, in explaining a statement that Socrates was killed by hellebore, narrates, for the information of those less erudite, that Socrates and Hellebore were two Greek philosophers, who became so warm in a logical dispute that the former fell a victim to the fury of the latter.

Tree Structure: see DENDRITE.

Tremor [Lat. *tremor*, a shaking]: Ger. *Tremor*, *Zittern*; Fr. *tremblement*; Ital. *tremore*. A continuous spasm of limited range.

Tremor may be physiological, as in shivering and chattering from cold, or the trembling from fear, and hardly passes the bounds of the normal in the ordinary tremors accompanying old age. In tremor of mental origin there seems to be a loss of the controlling power of the motor centres; and many abnormal tremors regularly become more marked under excitement, embarrassment, fear, and other mental disturbances. Tremors are usually symptomatic of abnormal nervous conditions; and as such the precise variety and progress of the tremor become of considerable diagnostic value. Tremors are characteristic of the effects of poisons, such as alcohol, mercury, lead, opium, &c. (see ALCOHOLISM). In paralysis agitans (see PARALYSIS) the tremor is most significant, and its changes mark the stages of the disease; in CHOREA, in general PARALYSIS, in HYSTERIA, &c., tremors are also important diagnostic symptoms (cf. these terms, and also MOVEMENT, disorders of). (J.J.)

Trendelenburg, Friedrich Adolf. (1802-72.) Born at Eutin, he studied philology and philosophy at Kiel, Leipzig, and Berlin. Private tutor in the family of Postmaster-General von Nagler, 1826-33; professor extraordinary at Berlin, 1833; professor ordinary there, 1837; member (1846) of the Berlin Academy and secretary (1847-72) of the 'historico-philosophical' section. He was made Knight of the Order of Merit on the day of his death.

Trephine [Gr. *τρύπανον*, an auger, a borer]: Ger. *kleiner Schädelbohrer*; Fr. *tréphine*; Ital. *trapano*. (1) A cylindrical hand-saw, generally provided with removable centre-pin, for removing a circular disk or button from the skull.

(2) Verb: to open the skull with a trephine. (C.F.H.)

Triad [Gr. *τριάς*, the number three]: Ger. *Dreiklang*; Fr. *accord (de trois sons)*, *accord parfait* (c, e, g); Ital. *trio*. A chord of three tones, simple or compound.

The major triad c-e-g (major third + minor third) and the minor triad c-e-b-g (minor third + major third) are the bases of all other major and minor chords respectively.

Literature: HELMHOLTZ, *Sensations of Tone* (Eng. trans.), 212. (E.B.T.)

Tribal Self: Ger. *Stammes- (Volks-)seele*,

TRIBE — TRIUNE GOD

Gesamtpersönlichkeit (Wundt); Fr. *conscience sociale, moi tribal*; Ital. *io tribale* (or *soziale*). The psychological factors involved in the organization of a social group (tribe), when conceived, after analogy with the individual's mental organization, in the form of a personal self.

The conception is often vague, and stands upon much the same plane as that of GENERAL (or Social) WILL (q.v.). (J.M.B., F.H.G.)

Tribe [Lat. *tribus*, a third part]: Ger. *Stamm*; Fr. *tribu*; Ital. *tribù*. (1) One of the three divisions of the Roman people recognized at the beginning of their recorded history.

(2) An organized group or band of persons, usually compound, the component groups being allied hordes or related clans, and all speaking a common language or dialect.

A tribe is essentially a military organization, and usually has a military council and a chief. It should not be confounded with a CLAN (q.v.), which is essentially a juridical organization.

The word tribe has equivalents in all languages except those of the lowest hordes, and tribes have been loosely described in all ancient and mediaeval literatures; but the scientific description and definition (2) were first made by Lewis H. Morgan, *The League of the Iroquois* (1849), *Systems of Consanguinity and Affinity* (1871), and *Ancient Society* (1877). (F.H.G.)

Tribunal (legal): see COURT.

Trichotomy (in theology) [Gr. *τρίχα*, in three, + *ταίειν*, to divide]: Ger. *Dreitheilung*; Fr. *trichotomie*; Ital. *tricotomia*. The threefold distinction of the nature of man into body (soma), soul (psyche), and spirit (pneuma).

This view has its germ in the New Testament, in such passages as 1 Thess. v. 23. It was advocated by Origen and opposed by Augustine and Tertullian, who held the dichotomic view. The distinction has survived to the present day, the trichotomic doctrine finding its principal exponents among German theologians, while its chief opponents are found among English divines.

Literature: DELITZSCH and PECK, *Bib. Psychol.*; J. B. HEARD, *The Tripartite Nature of Man* (1870); the literature of PSYCHOLOGY (biblical). (A.T.O.)

Trilemma [Gr. *τρεῖς*, three, + *λήμμα*, something taken]: Ger. *Trilemma*; Fr. *trilemme*; Ital. *trilemma*. A SYLLOGISM (q.v.) with three conditional propositions, the major pre-

mises of which are disjunctively affirmed in the minor (*Cent. Dict.*). Cf. DILEMMA. (C.S.P.)

Trinitarianism [Lat. *trinitas*, from *trinus*, threefold]: Ger. *Dreieinigkeitslehre*; Fr. *trinitarisme*; Ital. *trinitarianismo*. That doctrine of the divine nature which represents the Godhead as combining tripersonality with unity of individual substance and being.

The Trinitarian conception, which received its first authoritative statement in the Athanasian Creed, has its germ in the New Testament, which ascribes divine functions to Father, Son, and Spirit. The necessity arose of reconciling this plurality with the essential unity of the Godhead so as to avoid polytheism. The fierce controversy between Arians and Trinitarians ended in the triumph of the latter and the adoption of the Trinity as the central dogma of the Christian faith, a position which it has historically maintained.

Literature: LIDDERER, *Christl. Dogmatik* (1849); BAUER, *Die christl. Lehre v. d. Dreieinigkeit*; SHEDD, *Defence of Nicene Creed*; HODGE, *Hist. of Christ. Doctrine*; O. OSTERZEE, *Christ. Dogmatics* (1841-3); DORNER, *Syst. of Christ. Belief*. (A.T.O.)

Trinity: Ger. *Dreieinigkeit*; Fr. *Trinité*; Ital. *Trinità*. The Deity as represented in Nicene theology, including three personalities, Father, Son, and Holy Spirit, in one essentially unitary substance. The doctrine is often called that of 'tripersonality.'

For discussion and literature see TRINITARIANISM, ARIANISM, and ATHANASIAN CREED. (A.T.O.)

Tripersonality: see TRINITY.

Tritheism (in theology) [Gr. *τρεῖς*, three, + *θεός*, God]: Ger. *Tritheismus*; Fr. *trithéisme*; Ital. *treteismo*. A conception of the TRINITY (q.v.), which virtually represented the Father, Son, and Spirit as three distinct individuals, predicated distinction of substance as well as of personal manifestation.

This view arose as a polytheistic reaction against extreme monotheistic tendencies. It originated in Alexandria in the 6th century, and was championed by Philoponeus, Conon of Tarsus, Eugenius of Seleucia, and others. Later the party appeared in Constantinople, where a disputation was held between its representatives and the Patriarch John. The tendency has practically disappeared from later Christian thought.

Literature: see TRINITARIANISM. (A.T.O.)

Triune God [Lat. *tres*, three, + *unus*, one: three in one]: Ger. *der dreieinige Gott*; Fr. *le Dieu en trois personnes*; Ital. *Dio uno*