

(1449). He was already closely associated with Philip the Good of Burgundy when, in 1461, he became bishop of Tournai. Philip named him first councilor (1463) of his Council of State, and chancellor (1460) of the Order of Golden Fleece. He served on diplomatic missions to both the French king and the pope. His writings included a work entitled *La Toison d'Or, the Chronique de l'histoire de France*, and a French translation of *Troyennes istoires*. He left his wealth to the abbeys and dioceses he had governed.

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[J. F. JOLLEY]

FINAL CAUSALITY

The type of CAUSALITY exercised by the END (Lat. *finis*). In Aristotelian philosophy and in the medieval scholastic philosophy derived from it, the term “cause” had broader signification than in modern usage; it meant “that on which something depends for its existence in any way,” and not merely an extrinsic agent. According to Aristotle any corruptible substance depends for its existence on some other substance that has produced it (its efficient cause), on its intrinsic constituents (its formal and material causes), and on a goal, or *telos* (its final cause). This *telos* may be another substance for whose sake it has been produced (its *extrinsic* final cause); e.g., wheat is grown for the nourishment of man. Or it may simply be the full development of the substance itself (its *intrinsic* final cause), e.g., the maturity of the wheat plant. Thus the final cause need not preexist the process of which it is the cause, but may actually be the effect of this process. In this case it preexists only as a tendency in the efficient cause, as the tendency to mature growth preexists in the grain of wheat.

This article discusses the historical development of the concept of final causality in ancient and medieval philosophy and the value of the concept in various areas of philosophy and theology. (For the modern development of the concept and its use in the sciences, see TELEOLOGY.)

HISTORICAL DEVELOPMENT

Primitive man tended to interpret all phenomena in human terms, and hence was inclined to attribute purpose to all natural events. At the same time he was likely to think even of human behavior as determined by powers and traditional rules whose purpose is mysterious. Thus mythology often pictures the world as governed by an inscrutable and impersonal FATE, destiny, or necessity, to which even the gods are subject.

Greek Philosophy. Pre-Socratic GREEK PHILOSOPHY attempted to explain the world in terms of matter and forces, such as heat and cold, or in terms of quantitative proportions (Pythagoreans), and made little use of the concept of purpose. The atomistic systems, which were the most developed product of this first period of philosophic thought, positively rejected the concept. Thus EMPEDOCLES attributed the evolution of living things to chance combination of parts. Leucippus and DEMOCRITUS explained all things as chance combinations of atoms that had an innate tendency to fall; but their fall was in an infinite void, hence without any *telos*. This radical espousal of a cosmos without inherent purpose remains the classical position in opposition to the doctrine of final causality. It was later adopted by the Epicureans and revived during the Renaissance. (See ATOMISM; MATERIALISM.)

ANAXAGORAS, however, suggested that the flux of matter must originate with Mind, and Diogenes of Apollonia states explicitly:

Such a distribution would not have been possible without Intelligence, namely, that all things should have their measure: winter and summer and night and day and rains and winds and periods of fine weather; other things also, if one will study them closely, will be found to have the best possible arrangement. [Simplicius, *Physics* 252.11.]

SOCRATES also seems to have held this conviction. It is forcefully put by PLATO, especially in the *Timaeus*, where he explains the visible universe as a result of a kind of compromise between reason, which produces order and purpose in all things, and necessity, which is a kind of material principle resisting the order that reason seeks to impose. Thus the world is intelligible as an imperfect imitation of Intelligence.

Aristotelian Analysis. ARISTOTLE (rightly, it seems) claimed to be the first to give an analytic account of final causality (*Meta.* 988b 10). For him the final cause is the “cause of the causes,” which must be known to give a complete explanation of any natural process. MATTER cannot exist without FORM, and form itself is produced in matter by some extrinsic AGENT, or efficient cause. The efficient cause does not produce an indeterminate action, however, since natural processes are observed to be regular. Hence, before the efficient cause begins to act it must be predetermined in a specific way to produce a definite effect. This predetermination, or specific tendency toward a goal, is final causality.

In intelligent beings this goal preexists in the knower as conscious purpose. In brute animals it preexists as an image of something desired. In plants and inanimate substances it preexists as NATURE, an unconscious inner tendency to specific activities or passivities.

Besides this innate purposiveness in the individual substances that make up the cosmos, there is also a general cosmic order; according to this, elements tend to form compounds; inanimate compounds are used as nourishment by plants; plants are similarly used by animals; and animals and all other things are used in the service of man. Man finds his happiness not in himself but in contemplation of the cosmic order and of the higher spiritual beings that it manifests. Not every phenomenon in the universe, however, has a purpose. The cosmos is not a single substance but many substances, each pursuing its own end—not all of them in perfect harmony. Furthermore, the material character of the visible world makes the activities of each substance liable to chance encounters and to frustration (*see* CHANCE). Hence it is not possible to use teleological explanation as a means of prediction. Rather it is a backward-looking analysis by which, from the observation of a goal already achieved, the steps that were necessary to its achievement are discovered.

Stoics and Neoplatonists. After Aristotle, the Stoics and Neoplatonists both defended finality without conceding it a really vital role. The Stoics held that the universe, including man, operates by an absolutely deterministic NATURAL LAW. In such a view, teleology is no longer found in individual substances but is the fixed pattern of the cosmos as a whole. The Neoplatonists tended to treat the order in the cosmos in a static, as opposed to a dynamic, sense and thus to reduce finality to exemplarity (a type of extrinsic formal causality). The universe became, for them, a hierarchy of more and more perfect imitations of the One rather than a system of diverse things, each seeking its own end and all coordinated by a First Mover.

Medieval Thought. The philosophers and theologians of the earlier Middle Ages (whether Jewish, Christian, or Islamic) remained within the Neoplatonist perspective, reinforced by the scriptural emphasis on divine providence and on the conception of God as the goal of the entire universe. The Christian apologists frequently stressed the argument for God's existence from order in the cosmos, but it is with St. JOHN DAMASCENE in the 8th century that the famous teleological proof for God's existence was first clearly formulated.

The renewal of ARISTOTELIANISM returned the concept of final causality to its central role. St. ALBERT THE GREAT and St. THOMAS AQUINAS organized both their philosophy and their theology on a teleological plan. They saw the whole universe as a plurality of beings, each endowed with a nature or principle of appropriate action; higher beings are endowed also with intelligence and free will. Under the governance of God, which is shared in a measure with created ministers, each of these

beings tends toward its own goal, which is to reflect some specific aspect of God's perfection and to contribute to the universal order of the cosmos that is also His reflection. This reflection of God in nature, however, is not the best possible, since no created being or group of beings can be anything but an imperfect imitation of the infinite God. Nor is the order of nature infallible, since it is subject to chance, conflict, and sin. God's governance, however, ensures that the natural order cannot be wholly corrupted and that it will finally attain to the goal He has ordained for it.

According to St. Thomas, philosophy comes to a knowledge of the final causality of particular things by an observation of natural processes, since these for the most part (but not invariably) achieve their goal. The final causality of the universe as a whole, however, is mysterious and can only be conjectured, unless reason is aided by divine revelation.

The later scholastics turned away from this thoroughly teleological position. John DUNS SCOTUS, by his radical insistence on divine freedom, seemed to weaken the role of *telos* as the objective determinant of love. The dynamism of the world came to be seen more as an expression of inner indeterminacy and freedom than as goal-seeking activity. For the nominalists, led by WILLIAM OF OCKHAM, final causality is simply a name given to the efficient cause considered as producing an effect. It was this position, reinforced by the Platonic mathematicism of the Renaissance, that bore fruit in the denial of final causality by GALILEO and Francis BACON.

VALUE OF THE CONCEPT

Despite these various interpretations, the concept of final causality has great value when properly employed in philosophy and theology. This part of the article attempts to explain its value and use, treating successively of the philosophy of nature, metaphysics, and theology.

Philosophy of Nature. For Immanuel KANT the principle of finality is of heuristic value in science. Man, that he may give intelligible order to the data of experience, tends inevitably to see the world as if it were a construct designed for a purpose. The problem, however, is this: Is there in nature itself a teleological order that man must grasp in order to understand nature as it is?

Intimations of Finality. This problem is created first of all by the language used in talking about nature. It has been observed that no matter how antiteleological a scientist may be, he can only with the greatest difficulty avoid terms such as function, tendency, maturity, and growth. Sometimes he coins new words (e.g., teleonomy or directiveness) for teleology, which on examination could mean the same thing. The methods of modern ana-

lytical philosophy can be applied to scientific discourse to show that it is extremely difficult to eliminate every implication of means-goal relationships from the way one talks about the world, except by confining oneself to a purely mathematical language. The moment that a physical, dynamic interpretation is given to the mathematical formalism, this notion tends again to enter.

Psychological studies of children and of primitive peoples show that the concepts of causality and of final causality are not childish but are the product of psychological maturation. They represent the growing human being's achievement of self-conscious control over his own behavior and are his recognition of regularities in the environment that are independent of himself.

In applying the phenomenological method to experience, one again becomes aware not only that his own behavior in exploring experience is teleological, to the extent that it is a search for order and intelligibility, but also that he is confronted in his experience with objects that "go their own way," i.e., with patterns of behavior that are not his, but that he comes gradually to recognize and to understand. For example, the child playing with a dog comes to appreciate that the dog has a life of its own, analogous to that of the child, yet also very different. Certainly if experience did not manifest this teleological character of behavior to man, it would itself be of little value.

Existentialist philosophers similarly emphasize two facets of experience that give rise to teleological interpretations. One is the experience of LOVE, wherein one person feels himself drawn irresistibly to another, who becomes a goal. In this experience man discovers that, in a sense, his whole being is seeking for another person who is not possessed, and yet in being loved is somehow already his. Thus man is predetermined to union with another, and in the process of attaining the other discovers himself, since the other is almost more he than he is himself.

The other experience is that of FREEDOM. Love is not necessarily free; it may have the character of blind passion. Yet the most perfect love is one in which the self is given freely, so that in losing himself the lover finds himself, i.e., performs the most independent and deliberate of acts, a free act. Nevertheless some existentialists, such as J. P. Sartre, seem to deny the possibility of a real self-giving and self-finding, and also give to freedom an arbitrary and goalless character, as if man is free only when he acts without a motive (*see* EXISTENTIALISM).

Positivist and idealist philosophers are kept from any consideration of the teleological problems by their complete rejection of causal explanations. Marxists, on the

other hand, return pretty much to the old Stoic position: there is no individual causality, but a universal dialectical trend inherent in the material universe as a whole. This position has much in common with that of P. TEILHARD DE CHARDIN, who detects in the universe a single evolutionary process moving toward a single goal.

Finality in Nature. Perhaps a more fruitful approach to the question is to consider the problem in its original terms. An examination of the world reveals certain obvious regular processes that repeat themselves again and again. These are noticed, however, in an ocean of other processes that appear random and unique. Science attempts to discover additional regularities in this sea of apparent randomness, proceeding on the conviction, based on experience, that a hidden order is often present. Science need not, however, make the dogmatic assumption of determination, viz, that all events in the world exhibit regularities, since in many well-explored situations events that are obviously casual can be found.

In discovering regular processes, which can be called natural, one also detects natural units, i.e., things that are the subjects of these processes and are relatively independent of the surrounding sea of events. If such units did not exist, it would be impossible to be sure even of regularities, since there is an unresolvable paradox in the notion of a process that has no subject and that comes to be from nothing. In the case of higher animals, such a unit is obvious in the ORGANISM. It is more difficult to identify in the case of the lower animals and plants, but this obscurity often yields to further observation. In the inanimate world, modern science has practically identified the free molecule and the free atom as such units.

Given a natural unit undergoing natural processes that can be observationally and even experimentally identified, the problem of analyzing and specifying each process remains. As Aristotle indicated, the notion of a process of natural change implies four aspects. The process goes on in a subject (material cause); it results in a modification of this subject (formal cause); it cannot in an exact sense be attributed to the subject itself, since a thing cannot produce itself or give what it does not yet have, but must be produced by another thing (efficient cause). The process, if regularly repeated, must end in a specific effect that gives it character and identity (final cause). This effect either must be destructive of the subject, or it must preserve and protect the subject, or it must contribute to the good of the system. If simply destructive, it cannot be said to be natural in a primary sense, because on the disappearance of the subject the process is no longer identifiable. Hence, in a natural process the effect is good or desirable and is sought as a preservation and development of the subject or of the system. But this

specific effect must have been predetermined in the agent; otherwise it would not tend to reoccur regularly. How does it exist in the agent? It can be there only as the nature of the agent—i.e., its inner tendency to a certain sort of goal-directed behavior—or as the intelligence of an agent who is able to choose what sort of action he will perform to attain a desired goal. It is this directiveness of natural processes and of the things that produce them, which is not by chance or by strict necessity but to or for a goal, that is final causality in its primary sense. Goal-directed behavior is for the sake of the goal and depends upon the goal at least in direction or intention, without which it cannot be.

Such explanations are needed in studying the natural world because, with the element of chance in the universe, man cannot really predict the future. Any natural process may be frustrated. Hence scientific explanation is fundamentally backward-looking. It begins with some completed effect, a regularly reoccurring subject that has undergone a process by which it has come into existence and reached a stable existence in the world. Analysis, assisted by observation and experiment, can determine what factors were necessary for this process to reach its term. This is explanation in terms of final causality.

Metaphysics. Although the term metaphysical is often used to indicate any philosophical analysis and philosophy, in turn, is used to indicate any analysis of basic principles in a field of study, few philosophers have admitted the existence of METAPHYSICS, in the strict sense, as a valid discipline. Metaphysics, in the sense intended by the Aristotelian school, is a discipline based on the power of reason to prove the existence of spiritual substances—at least a spiritual part of man and a first principle that is independent of matter. It proposes that both spiritual and material substances can be studied in terms of the common notion of BEING, i.e., in terms of what is common to matter and spirit and dependent upon the same first principle. One of the problems of such a metaphysics is to determine whether the principles of causality discovered in a restricted sense, for the material realm, have universal and absolute validity, so that they apply to all being.

It is established in such a metaphysics that the First Efficient Cause, the Unmoved Mover, cannot itself have a cause, since it undergoes no process; on the other hand, it must be the ultimate final cause of all things that undergo any sort of process, whether a physical change or some sort of spiritual change analogous to physical change. Seeing that efficient and final causality are correlative, the First Efficient Cause must be also the Ultimate Final Cause; i.e., God creates and governs all things in view of His own perfection, which creatures share and imitate since there is no other ultimate perfection.

Nevertheless, it does not follow, as many philosophers have thought, that particular creatures lack a proper final causality of their own, any more than they lack a proper efficient causality. Since creatures truly participate in being by the gift of God, they also imitate Him in being true causes. Hence every created nature must either by nature or by choice seek an end that is its own perfection. Since creatures form a universe, there must also be a relation of lower to higher ends under the ultimate end. This fact of final causality does not, however, exclude the existence of chance events and of contingency. Every created good is finite and hence is the object of God's free choice. When God freely chooses to create something He does not make it to be necessary but contingent. Similarly, among material things the plurality of causes permits genuine chance, although this too falls under divine providence.

This method of establishing the universal necessity of final causality, beginning with induction from sense experience and then extending the physical principle to metaphysics by way of analogy based on a causal relation between God and the world, is not followed by all Thomists. Some Neothomists wish to establish this necessity by an analysis of the concept of being, showing that the notion of being must include the notion of ultimate determination. However, such a way seems open to accusations of verbalism. Other Neothomists wish to bypass the whole order of induction from external reality and to establish final causality in terms of necessary conditions of thought—a way open to objection as Cartesian or Kantian.

Theology. St. Thomas Aquinas uses the idea of finality to organize his entire theological scheme. Thus, in the *Summa contra gentiles*, bk. 3, he gives a broad panorama of the universe showing all things as going forth from God by creation and returning to God by finality. Angels and men attain to the contemplation of God and thus are intended by Him as true final causes in their own right, themselves forming a society. Thus the extrinsic final cause of the universe is God, whereas its intrinsic final cause is the contemplative society of rational creatures. The irrational universe, in turn, is ordered to the good of the rational universe. It serves man's physical needs and in this respect is not needed by the angels. But it serves both men and angels as a mirror in which they contemplate certain reflections of God that are not found in the spiritual universe. Also, through sharing in God's governance over the material universe, both men and angels participate in God's creative action. (See UNIVERSE, ORDER OF.)

In the *Summa theologiae* this conception is further developed, with emphasis being placed on the fact that

man is a dynamic image of God, perfectly realized in Jesus Christ, in whom the whole visible cosmos is redeemed and consummated.

When discussing the finality attributed to Christ, Duns Scotus differs from Aquinas in hypothesizing (some of his disciples were less cautious) that the motive of the Incarnation was the perfecting of the universe, so that even if man had not sinned the Incarnation would have taken place. Aquinas, on the other hand, argues that the Incarnation was primarily for the sake of redeeming man from sin. Both Scotus and Aquinas agree that the universe has the Incarnation as its final cause, an elevation beyond its original goal; but for Aquinas this elevation is wholly a free act of mercy, occasioned by a tragic fall.

The argument from finality lies at the basis of the medieval scholastic "arguments from convenience," since "convenience," or "fittingness," is seen by looking backward from an end already known to be accomplished. Post-Tridentine theology has become suspicious of this type of reasoning and tends to substitute in its place the methods of positive theology. However, the argument from convenience is legitimate if understood within its proper limits. Indeed, modern exegetical scholarship shows that the revelation contained in Scripture is fundamentally eschatological. The events of salvation history all take on their meaning in terms of the ultimate goal, the kingdom of God in which the whole cosmos is subject to Christ and He to God. Hence every theological problem must involve the question of the reference to the *eschaton*, from which all theological meaning is ultimately derived.

In current Catholic thought this great importance of finality is emphasized in the writings of Teilhard de Chardin, who has attempted to give a Christian synthesis of modern science by seeing the entire process of creation as directed to "the Omega point." That this attempt has been illuminating and satisfying not only for Christians but for non-Christians seems to signalize the frustration modern man encounters when he looks for intelligibility in a purely mechanistic picture of the universe. The question is, however, whether this grandiose scheme does not suffer the same weaknesses that in the past have so often discredited teleology, namely, that it tries to explain the universe in a monistic manner, either ignoring sin and freedom or treating them as the product of a single law. The more modest concept of Aquinas—which sees the universe as a pluralistic structure of interrelated things and persons, each pursuing the tendency of its own nature or the choices of its free will, beset by chance and contingency but coordinated by God to a unified goal, yet to be attained only at the cost of tragedy—seems closer to real-

ity and more compatible with the plurality of sciences and the data of revelation.

See Also: FINALITY, PRINCIPLE OF; NATURE.

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FINALITY, PRINCIPLE OF

A principle commonly accepted by scholastic philosophers as one of the FIRST PRINCIPLES; it is succinctly stated by St. Thomas Aquinas: "Every agent acts for an end" (*C. gent.* 3.2), i.e., all beings when acting tend to some definite effect.

Explanation. The principle applies only analogously to intelligent and to nonintelligent beings. An intelligent being, qua intelligent, can know and freely elect the proximate end for which he is acting; a nonintelligent being, however, does not formally know the end to which its action tends, even though it is the agent tending to that end, i.e., even though the action is its own. Regardless of the agent acting, its tending toward an end (which scholastics regard as a CONDITION *sine qua non* of acting) connotes intelligence, inasmuch as such action is orderly. If intelligence is not manifested on the part of the agent that acts, then it is presupposed on the part of another being who directs the agent to so act. This other being may direct the agent in a wholly extrinsic manner, as a writer moves the pen to inscribe words, or it may direct the agent by placing certain tendencies or appetites within its very nature.

Tendency or APPETITE, in this context, must also be understood analogously. It may denote an intellectual, a sensory, or a natural appetite—the last being manifested by the empirically observable fact that all things tend to preserve their being (*Summa theologiae* 1a2ae, 94.2). End is then related to appetite as its object; it is something suitable, and hence GOOD, for the agent. It is suitable or good because the agent has a particular nature and because its tendencies are the basis for actions that realize or perfect that nature. Thus understood in this manner, the principle of finality implies a limited kind of determinism.