

nominalists, this rather favours the satisfactoriness of the definition than otherwise. It may be objected that it is unintelligible; but in the sense in which this is true, it is a merit, since an individual is unintelligible in that sense. It is a brute fact that the moon exists, and all explanations suppose the existence of that same matter. That existence is unintelligible in the sense in which the definition is so. That is to say, a reaction may be experienced, but it cannot be conceived in its character of a reaction; for that element evaporates from every general idea. According to this definition, that which alone immediately presents itself as an individual is a reaction against the will. But everything whose identity consists in a continuity of reactions will be a single logical individual. Thus any portion of space, so far as it can be regarded as reacting, is for logic a single individual; its spatial extension is no objection. With this definition there is no difficulty about the truth that whatever exists is individual, since existence (not reality) and individuality are essentially the same thing; and whatever fulfils the present definition equally fulfils the former definition by virtue of the principles of contradiction and excluded middle, regarded as mere definitions of the relation expressed by 'not.' As for the principle of indiscernibles, if two individual things are exactly alike in all other respects, they must, according to this definition, differ in their spatial relations, since space is nothing but the intuitional presentation of the conditions of reaction, or of some of them. But there will be no logical hindrance to two things being exactly alike in all other respects; and if they are never so, that is a physical law, not a necessity of logic. This second definition, therefore, seems to be the preferable one. Cf. PARTICULAR (in logic). (C.S.P.)

**Individual (social).** (1) A single human being. (2) Hence, by development of the ideas of separateness and completeness, a human being in a marked degree differentiated from others: a centre of social influences.

The history of the concept individual is important both in psychology and in sociology. The individual has been conceived as independent of and antecedent to society, as correlative with society, and as dependent on and created by society. All of these conceptions are presented in Aristotle's *Politics*, where the distinctions are made that in genesis individual and society are inseparable, that in will and

conduct the individual is independent or free, while in moral perfection he is created by the state. The political philosophy of Hobbes' *De Corpore Politico* assumes the antecedent completeness and sufficiency of the individual. Modern psychology and sociology demonstrate the interdependence of individual and society (cf. Baldwin, *Social and Eth. Interpret.*). See also INDIVIDUALISM. (F.H.G.)

**Individual Psychology:** Ger. *Individualpsychologie*; Fr. *psychologie individuelle*; Ital. *psicologia individuale*. That department of psychology which investigates the psychological individual considered as different from others, i.e. having for its subject-matter psychological variations among individuals.

Particular questions on which work has been done are: (1) the psychology of TEMPERAMENT (q.v.); (2) of mental TYPE (q.v.); (3) of mental differences of the sexes (see SEXUAL CHARACTERS); (4) of GENIUS (q.v.); (5) of mental DEFECT (q.v., also special types of defect); (6) of the CRIMINAL (q.v., also CRIMINOLOGY); (7) of classes, professions, &c., considered as based upon individual differences. Cf. VARIATIONAL PSYCHOLOGY.

**Literature:** BIBLIOG. G, I, e; lists, sub verbo, in the Psychological Index, I ff.; BINET and HENRI, *Année Psychol.*, ii. (1896) 411 (a résumé and exposition); DILTHEY, *Sitzber. Akad. Wiss. Berlin* (1896), 295. (J.M.B., G.F.S.)

**Individual Selection:** Ger. *Personalselektion* (Weismann); Fr. *sélection entre individus* (Y.D.), *sélection individuelle* (better than *personnelle*—J. A. Thomson); Ital. *selezione individuale*. The survival of the individual organism or animal under the operation of NATURAL SELECTION (q.v.), as distinguished from the survival of parts, cells, germinal elements, &c. (cf. INTRASELECTION), which are supposed to be selected by an analogous method.

This rendering of Weismann's Personal-selektion for the original Darwinian view of the survival of the individual—for which, moreover, it was earlier used—is better than the literal translation 'personal selection.' Personal selection suggests 'conscious selection' by a person, and it is better to reserve it for that. See SELECTION. (J.M.B., C.L.L.M.)

**Individualism:** Ger. *Individualismus*; Fr. *individualisme*; Ital. *individualismo*. (1) Exclusive or excessive regard for self-interest.

(2) The doctrine that the pursuit of self-interest and the exercise of individual initiative should be little or not at all restrained

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Decrees, &c. (1874), also Vaticanism (London, 1875); DÖLLINGER, Über die Unfehlbarkeits-adresse (1870); REINKENS, Über päpstliche Unfehlbarkeit (1870); GUERANGER, De la Monarchie Pontificale (1870).

**Infancy** [Lat. *infans*, infant]: Ger. (1) *Kindheit*; Fr. (1) *enfance*; Ital. (1) *infanzia*. The period of immaturity during which the individual is dependent on parental care; it extends (1) from birth to the period of self-support (in a biological sense); and (2) to maturity or self-support (in a social, legal, and economic sense).

(1) The origin and meaning of infancy is an important biological problem. From the point of view of evolution, especial significance attaches to this period. It is thought to have arisen correlatively with the parental instincts in the animal world, and to have direct relation to the GESTATION (q. v.) period; indeed the term infancy is sometimes used to cover both periods, a division being made between the intra-uterine (gestation or prenatal) period and the extra-uterine (post-natal) period. The relation of these periods is somewhat thus: a relatively short prenatal period is correlated with swift embryonic development in creatures which are born equipped for immediate or very early independent self-support. The extreme case is found in those insects which are born practically adult or fully developed. On the other hand, a relatively long post-natal infancy goes with relatively long and slow embryonic development, relative immaturity at birth, and relatively complex nutritive and protective adaptations for the young after birth. The significance of this is that by this arrangement higher endowments, involving plasticity, intelligence, complex social relationships, &c., are made possible; for the young, not having to begin immediately at birth to take care of themselves, need not have the fixed instinctive and reflex nervous and other special adaptations, but may have the general capacity for learning by slow accommodation to a varied set of conditions, while nourished and protected by their parents. The infancy period, therefore, adds directly to the resources of the species for the production of individuals of a higher order. With this goes the evolution of the brain in quality and complexity in the grey matter, with its convolutions and differentiations of function. Stated in terms of heredity, the meaning of it seems to be that by having an infancy period the individual may inherit less and

acquire more—have less fixity and more EDUCABILITY (q. v.).

(2) See INFANT (in law).

*Literature*: FISKE, Cosmic Philos.; MILNES-MARSHALL, Biol. Lectures, xiii; BALDWIN, Ment. Devel. in the Child and the Race (from the psychological point of view). (J.M.B.—C.L.L.M.)

**Infant** (in law): Ger. *Unmündiger*; Fr. *mineur*; Ital. *minore*, *minorenne*. One not of full age.

Full age in the United States and England is twenty-one years. Infants cannot bind themselves by contract, except for necessities of life. For acts of violence or wrong they are civilly responsible. An infant under seven years of age is incapable of committing a felony.

By the older Roman law, infancy, so far as the right of control over property was concerned, ended at puberty; later the *tutor*, who till then had charge of an infant *sui iuris*, was replaced by a *curator*, the time of full majority being twenty-five. (S.E.B.)

**Infant Psychology**: see CHILD PSYCHOLOGY.

**Inference** [Lat. *in* + *ferre*, to bear]: Ger. *Schliessen*, *Schluss*; Fr. *inférence*; Ital. *illazione* (conclusion). (1) In logic: (a) the act of consciously determining the content of a cognition by a previous cognition or cognitions, in a way which seems generally calculated to advance knowledge.

In this sense the word differs from REASONING (q. v.) only in referring strictly to a single step of the process, or to what seems a single step. Unless the act is consciously performed, no logical control can be exercised; and this is sufficient reason for separating such acts from any operations otherwise analogous which may take place in the formation of percepts. To be conscious of determining a cognition by another, and not merely of making the one follow after the other, involves some more or less obscure judgment that the pair of representations, the determining and determined, belong to a class of analogous pairs, so that a general maxim is virtually obeyed in the act. There is, besides, a purpose of learning more of the truth. The representations concerned in inference are, it appears, always judgments (or propositions). Probably, if a pair of percepts were, in the very act of determining the one to accord with the other, looked upon as special cases of a class of pairs of percepts so related to one another that if one were true the other ought to be accepted, they would, *ipso facto*, become judgments.

(b) A pair (or larger set) of judgments, of

which one (or all of them together but one) determines the remaining one, as in (a) above, the whole set being regarded as constituting together a cognition more complete than a judgment.

In this sense, inference is synonymous with argument. The latter word, it is true, only implies that the set of propositions might be thought, being perhaps written down and no longer even accepted by the author, while the former word implies that the movement of thought takes place. Moreover, an inference creates belief in the mind that makes it, while an argument may be a system of propositions put together with a view of creating belief in another mind, or perhaps merely to exhibit the logical relation between different beliefs. But these distinctions often vanish or lose all importance. When the determining judgment is a copulative proposition, its members may either be called the premises, or their compound may be called the PREMISE (q. v.). But when different beliefs are brought together in thought for the first time to form a copulative judgment, the premises must be taken as plural.

Several other logical meanings are in general use as more or less permissible inaccuracies of language. Thus, the determined judgment, or conclusion, may sometimes be conveniently called an 'inference.' The popular use of the word for a dubious illation, as in such a sentence as 'This is proof positive, while that is only an inference,' is quite inadmissible. (C.S.P.)

(2) In psychology: the determination in the form of judgment, and as belonging to a mental whole, of any of the relations involved in that whole.

The matters of psychological interest are (a) the passage of consciousness from the antecedent to the subsequent or inferred content, covering the two cases of mediate and immediate inference, according as there are or are not elements common to both contents which serve explicitly to carry the mind over from one to the other and so determine them both in one whole. Immediate inference—e.g. John is human, therefore John is mortal—is the isolating in judgment of a phase of analysis of the whole 'human.' The humanity of John is analytically judged to involve his mortality. In mediate inference—the forms of reasoning involving a middle term—there are several cases, concerning all of which the question arises as to whether, from the psychological point of view,

a reduction to the immediate form is possible. In the universal affirmative syllogism—e.g. John is human, all human beings are mortal, therefore John is mortal—we have no new psychological act or function; the process is, however, one of different emphasis, for the two contents, John and mortality, before not consciously judged in one whole, are explicitly joined, by an act of judgment, through the assertion of the minor premise. This distinction is more evident in cases of particular and hypothetical reasoning. See what is said of the 'conceptual interpretation' of judgment under ANALYTIC AND SYNTHETIC JUDGMENTS.

The various forms of inference, SYLLOGISM (q. v.), dialogism (a disjunctive conclusion following from a single premise), &c., fall in general under one or other of these headings, mediate or immediate.

(b) The other psychological point of discussion is that of so-called 'unconscious inference': the application of the term inference to the cases of mental construction or determination of objects as psychically immediate which are psychologically or logically mediate. Cf. PSYCHIC AND PSYCHOLOGICAL, and IMMEDIATE AND MEDIATE. The theory of unconscious inference was propounded by Helmholtz (*Die Thatsachen in d. Wahrnehmung*, and *Physiol. Optik*, 1st ed.) to explain colour contrast, was used in the theory of 'unconscious judgment' and in the explanation of optical illusions by Wundt (*Physiol. Psychol.*, 1st ed.) and others, and made much of by Binet (*Psychol. de Raisonnement*, Eng. trans., 1899). It is now largely obsolete. The ordinary processes of perception which cover these phenomena do not yield explicit judgments of relation; and the theory of inference is now constructed rather on the basis of mediate inference as type. It would be well to follow this tendency of usage. The psychological questions are brought to full consciousness in the theory of the thought function as the progressive determination of concepts as wholes. For the distinction between INDUCTION and DEDUCTION as forms of inference, see those terms. A little-used synonym for inference is Illation. Cf. also PROBABLE INFERENCE, and PROBABILITY.

*Literature*: see REASONING, and BIBLIOG. C, 2, p, q; especially the general works on logic (e.g. WUNDT, SIGWART) and on psychology (e.g. STOUT, Analytic Psychol., Bk. II. chap. vi; BALDWIN, Senses and Intellect, chap. xiv). (J.M.B., G.F.S.)