Philosophy

Definition of philosophy

Etymology

According to its etymology, the word "philosophy" (*philosophia*, from *philein*, to love, and *sophia*, wisdom) means "the love of wisdom". This sense appears again in *sapientia*, the word used in the Middle Ages to designate philosophy.

In the early stages of Greek, as of every other, civilization, the boundary line between philosophy and other departments of human knowledge was not sharply defined, and philosophy was understood to mean "every striving towards knowledge". This sense of the word survives in Herodotus (I, xxx) and Thucydides (II, xl). In the ninth century of our era, Alcuin, employing it in the same sense, says that philosophy is "naturarum inquisitio,

rerum humanarum divinarumque cognitio quantum homini possibile est aestimare" — investigation of nature, and such knowledge of things human and Divine as is possible for man (*P.L.*, CI, 952).

In its proper acceptation, philosophy does not mean the aggregate of the human sciences, but "the general science of things in the universe by their ultimate determinations and reasons"; or again, "the intimate knowledge of the causes and reasons of things", the profound knowledge of the universal order.

Without here enumerating all the historic definitions of philosophy, some of the most significant may be given. Plato calls it "the acquisition of knowledge", *ktêsis epistêmês* (Euthydemus, 288 d). Aristotle, mightier than his master at compressing ideas, writes: *tên onomazomenên sophian peri ta prôta aitia kai tas archas hupolambanousi pantes* — "All men consider philosophy as concerned with first causes and principles" (*Metaph.*, I, i). These notions were perpetuated in the post-Aristotelean schools (Stoicism, Epicureanism, neo-Platonism), with this difference, that the Stoics and Epicureans accentuated the moral bearing of philosophy ("Philosophia studium summae virtutis", says Seneca in "Epist.", lxxxix, 7), and the neo-Platonists its mystical bearing (see section V below). The Fathers of the Church and the first philosophers of the Middle Ages seem not to have had a very clear idea of philosophy for reasons which we will develop later on (section IX), but its conception emerges once more in all its purity among the Arabic philosophers at the end of the twelfth century and the masters of Scholasticism in the thirteenth. St. Thomas, adopting the Aristotelean idea, writes: "Sapientia est scientia quae considerat causas primas et universales causas; sapientia causas primas omnium causarum considerat" — Wisdom [i.e. philosophy] is the science which considers first and universal causes; wisdom considers the first causes of all causes" (In *Metaph.*, I, lect. ii).

In general, modern philosophers may be said to have adopted this way of looking at it. Descartes regards philosophy as wisdom: "Philosophiae voce sapientiae studium denotamus" — "By the term philosophy we denote the pursuit of wisdom" (*Princ. philos.*, preface); and he understands by it "cognitio veritatis per primas suas causas" — "knowledge of truth by its first causes" (ibid.). For Locke, philosophy is the true knowledge of things; for Berkeley, "the study of wisdom and truth" (*Princ.*). The many conceptions of philosophy given by Kant reduce it to that of a science of the general principles of knowledge and of the ultimate objects attainable by knowledge — "Wissenschaft von den letzten Zwecken der menschlichen Vernunft". For the numerous German philosophers who derive their inspiration from his criticism — Fichte, Hegel, Schelling, Schleiermacher, Schopenhauer, and the rest — it is the general teaching of science (Wissenschaftslehre). Many contemporary authors regard it as the synthetic theory of the particular sciences: "Philosophy", says Herbert Spencer, "is completely unified knowledge" (*First Principles*, #37). Ostwald has the same idea. For Wundt, the object of philosophy is "the acquisition of such a general conception of the world and of life as will satisfy the exigencies of the reason and the needs of the heart" — "Gewinnung einer allgemeinen Welt — und Lebensanschauung, welche die Forderungen unserer Vernunft und die Bedurfnisse unseres Gemüths befriedigen soll" (*Einleit. in d. Philos.*, 1901, p. 5). This idea of philosophy as the ultimate science of values (Wert lehre) is emphasized by Windelband, Déring, and others.

The list of conceptions and definitions might be indefinitely prolonged. All of them affirm the eminently synthetic character of philosophy. In the opinion of the present writer, the most exact and comprehensive definition is that of Aristotle. Face to face with nature and with himself, man reflects and endeavours to discover what the world is, and what he is himself. Having made the real the object of studies in detail, each of which constitutes science (see section VIII), he is led to a study of the whole, to inquire into the principles or reasons of the totality of things, a study which supplies the answers to the last *Why*'s. The last *Why* of all rests upon all that is and all that becomes: it does not apply, as in any one particular science (e.g. chemistry), to this or that process of becoming,

or to this or that being (e.g. the combination of two bodies), but to all being and all becoming. All being has within it its constituent principles, which account for its substance (constitutive material and formal causes); all becoming, or change, whether superficial or profound, is brought about by an efficient cause other than its subject; and lastly things and events have their bearings from a finality, or final cause. The harmony of principles, or causes, produces the universal order. And thus philosophy is the profound knowledge of the universal order, in the sense of having for its object the simplest and most general principles, by means of which all other objects of thought are, in the last resort, explained.

By these principles, says Aristotle, we know other things, but other things do not suffice to make us know these principles (*dia gar tauta kai ek toutôn t'alla gnôrizetai, all' ou tauta dia tôn hupokeimenôn — Metaph.*, I). The expression *universal order* should be understood in the widest sense. Man is one part of it: hence the relations of man with the world of sense and with its Author belong to the domain of philosophy. Now man, on the one hand, is the responsible author of these relations, because he is free, but he is obliged by nature itself to reach an aim, which is his moral end. On the other hand, he has the power of reflecting upon the knowledge which he acquires of all things, and this leads him to study the logical structure of science. Thus philosophical knowledge leads to philosophical acquaintance with morality and logic. And hence we have this more comprehensive definition of philosophy: "The profound knowledge of the universal order, of the duties which that order imposes upon man, and of the knowledge which man acquires from reality" — "La connaissance approfondie de l'ordre universel, des devoirs qui en résultent pour l'homme et de la science que l'homme acquiert de la rémite" (Mercier, "Logique", 1904, p. 23). — The development of these same ideas under another aspect will be found in section VIII of this article.

Divisions of philosophy

Since the universal order falls within the scope of philosophy (which studies only its first principles, not its reasons in detail), philosophy is led to the consideration of all that is: the world, God (or its cause), and man himself (his nature, origin, operations, moral end, and scientific activities).

It would be out of the question to enumerate here all the methods of dividing philosophy that have been given: we confine ourselves to those which have played a part in history and possess the deepest significance.

In Greek philosophy

Two historical divisions dominate Greek philosophy: the Platonic and the Aristotelean.

(1) Plato divides philosophy into dialectic, physics, and ethics. This division is not found in Plato's own writings, and it would be impossible to fit his dialogues into the triple frame, but it corresponds to the spirit of the Platonic philosophy. According to Zeller, Xenocrates (314 B.C.) his disciple, and the leading representative of the Old Academy, was the first to adopt this triadic division, which was destined to go down through the ages (*Grundriss d. Geschichte d. griechischen Philosophie*, 144), and Aristotle follows it in dividing his master's philosophy. Dialectic is the science of objective reality, i.e., of the Idea (*idea eidos*), so that by Platonic dialectic we must understand metaphysics. Physics is concerned with the manifestations of the Idea, or with the Real, in the sensible universe, to which Plato attributes no real value independent of that of the Idea. Ethics has for its object human acts. Plato deals with logic, but has no system of logic; this was a product of Aristotle's genius.

Plato's classification was taken up by his school (the Academy), but it was not long in yielding to the influence of

Aristotle's more complete division and according a place to logic. Following the inspirations of the old Academics, the Stoics divided philosophy into physics (the study of the real), logic (the study of the structure of science) and morals (the study of moral acts). This classification was perpetuated by the neo-Platonists, who transmitted it to the Fathers of the Church, and through them to the Middle Ages.

(2) Aristotle, Plato's illustrious disciple, the most didactic, and at the same time the most synthetic, mind of the Greek world, drew up a remarkable scheme of the divisions of philosophy. The philosophical sciences are divided into theoretic, practical, and poetic, according as their scope is pure speculative knowledge, or conduct (*praxis*), or external production (*poiêsis*). Theoretic philosophy comprises: (a) physics, or the study of corporeal things which are subject to change (*achôrista men all' ouk akinêta*) (b) mathematics, or the study of extension, i.e., of a corporeal property not subject to change and considered, by abstraction, apart from matter (*akinêta men ou chôrista d'isôs, all' hôs en hulê*); (c) metaphysics, called theology, or first philosophy, i.e. the study of being in its unchangeable and (whether naturally or by abstraction) incorporeal determinations (*chôrista kau akinêt*). Practical philosophy comprises ethics, economics, and politics, the second of these three often merging into the last. Poetic philosophy is concerned in general with the external works conceived by human intelligence. To these may conveniently be added logic, the vestibule of philosophy, which Aristotle studied at length, and of which he may be called the creator.

To metaphysics Aristotle rightly accords the place of honour in the grouping of philosophical studies. He calls it "first philosophy". His classification was taken up by the Peripatetic School and was famous throughout antiquity; it was eclipsed by the Platonic classification during the Alexandrine period, but it reappeared during the Middle Ages.

In the Middle Ages

Though the division of philosophy into its branches is not uniform in the first period of the Middle Ages in the West, i.e. down to the end of the twelfth century, the classifications of this period are mostly akin to the Platonic division into logic, ethics, and physics. Aristotle's classification of the theoretic sciences, though made known by Boethius, exerted no influence for the reason that in the early Middle Ages the West knew nothing of Aristotle except his works on logic and some fragments of his speculative philosophy (see section V below). It should be added here that philosophy, reduced at first to dialectic, or logic, and placed as such in the Trivium, was not long in setting itself above the liberal arts.

The Arab philosophers of the twelfth century (Avicenna, Averroes) accepted the Aristotelean classification, and when their works — particularly their translations of Aristotle's great original treatises — penetrated into the West, the Aristotelean division definitively took its place there. Its coming is heralded by Gundissalinus (see section XII), one of the Toletan translators of Aristotle, and author of a treatise, "De divisione philosophiae", which was imitated by Michael Scott and Robert Kilwardby. St. Thomas did no more than adopt it and give it a precise scientific form. Later on we shall see that, conformably with the medieval notion of *sapientia*, to each part of philosophy corresponds the preliminary study of a group of special sciences. The general scheme of the division of philosophy in the thirteenth century, with St. Thomas's commentary on it, is as follows:

> There are as many parts of philosophy as there are distinct domains in the order submitted to the philosopher's reflection. Now there is an order which the intelligence does not form but only considers; such is the order realized in nature. Another order, the practical, is formed either by the acts of our intelligence or by the acts of our will, or by the application of those acts to external

things in the arts: e.g., the division of practical philosophy into logic, moral philosophy, and æsthetics, or the philosophy of the arts (*"Ad philosophiam naturalem pertinet considerare ordinem rerum quem ratio humana considerat sed non facit; ita quod sub naturali philosophia comprehendamus et metaphysicam. Ordo autem quem ratio considerando facit in proprio actu, pertinet ad rationalem philosophiam, cujus est considerare ordinem partium orationis ad invicem et ordinem principiorum ad invicem et ad conclusiones. Ordo autem actionum voluntariarum pertinet ad considerationem moralis philosophiae. Ordo autem quem ratio considerando facit in rebus exterioribus per rationem humanam pertinet ad artes mechanicas."*) To natural philosophy pertains the consideration of the order of things which human reason considers but does not create — just as we include metaphysics also under natural philosophy. But the order which reason creates of its own act by consideration pertains to rational philosophy, the office of which is to consider the order of the parts of speech with reference to one another and the order of the principles with reference to one another and to the conclusions. The order of voluntary actions pertains to the consideration of moral philosophy, while the order which the reason creates in external things through the human reason pertains to the mechanical arts. — In "X Ethic. ad Nic.", I, lect. i.

The philosophy of nature, or speculative philosophy, is divided into metaphysics, mathematics, and physics, according to the three stages traversed by the intelligence in its effort to attain a synthetic comprehension of the universal order, by abstracting from movement (physics), intelligible quantity (mathematics), being (metaphysics) (*In lib. Boeth. de Trinitate*, Q. v., a. 1). In this classification it is to be noted that, man being one element of the world of sense, psychology ranks as a part of physics.

In modern philosophy

The Scholastic classification may be said, generally speaking, to have lasted, with some exceptions, until the seventeenth century. Beginning with Descartes, we find a multitude of classifications arising, differing in the principles which inspire them. Kant, for instance, distinguishes metaphysics, moral philosophy, religion, and anthropology. The most widely accepted scheme, that which still governs the division of the branches of philosophy in teaching, is due to Wolff (1679-1755), a disciple of Leibniz, who has been called the educator of Germany in the eighteenth century. This scheme is as follows:

1. Logic.
2. Speculative Philosophy.
    - Ontology, or General Metaphysics.
    - Special Metaphysics.
        - Theodicy (the study of God).
        - Cosmology (the study of the World).
        - Psychology (the study of Man).
3. Practical Philosophy.
    - Ethics
    - Politics
    - Economics

Wolff broke the ties binding the particular sciences to philosophy, and placed them by themselves; in his view philosophy must remain purely rational. It is easy to see that the members of Wolff's scheme are found in the

Aristotelean classification, wherein theodicy is a chapter of metaphysics and psychology a chapter of physics. It may even be said that the Greek classification is better than Wolff's in regard to speculative philosophy, where the ancients were guided by the formal object of the study — i.e. by the degree of abstraction to which the whole universe is subjected, while the moderns always look at the material object — i.e., the three categories of being, which it is possible to study, God, the world of sense, and man.

In contemporary philosophy

The impulse received by philosophy during the last half-century gave rise to new philosophical sciences, in the sense that various branches have been detached from the main stems. In psychology this phenomenon has been remarkable: criteriology, or epistemology (the study of the certitude of knowledge) has developed into a special study. Other branches which have formed themselves into new psychological sciences are: physiological psychology or the study of the physiological concomitant of psychic activities; didactics, or the science of teaching; pedagogy, or the science of education; collective psychology and the psychology of people (Volkerpsychologie), studying the psychic phenomena observable in human groups as such, and in the different races. An important section of logic (called also noetic, or canonic) is tending to sever itself from the main body, viz., methodology, which studies the special logical formation of various sciences. On moral philosophy, in the wide sense, have been grafted the philosophy of law, the philosophy of society, or social philosophy (which is much the same as sociology), and the philosophies of religion and of history.

The principal systematic solutions

From what has been said above it is evident that philosophy is beset by a great number of questions. It would not be possible here to enumerate all those questions, much less to detail the divers solutions which have been given to them. The solution of a philosophic question is called a philosophic doctrine or theory. A philosophic system (from *sunistêmi*, put together) is a complete and organized group of solutions. It is not an incoherent assemblage or an encyclopedic amalgamation of such solutions; it is dominated by an organic unity. Only those philosophic systems which are constructed conformably with the exigencies of organic unity are really powerful: such are the systems of the Upanishads, of Aristotle, of neo-Platonism, of Scholasticism, of Leibniz, Kant and Hume. So that one or several theories do not constitute a system; but some theories, i.e. answers to a philosophic question, are important enough to determine the solution of other important problems of a system. The scope of this section is to indicate some of these theories.

Monism, or Pantheism, and Pluralism, Individualism, or Theism

Are there many beings distinct in their reality, with one Supreme Being, God at the summit of the hierarchy; or is there but one reality (*monas*, hence monism), one All-God (*pan-theos*) of whom each individual is but a member or fragment (Substantialistic Pantheism), or else a force, or energy (Dynamic Pantheism)? Here we have an important question of metaphysics the solution of which reacts upon all other domains of philosophy. The system of Aristotle, of the Scholastics, and of Leibniz are Pluralistic and Theistic; the Indian, neo-Platonic, and Hegelian are Monistic. Monism is a fascinating explanation of the real, but it only postpones the difficulties which it imagines itself to be solving (e.g. the difficulty of the interaction of things), to say nothing of the objection, from the human point of view, that it runs counter to our most deep-rooted sentiments.

Objectivism and Subjectivism

Does being, whether one or many, possess its own life, independent of our mind, so that to be known by us is only accident to being, as in the objective system of metaphysics (e.g. Aristotle, the Scholastics, Spinoza)? Or is being no other reality than the mental and subjective presence which it acquires in our representation of it as in the Subjective system (e.g. Hume)? It is in this sense that the "Revue de métaphysique et de morale" (see bibliography) uses the term metaphysics in its title. Subjectivism cannot explain the passivity of our mental representations, which we do not draw out of ourselves, and which therefore oblige us to infer the reality of a non-ego.

Substantialism and Phenomenism

Is all reality a flux of phenomena (Heraclitus, Berkeley, Hume, Taine), or does the manifestation appear upon a basis, or substance, which manifests itself, and does the phenomenon demand a noumenon (the Scholastics)? Without an underlying substance, which we only know through the medium of the phenomenon, certain realities, as walking, talking, are inexplicable, and such facts as memory become absurd.

Mechanism and Dynamism (Pure and Modified)

Natural bodies are considered by some to be aggregations of homogeneous particles of matter (atoms) receiving a movement which is extrinsic to them, so that these bodies differ only in the number and arrangement of their atoms (the Atomism, or Mechanism, of Democritus, Descartes, and Hobbes). Others reduce them to specific, unextended, immaterial forces, of which extension is only the superficial manifestation (Leibniz). Between the two is Modified Dynamism (Aristotle), which distinguishes in bodies an immanent specific principle (form) and an indeterminate element (matter) which is the source of limitation and extension. This theory accounts for the specific characters of the entities in question as well as for the reality of their extension in space.

Materialism, Agnosticism, and Spiritualism

That everything real is material, that whatever might be immaterial would be unreal, such is the cardinal doctrine of Materialism (the Stoics, Hobbes, De Lamettrie). Contemporary Materialism is less outspoken: it is inspired by a Positivist ideology (see section VI), and asserts that, if anything supra-material exists, it is unknowable (Agnosticism, from *a* and *gnôsis*, knowledge; Spencer, Huxley). Spiritualism teaches that incorporeal, or immaterial, beings exist or that they are possible (Plato, Aristotle, St. Augustine, the Scholastics, Descartes, Leibniz). Some have even asserted that only spirits exist: Berkeley, Fichte, and Hegel are exaggerated Spiritualists. The truth is that there are bodies and spirits; among the latter we are acquainted (though less well than with bodies) with the nature of our soul, which is revealed by the nature of our immaterial acts, and with the nature of God, the infinite intelligence, whose existence is demonstrated by the very existence of finite things. Side by side with these solutions relating to the problems of the real, there is another group of solutions, not less influential in the orientation of a system, and relating to psychical problems or those of the human ego.

Sensualism and Rationalism, or Spiritualism

These are the opposite poles of the ideogenetic question, the question of the origin of our knowledge. For Sensualism the only source of human knowledge is sensation: everything reduces to transformed sensations. This theory, long ago put forward in Greek philosophy (Stoicism, Epicureanism), was developed to the full by the English Sensualists (Locke, Berkeley, Hume) and the English Associationists (Brown, Hartley, Priestley); its modern form is Positivism (John Stuart Mill, Huxley, Spencer, Comte, Taine, Littré etc.). Were this theory true,

it would follow that we can know only what falls under our senses, and therefore cannot pronounce upon the existence or non-existence, the reality or unreality, of the super-sensible. Positivism is more logical than Materialism. In the New World, the term Agnosticism has been very happily employed to indicate this attitude of reserve towards the super-sensible. Rationalism (from *ratio*, reason), or Spiritualism, establishes the existence in us of concepts higher than sensations, i.e. of abstract and general concepts (Plato, Aristotle, St. Augustine, the Scholastics, Descartes, Leibniz, Kant, Cousin etc.). Ideologic Spiritualism has won the adherence of humanity's greatest thinkers. Upon the spirituality, or immateriality, of our higher mental operations is based the proof of the spirituality of the principle from which they proceed and, hence, of the immortality of the soul.

Scepticism, Dogmatism, and Criticism

So many answers have been given to the question whether man can attain truth, and what is the foundation of certitude, that we will not attempt to enumerate them all. Scepticism declares reason incapable of arriving at the truth, and holds certitude to be a purely subjective affair (Sextus Empiricus, Ænesidemus). Dogmatism asserts that man can attain to truth, and that, in measure to be further determined, our cognitions are certain. The motive of certitude is, for the Traditionalists, a Divine revelation, for the Scotch School (Reid) it is an inclination of nature to affirm the principles of common sense; it is an irrational, but social, necessity of admitting certain principles for practical dogmatism (Balfour in his "Foundations of Belief" speaks of "non-rational impulse", while Mallock holds that "certitude is found to be the child, not of reason but of custom" and Brunetière writes about "the bankruptcy of science and the need of belief"); it is an affective sentiment, a necessity of wishing that certain things may be verities (Voluntarism; Kant's Moral Dogmatism), or the fact of living certain verities (contemporary Pragmatism and Humanism, William James, Schiller). But for others — and this is the theory which we accept — the motive of certitude is the very evidence of the connection which appears between the predicate and the subject of a proposition, an evidence which the mind perceives, but which it does not create (Moderate Dogmatism). Lastly for Criticism, which is the Kantian solution of the problem of knowledge, evidence is created by the mind by means of the structural functions with which every human intellect is furnished (the categories of the understanding). In conformity with these functions we connect the impressions of the senses and construct the world. Knowledge, therefore, is valid only for the world as represented to the mind. Kantian Criticism ends in excessive Idealism, which is also called Subjectivism or Phenomenalism, and according to which the mind draws all its representations out of itself, both the sensory impressions and the categories which connect them: the world becomes a mental poem, the object is created by the subject as representation (Fichte, Schelling, Hegel).

Nominalism, Realism, and Conceptualism

Nominalism, Realism, and Conceptualism are various answers to the question of the real objectivity of our predications, or of the relation of fidelity existing between our general representations and the external world.

Determinism and Indeterminism

Has every phenomenon or fact its adequate cause in an antecedent phenomenon or fact (Cosmic Determinism)? And, in respect to acts of the will, are they likewise determined in all their constituent elements (Moral Determinism, Stoicism, Spinoza)? If so, then liberty disappears, and with it human responsibility, merit and demerit. Or, on the contrary, is there a category of volitions which are not necessitated, and which depend upon the discretionary power of the will to act or not to act and in acting to follow freely chosen direction? Does liberty exist? Most Spiritualists of all schools have adopted a libertarian philosophy, holding that liberty alone gives the moral life an acceptable meaning; by various arguments they have confirmed the testimony of

conscience and the data of common consent. In physical nature causation and determinism rule; in the moral life, liberty. Others, by no means numerous, have even pretended to discover cases of indeterminism in physical nature (the so-called Contingentist theories, e.g. Boutroux).

Utilitarianism and the morality of obligation

What constitutes the foundation of morality in our actions? Pleasure or utility say some, personal or egoistic pleasure (Egoism — Hobbes, Bentham, and "the arithmetic of pleasure"); or again, in the pleasure and utility of all (Altruism — John Stuart Mill). Others hold that morality consists in the performance of duty for duty's sake, the observance of law because it is law, independently of personal profit (the Formalism of the Stoics and of Kant). According to another doctrine, which in our opinion is more correct, utility, or personal advantage, is not incompatible with duty, but the source of the obligation to act is in the last analysis, as the very exigencies of our nature tell us, the ordinance of God.

Philosophical methods

Method (*meth' hodos*) means a path taken to reach some objective point. By philosophical method is understood the path leading to philosophy, which, again, may mean either the process employed in the construction of a philosophy (constructive method, method of invention), or the way of teaching philosophy (method of teaching, didactic method). We will deal here with the former of these two senses; the latter will be treated in section XI. Three methods can be, and have been, applied to the construction of philosophy.

Experimental (Empiric, or Analytic) method

The method of all Empiric philosophers is to observe facts, accumulate them, and coordinate them. Pushed to its ultimate consequences, the empirical method refuses to rise beyond observed and observable fact; it abstains from investigating anything that is absolute. It is found among the Materialists, ancient and modern, and is most unreservedly applied in contemporary Positivism. Comte opposes the "positive mode of thinking", based solely upon observation, to the theological and metaphysical modes. For Mill, Huxley, Bain, Spencer, there is not one philosophical proposition but is the product, pure and simple, of experience: what we take for a general idea is an aggregate of sensations; a judgment is the union of two sensations; a syllogism, the passage from particular to particular (Mill, "A System of Logic, Rational and Inductive", ed. Lubbock, 1892; Bain, "Logic", New York, 1874). Mathematical propositions, fundamental axioms such as a = a, the principle of contradiction, the principle of causality are only "generalizations from facts of experience" (Mill, op. cit., vii, #5). According to this author, what we believe to be superior to experience in the enunciation of scientific laws is derived from our subjective incapacity to conceive its contradictory; according to Spencer, this inconceivability of the negation is developed by heredity.

Applied in an exaggerated and exclusive fashion, the experimental method mutilates facts, since it is powerless to ascend to the causes and the laws which govern facts. It suppresses the character of objective necessity which is inherent in scientific judgments, and reduces them to collective formulae of facts observed in the past. It forbids our asserting, e.g., that the men who will be born after us will be subject to death, seeing that all certitude rests on experience, and that by mere observation we cannot reach the unchangeable nature of things. The empirical method, left to its own resources, checks the upward movement of the mind towards the causes or object of the phenomena which confront it.

Deductive, or Synthetic *a Priori*, method

At the opposite pole to the preceding, the deductive method starts from very general principles, from higher causes, to descend (Latin *deducere*, to lead down) to more and more complex relations and to facts. The dream of the Deductionist is to take as the point of departure an intuition of the Absolute, of the Supreme Reality — for the Theists, God; for the Monists, the Universal Being — and to draw from this intuition the synthetic knowledge of all that depends upon it in the universe, in conformity with the metaphysical scale of the real.

Plato is the father of deductive philosophy: he starts from the world of Ideas, and from the Idea of the Sovereign Good, and he would know the reality of the world of sense only in the Ideas of which it is the reflection. St. Augustine, too, finds his satisfaction in studying the universe, and the least of the beings which compose it, only in a synthetic contemplation of God, the exemplary, creative, and final cause of all things. So, too, the Middle Ages attached great importance to the deductive method. "I propose", writes Boethius, "to build science by means of concepts and maxims, as is done in mathematics." Anselm of Canterbury draws from the idea of God, not only the proof of the real existence of an infinite being, but also a group of theorems on His attributes and His relations with the world. Two centuries before Anselm, Scotus Eriugena, the father of anti-Scholasticism, is the completest type of the Deductionist: his metaphysics is one long description of the Divine Odyssey, inspired by the neo-Platonic, monistic conception of the descent of the One in its successive generations. And, on the very threshold of the thirteenth century, Alain de Lille would apply to philosophy a mathematical methodology. In the thirteenth century Raymond Lully believed that he had found the secret of "the Great Art" (*ars magna*), a sort of syllogism-machine, built of general tabulations of ideas, the combination of which would give the solution of any question whatsoever. Descartes, Spinoza, and Leibniz are Deductionists: they would construct philosophy after the manner of geometry (*more geometrico*), linking the most special and complicated theorems to some very simple axioms. The same tendency appears among the Ontologists and the post-Kantian Pantheists in Germany (Fichte, Schelling, Hegel), who base their philosophy upon an intuition of the Absolute Being.

The deductive philosophers generally profess to disdain the sciences of observation. Their great fault is the compromising of fact, bending it to a preconceived explanation or theory assumed *a priori*, whereas the observation of the fact ought to precede the assignment of its cause or of its adequate reason. This defect in the deductive method appears glaringly in a youthful work of Leibniz's, "Specimen demonstrationum politicarum pro rege Polonorum eligendo", published anonymously in 1669, where he demonstrates by geometrical methods (*more geometrico*), in sixty propositions, that the Count Palatine of Neuburg ought to be elected to the Polish Throne.

Analytico-Synthetic method

This combination of analysis and synthesis, of observation and deduction, is the only method appropriate to philosophy. Indeed, since it undertakes to furnish a general explanation of the universal order (see section I), philosophy ought to begin with complex effects, facts known by observation, before attempting to include them in one comprehensive explanation of the universe. This is manifest in psychology, where we begin with a careful examination of activities, notably of the phenomena of sense, of intelligence, and of appetite; in cosmology, where we observe the series of changes, superficial and profound, of bodies; in moral philosophy, which sets out from the observation of moral facts; in theodicy, where we interrogate religious beliefs and feelings; even in metaphysics, the starting-point of which is really existing being.

But observation and analysis once completed, the work of synthesis begins. We must pass onward to a synthetic

psychology that shall enable us to comprehend the destinies of man's vital principle; to a cosmology that shall explain the constitution of bodies, their changes, and the stability of the laws which govern them; to a synthetic moral philosophy establishing the end of man and the ultimate ground of duty; to a theodicy and deductive metaphysics that shall examine the attributes of God and the fundamental conceptions of all being.

As a whole and in each of its divisions, philosophy applies the analytic-synthetic method. Its ideal would be to give an account of the universe and of man by a synthetic knowledge of God, upon whom all reality depends. This panoramic view — the eagle's view of things — has allured all the great geniuses. St. Thomas expresses himself admirably on this synthetic knowledge of the universe and its first cause. The analytico-synthetic process is the method, not only of philosophy, but of every science, for it is the natural law of thought, the proper function of which is unified and orderly knowledge. "Sapientis est ordinare." Aristotle, St. Thomas, Pascal, Newton, Pasteur, thus understood the method of the sciences. Men like Helmholtz and Wundt adopted synthetic views after doing analytical work. Even the Positivists are metaphysicians, though they do not know it or wish it. Does not Herbert Spencer call his philosophy synthetic? and does he not, by reasoning, pass beyond that domain of the "observable" within which he professes to confine himself?

The great historical currents

Among the many peoples who have covered the globe philosophic culture appears in two groups: the Semitic and the Indo-European, to which may be added the Egyptians and the Chinese. In the Semitic group (Arabs, Babylonians, Assyrians, Aramaeans, Chaldeans) the Arabs are the most important; nevertheless, their part becomes insignificant when compared with the intellectual life of the Indo-Europeans. Among the latter, philosophic life appears successively in various ethnic divisions, and the succession forms the great periods into which the history of philosophy is divided; first, among the people of India (since 1500 B.C.); then among the Greeks and the Romans (sixth century B.C. to sixth century of our era); again, much later, among the peoples of Central and Northern Europe.

Indian philosophy

The philosophy of India is recorded principally in the sacred books of the Veda, for it has always been closely united with religion. Its numerous poetic and religious productions carry within themselves a chronology which enables us to assign them to three periods.

(1) The Period of the Hymns of the Rig Veda (1500-1000 B.C.)

This is the most ancient monument of Indo-Germanic civilization; in it may be seen the progressive appearance of the fundamental theory that a single Being exists under a thousand forms in the multiplied phenomena of the universe (Monism).

(2) The Period of the Brahmans (1000-500 B.C.)

This is the age of Brahminical civilization. The theory of the one Being remains, but little by little the concrete and anthropomorphic ideas of the one Being are replaced by the doctrine that the basis of all things is in oneself (*âtman*). Psychological Monism appears in its entirety in the Upanishads: the absolute and adequate identity of the Ego — which is the constitutive basis of our individuality (*âtman*) — and of all things, with Brahman, the eternal being exalted above time, space, number, and change, the generating principle of all things in which all

things are finally reabsorbed — such the fundamental theme to be found in the Upanishad under a thousand variations of form. To arrive at the âtman, we must not stop at empirical reality which is multiple and cognizable; we must pierce this husk, penetrate to the unknowable and ineffable superessence, and identify ourselves with it in an unconscious unity.

(3) The Post-Vedic or Sanskrit, Period (since 500 B.C.)

From the germs of theories contained in the Upanishad a series of systems spring up, orthodox or heterodox. Of the orthodox systems, Vedanta is the most interesting; in it we find the principles of the Upanishads developed in an integral philosophy which comprise metaphysics, cosmology, psychology, and ethics (transmigration, metempsychosis). Among the systems not in harmony with the Vedic dogmas, the most celebrated is Buddhism, a kind of Pessimism which teaches liberation from pain in a state of unconscious repose, or an extinction of personality (*Nirvâna*). Buddhism spread in China, where it lives side by side with the doctrines of Lao Tse and that of Confucius. It is evident that even the systems which are not in harmony with the Veda are permeated with religious ideas.

Greek philosophy

This philosophy, which occupied six centuries before, and six after, Christ, may be divided into four periods, corresponding with the succession of the principal lines of research (1) From Thales of Miletus to Socrates (seventh to fifth centuries B.C. — preoccupied with cosmology) (2) Socrates, Plato, and Aristotle (fifth to fourth centuries B.C. — psychology); (3) From the death of Aristotle to the rise of neo-Platonism (end of the fourth century B.C. to third century after Christ — moral philosophy); (4) neo-Platonic School (from the third century after Christ, or, including the systems of the forerunners of neo-Platonism, from the first century after Christ, to the end of Greek philosophy in the seventh century — mysticism).

(1) The Pre-Socratic Period

The pre-Socratic philosophers either seek for the stable basis of things — which is water, for Thales of Miletus; air, for Anaximenes of Miletus; air endowed with intelligence, for Diogenes of Apollonia; number, for Pythagoras (sixth century B.C.); abstract and immovable being, for the Eleatics — or they study that which changes: while Parmenides and the Eleatics assert that everything is, and nothing changes or becomes. Heraclitus (about 535-475) holds that everything becomes, and nothing is unchangeable. Democritus (fifth century) reduces all beings to groups of atoms in motion, and this movement, according to Anaxagoras, has for its cause an intelligent being.

(2) The Period of Apogee: Socrates, Plato, Aristotle.

When the Sophists (Protagoras, Gorgias) had demonstrated the insufficiency of these cosmologies, Socrates (470-399) brought philosophical investigation to bear on man himself, studying man chiefly from the moral point of view. From the presence in us of abstract ideas Plato (427-347) deduced the existence of a world of supersensible realities or ideas, of which the visible world is but a pale reflection. These ideas, which the soul in an earlier life contemplated, are now, because of its union with the body, but faintly perceived. Aristotle (384-322), on the contrary, shows that the real dwells in the objects of sense. The theory of act and potentiality, of form and matter, is a new solution of the relations between the permanent and the changing. His psychology, founded upon the principle of the unity of man and the substantial union of soul and body, is a creation of genius. And as much may be said of his logic.

(3) The Moral Period

After Aristotle (end of the fourth Century B.C.) four schools are in evidence: Stoic, Epicurean, Platonic, and Aristotelean. The Stoics (Zeno of Citium, Cleanthes, Chrysippus), like the Epicureans, make speculation subordinate to the quest of happiness, and the two schools, in spite of their divergencies, both consider happiness to be *ataraxia* or absence of sorrow and preoccupation. The teachings of both on nature (Dynamistic Monism with the Stoics, and Pluralistic Mechanism with the Epicureans) are only a prologue to their moral philosophy. After the latter half of the second century B.C. we perceive reciprocal infiltrations between the various schools. This issues in Eclecticism. Seneca (first century B.C.) and Cicero (106-43 B.C.) are attached to Eclecticism with a Stoic basis; two great commentators of Aristotle, Andronicus of Rhodes (first century B.C.) and Alexander of Aphrodisia about 200), affect a Peripatetic Eclecticism. Parallel with Eclecticism runs a current of Scepticism (Ænesidemus, end of first century B.C., and Sextus Empiricus, second century A.D.).

(4) The Mystical Period

In the first century B.C. Alexandria had become the capital of Greek intellectual life. Mystical and theurgic tendencies, born of a longing for the ideal and the beyond, began to appear in a current of Greek philosophy which originated in a restoration of Pythagorism and its alliance with Platonism (Plutarch of Chieronea, first century B.C.; Apuleius of Madaura; Numenius, about 160 and others), and still more in the Graeco-Judaic philosophy of Philo the Jew (30 B.C. to A.D. 50). But the dominance of these tendencies is more apparent in neo-Platonism. The most brilliant thinker of the neo-Platonic series is Plotinus (A.D. 20-70). In his "Enneads" he traces the paths which lead the soul to the One, and establishes, in keeping with his mysticism, an emanationist metaphysical system. Porphyry of Tyre (232-304), a disciple of Plotinus, popularizes his teaching, emphasizes its religious bearing, and makes Aristotle's "Organon" the introduction to neo-Platonic philosophy. Later on, neo-Platonism, emphasizing its religious features, placed itself, with Jamblichus, at the service of the pagan pantheon which growing Christianity was ruining on all sides, or again, as with Themistius at Constantinople (fourth century), Proclus and Simplicius at Athens (fifth century), and Ammonius at Alexandria, it took an Encyclopedic turn. With Ammonius and John Philoponus (sixth century) the neo-Platonic School of Alexandria developed in the direction of Christianity.

Patristic philosophy

In the closing years of the second century and, still more, in the third century, the philosophy of the Fathers of the Church was developed. It was born in a civilization dominated by Greek ideas, chiefly neo-Platonic, and on this side its mode of thought is still the ancient. Still, if some, like St. Augustine, attach the greatest value to the neo-Platonic teachings, it must not be forgotten that the Monist or Pantheistic and Emanationist ideas, which have been accentuated by the successors of Plotinus, are carefully replaced by the theory of creation and the substantial distinction of beings; in this respect a new spirit animates Patristic philosophy. It was developed, too, as an auxiliary of the dogmatic system which the Fathers were to establish. In the third century the great representatives of the Christian School of Alexandria are Clement of Alexandria and Origen. After them Gregory of Nyssa, Gregory of Nazianzus, St. Ambrose, and, above all, St. Augustine (354-430) appear. St. Augustine gathers up the intellectual treasures of the ancient world, and is one of the principal intermediaries for their transmission to the modern world. In its definitive form Augustinism is a fusion of intellectualism and mysticism, with a study of God as the centre of interest. In the fifth century, pseudo-Dionysius perpetuates many a neo-Platonic doctrine adapted to Christianity, and his writings exercise a powerful influence in the Middle Ages.

Medieval philosophy

The philosophy of the Middle Ages developed simultaneously in the West, at Byzantium, and in divers Eastern centres; but the Western philosophy is the most important. It built itself up with great effort on the ruins of barbarism: until the twelfth century, nothing was known of Aristotle, except some treatises on logic, or of Plato, except a few dialogues. Gradually, problems arose, and, foremost, in importance, the question of universals in the ninth, tenth, and eleventh centuries (see NOMINALISM). St. Anselm (1033-1109) made a first attempt at systematizing Scholastic philosophy, and developed a theodicy. But as early as the ninth century an anti-Scholastic philosophy had arisen with Eriugena who revived the neo-Platonic Monism.

In the twelfth century Scholasticism formulated new anti-Realist doctrines with Adelard of Bath, Gauthier de Mortagne, and, above all, Abelard and Gilbert de la Porrée, whilst extreme Realism took shape in the schools of Chartres. John of Salisbury and Alain de Lille, in the twelfth century, are the co-ordinating minds that indicate the maturity of Scholastic thought. The latter of these waged a campaign against the Pantheism of David of Dinant and the Epicureanism of the Albigenses — the two most important forms of anti-Scholastic philosophy. At Byzantium, Greek philosophy held its ground throughout the Middle Ages, and kept apart from the movement of Western ideas. The same is true of the Syrians and Arabs.

But at the end of the twelfth century the Arabic and Byzantine movement entered into relation with Western thought, and effected, to the profit of the latter, the brilliant philosophical revival of the thirteenth century. This was due, in the first place, to the creation of the University of Paris; next, to the foundation of the Dominican and Franciscan orders; lastly, to the introduction of Arabic and Latin translations of Aristotle and the ancient authors. At the same period the works of Avicenna and Averroes became known at Paris. A pleiad of brilliant names fills the thirteenth century — Alexander of Hales, St. Bonaventure, Bl. Albertus Magnus, St. Thomas Aquinas, Godfrey of Fontaines, Henry of Ghent, Giles of Rome, and Duns Scotus — bring Scholastic synthesis to perfection. They all wage war on Latin Averroism and anti-Scholasticism, defended in the schools of Paris by Siger of Brabant. Roger Bacon, Lully, and a group of neo-Platonists occupy a place apart in this century, which is completely filled by remarkable figures.

In the fourteenth century Scholastic philosophy betrays the first symptoms of decadence. In place of individualities we have schools, the chief being the Thomist, the Scotist, and the Terminist School of William of Occam, which soon attracted numerous partisans. With John of Jandun, Averroism perpetuates its most audacious propositions; Eckhart and Nicholas of Cusa formulate philosophies which are symptomatic of the approaching revolution. The Renaissance was a troublous period for philosophy. Ancient systems were revived: the Dialectic of the Humanistic philologists (Laurentius Valla, Vivés), Platonism, Aristoteleanism, Stoicism. Telesius, Campanella, and Giordano Bruno follow a naturalistic philosophy. Natural and social law are renewed with Thomas More and Grotius. All these philosophies were leagued together against Scholasticism, and very often against Catholicism. On the other hand, the Scholastic philosophers grew weaker and weaker, and, excepting for the brilliant Spanish Scholasticism of the sixteenth century (Bañez, Francisco Suárez, Vasquez, and so on), it may be said that ignorance of the fundamental doctrine became general. In the seventeenth century there was no one to support Scholasticism: it fell, not for lack of ideas, but for lack of defenders.

Modern philosophy

The philosophies of the Renaissance are mainly negative: modern philosophy is, first and foremost, constructive. The latter is emancipated from all dogma; many of its syntheses are powerful; the definitive formation of the

various nationalities and the diversity of languages favour the tendency to individualism.

The two great initiators of modern philosophy are Descartes and Francis Bacon. The former inaugurates a spiritualistic philosophy based on the data of consciousness, and his influence may be traced in Malebranche, Spinoza, and Leibniz. Bacon heads a line of Empiricists, who regarded sensation as the only source of knowledge.

In the seventeenth and eighteenth centuries, a Sensualist philosophy grew up in England, based on Baconian Empiricism, and soon to develop in the direction of Subjectivism. Hobbes, Locke, Berkeley, and David Hume mark the stages of this logical evolution. Simultaneously an Associationist psychology appeared also inspired by Sensualism, and, before long, it formed a special field of research. Brown, David Hartley, and Priestley developed the theory of association of ideas in various directions. At the outset Sensualism encountered vigorous opposition, even in England, from the Mystics and Platonists of the Cambridge School (Samuel Parker and, especially, Ralph Cudworth). The reaction was still more lively in the Scotch School, founded and chiefly represented by Thomas Reid, to which Adam Ferguson, Oswald, and Dugald Stewart belonged in the seventeenth and eighteenth centuries, and which had great influence over Eclectic Spiritualism, chiefly in America and France. Hobbes's "selfish" system was developed into a morality by Bentham, a partisan of Egoistic Utilitarianism, and by Adam Smith, a defender of Altruism, but provoked a reaction among the advocates of the moral sentiment theory (Shaftesbury, Hutcheson, Samuel Clarke). In England, also, Theism or Deism was chiefly developed, instituting a criticism of all positive religion, which it sought to supplant with a philosophical religion. English Sensualism spread in France during the eighteenth century: its influence is traceable in de Condillac, de la Mettrie, and the Encyclopedists; Voltaire popularized it in France and with Jean-Jacques Rousseau it made its way among the masses, undermining their Christianity and preparing the Revolution of 1789. In Germany, the philosophy of the eighteenth century is, directly or indirectly, connected with Leibniz — the School of Wolff, the Æsthetic School (Baumgarten), the philosophy of sentiment. But all the German philosophers of the eighteenth century were eclipsed by the great figure of Kant.

With Kant (1724-1804) modern philosophy enters its second period and takes a critical orientation. Kant bases his theory of knowledge, his moral and æsthetic system, and his judgments of finality on the structure of the mind. In the first half of the eighteenth century, German philosophy is replete with great names connected with Kantianism — after it had been put through a Monistic evolution, however — Fichte, Schelling, and Hegel have been called the triumvirate of Pantheism; then again, Schopenhauer, while Herbart returned to individualism. French philosophy in the nineteenth century is at first dominated by an eclectic Spiritualistic movement with which the names of Maine de Biran and, especially, Victor Cousin are associated. Cousin had disciples in America (C. Henry), and in France he gained favour with those whom the excesses of the Revolution had alarmed. In the first half of the nineteenth century French Catholics approved the Traditionalism inaugurated by de Bonald and de Lamennais, while another group took refuge in Ontologism. In the same period Auguste Comte founded Positivism, to which Littré and Taine adhered, though it rose to its greatest height in the English-speaking countries. In fact, England may be said to have been the second fatherland of Positivism; John Stuart Mill, Huxley, Alexander Bain and Herbert Spencer expanded its doctrines, combined them with Associationism and emphasized it criteriological aspect, or attempted (Spencer) to construct a vast synthesis of human sciences. The Associationist philosophy at this time was confronted by the Scotch philosophy which, in Hamilton, combined the teachings of Reid and of Kant and found an American champion in Noah Porter. Mansel spread the doctrines of Hamilton. Associationism regained favour with Thomas Brown and James Mill, but was soon enveloped in the large conception of Positivism, the dominant philosophy in England. Lastly, in Italy, Hegel was for a long time the leader of nineteenth-century philosophical thought (Vera and d'Ercole), whilst Gioberti, the ontologist and

Rosmini occupy a distinct position. More recently, Positivism has gained numerous adherents in Italy. In the middle of the century, a large Krausist School existed in Spain, represented chiefly by Sanz del Rio (d. 1869) and N. Salmeron. Balmes (1810-48), the author of "Fundamental Philosophy" is an original thinker whose doctrines have many points of contact with Scholasticism.

Contemporary orientations

Favourite problems

Leaving aside social questions, the study of which belongs to philosophy in only some of their aspects, it may be said that in the philosophic interest of the present day psychological questions hold the first place, and that chief among them is the problem of certitude. Kant, indeed, is so important a factor in the destinies of contemporary philosophy not only because he is the initiator of critical formalism, but still more because he obliges his successors to deal with the preliminary and fundamental question of the limits of knowledge. On the other hand the experimental investigation of mental processes has become the object of a new study, psycho-physiology, in which men of science co-operate with philosophers, and which meets with increasing success. This study figures in the programme of most modern universities. Originating at Leipzig (the School of Wundt) and Würzburg, it has quickly become naturalized in Europe and America. In America, "The Psychological Review" has devoted many articles to this branch of philosophy. Psychological studies are the chosen field of the American (Ladd, William James, Hall).

The great success of psychology has emphasized the subjective character of æsthetics, in which hardly anyone now recognizes the objective and metaphysical element. The solutions in vogue are the Kantian, which represents the æsthetic judgment as formed in accordance with the subjective, structural function of the mind, or other psychologic solutions which reduce the beautiful to a psychic impression (the "sympathy", or *Einfühlung*, of Lipps; the "concrete intuition" of Benedetto Croce). These explanations are insufficient, as they neglect the objective aspect of the beautiful — those elements which, on the part of the object, are the cause of the æsthetic impression and enjoyment. It may be said that the neo-Scholastic philosophy alone takes into account the objective æsthetic factor.

The absorbing influence of psychology also manifests itself to the detriment of other branches of philosophy; first of all, to the detriment of metaphysics, which our contemporaries have unjustly ostracized — unjustly, since, if the existence or possibility of a thing-in-itself is considered of importance, it behooves us to inquire under what aspects of reality it reveals itself. This ostracism of metaphysics, moreover, is largely due to misconception and to a wrong understanding of the theories of substance, of faculties, of causes etc., which belong to the traditional metaphysics. Then again, the invasion of psychology is manifest in logic: side by side with the ancient logic or dialectic, a mathematical or symbolic logic has developed (Peano, Russell, Peirce, Mitchell, and others) and, more recently, a genetic logic which would study, not the fixed laws of thought, but the changing process of mental life and its genesis (Baldwin).

We have seen above (section II, D) how the increasing cultivation of psychology has produced other scientific ramifications which find favour with the learned world. Moral philosophy, long neglected, enjoys a renewed vogue notably in America, where ethnography is devoted to its service (see, e.g., the publications of the Smithsonian Institution). "The International Journal of Ethics" is a review especially devoted to this line of work. In some quarters, where the atmosphere is Positivist, there is a desire to get rid of the old morality, with its notions of value and of duty, and to replace it with a collection of empiric rules subject to evolution (Sidgwick,

Huxley, Leslie Stephen, Durkheim, Levy-Bruhl).

As to the history of philosophy, not only are very extended special studies devoted to it, but more and more room is given it in the study of every philosophic question. Among the causes of this exaggerated vogue are the impulse given by the Schools of Cousin and of Hegel, the progress of historical studies in general, the confusion arising from the clash of rival doctrines, and the distrust engendered by that confusion. Remarkable works have been produced by Deussen, on Indian and Oriental philosophy; by Zeller, on Greek antiquity; by Denifle, Hauréau, Bäumker, and Mandonnet, on the Middle Ages; by Windelband, Kuno Fischer, Boutroux and Höffding, on the modern period; and the list might easily be considerably prolonged.

The opposing systems

The rival systems of philosophy of the present time may be reduced to various groups: Positivism, neo-Kantianism, Monism, neo-Scholasticism. Contemporary philosophy lives in an atmosphere of Phenomenism, since Positivism and neo-Kantianism are at one on this important doctrine: that science and certitude are possible only within the limits of the world of phenomena, which is the immediate object of experience. Positivism, insisting on the exclusive rights of sensory experience, and Kantian criticism, reasoning from the structure of our cognitive faculties, hold that knowledge extends only as far as appearances; that beyond this is the absolute, the dark depths, the existence of which there is less and less disposition to deny, but which no human mind can fathom. On the contrary, this element of the absolute forms an integral constituent in neo-Scholasticism which has revived, with sobriety and moderation, the fundamental notions of Aristotelean and Medieval metaphysics, and has succeeded in vindicating them against attack and objection.

Positivism

Positivism, under various forms, is defended in England by the followers of Spencer, by Huxley, Lewes, Tyndall, F. Harrison, Congreve, Beesby, J. Bridges, Grant Allen (James Martineau is a reactionary against Positivism); by Balfour, who at the same time propounds a characteristic theory of belief, and falls back on Fideism. From England Positivism passed over to America, where it soon dethroned the Scottish doctrines (Carus). De Roberty, in Russia, and Ribot, in France, are among its most distinguished disciples. In Italy it is found in the writings of Ferrari, Ardigo, and Morselli; in Germany, in those of Laas, Riehl, Guyau, and Durkheim. Less brutal than Materialism, the radical vice of Positivism is its identification of the knowable with the sensible. It seeks in vain to reduce general ideas to collective images, and to deny the abstract and universal character of the mind's concepts. It vainly denies the super-experiential value of the first logical principles in which the scientific life of the mind is rooted; nor will it ever succeed in showing that the certitude of such a judgment as 2 + 2 = 4 increases with our repeated addition of numbers of oxen or of coins. In morals, where it would reduce precepts and judgments to sociological data formed in the collective conscience and varying with the period and the environment, Positivism stumbles against the judgments of value, and the supersensible ideas of obligation, moral good, and law, recorded in every human conscience and unvarying in their essential data.

Kantianism

Kantianism had been forgotten in Germany for some thirty years (1830-60); Vogt, Büchner, and Molesehott had won for Materialism an ephemeral vogue; but Materialism was swept away by a strong Kantian reaction. This reversion towards Kant (*Rückkehr zu Kant*) begins to be traceable in 1860 (notably as a result of Lange's "History of Materialism"), and the influence of Kantian doctrines may be said to permeate the whole

contemporary German philosophy (Otto Liebmann, von Hartmann, Paulsen, Rehmke, Dilthey, Natorp, Fueken, the Immanentists, and the Empirico-criticists). French neo-Criticism, represented by Renouvier, was connected chiefly with Kant's second "Critique" and introduced a specific Voluntarism. Vacherot, Secrétan, Lachelier, Boutroux, Fouillée, and Bergson are all more or less under tribute to Kantianism. Ravaisson proclaims himself a follower of Maine de Biran. Kantianism has taken its place in the state programme of education and Paul Janet, who, with F. Bouillier and Caro, was among the last legatees of Cousin's Spiritualism, appears, in his "Testament philosophique", affecting a Monism with a Kantian inspiration. All those who, with Kant and the Positivists, proclaim the "bankruptcy of science" look for the basis of our certitude in an imperative demand of the will. This Voluntarism, also called Pragmatism (William James), and, quite recently, Humanism (Schiller at Oxford), is inadequate to the establishment of the theoretic moral and social sciences upon an unshakable base: sooner or later, reflection will ask what this need of living and of willing is worth, and then the intelligence will return to its position as the supreme arbiter of certitude.

From Germany and France Kantianism has spread everywhere. In England it has called into activity the Critical Idealism associated with T.H. Green and Bradley. Hodgson, on the contrary, returns to Realism. S. Laurie may be placed between Green and Martineau. Emerson, Harris, Everett, and Royce spread Idealistic Criticism in America; Shadworth Hodgson, on the other hand, and Adamson tend to return to Realism, whilst James Ward emphasizes the function of the will.

Monism

With a great many Kantians, a stratum of Monistic ideas is superimposed on Criticism, the thing in itself being considered numerically one. The same tendencies are observable among Positivist Evolutionists like Clifford and Romanes, or G.T. Ladd.

Neo-Scholasticism

Neo-Scholasticism, the revival of which dates from the last third of the nineteenth century (Liberatore, Taparelli, Cornoldi, and others), and which received a powerful impulse under Leo XIII, is tending more and more to become the philosophy of Catholics. It replaces Ontologism, Traditionalism, Gunther's Dualism, and Cartesian Spiritualism, which had manifestly become insufficient. Its syntheses, renewed and completed, can be set up in opposition to Positivism and Kantianism, and even its adversaries no longer dream of denying the worth of its doctrines. The bearings of neo-Scholasticism have been treated elsewhere (see NEO-SCHOLASTICISM).

Is progress in philosophy indefinite, or is there a philosophia perennis?

Considering the historic succession of systems and the evolution of doctrines from the remotest ages of India down to our own times, and standing face to face with the progress achieved by contemporary scientific philosophy, must we not infer the indefinite progress of philosophic thought? Many have allowed themselves to be led away by this ideal dream. Historic Idealism (Karl Marx) regards philosophy as a product fatally engendered by pre-existing causes in our physical and social environment. Auguste Comte's "law of the three states", Herbert Spencer's evolutionism, Hegel's "indefinite becoming of the soul", sweep philosophy along in an ascending current toward an ideal perfection, the realization of which no one can foresee. For all these thinkers, philosophy is variable and relative: therein lies their serious error. Indefinite progress, condemned by history in

many fields, is untenable in the history of philosophy. Such a notion is evidently refuted by the appearance of thinkers like Aristotle and Plato three centuries before Christ, for these men, who for ages have dominated, and still dominate, human thought, would be anachronisms, since they would be inferior to the thinkers of our own time. And no one would venture to assert this. History shows, indeed, that there are adaptations of a synthesis to its environment, and that every age has its own aspirations and its special way of looking at problems and their solutions; but it also presents unmistakable evidence of incessant new beginnings, of rhythmic oscillations from one pole of thought to the other. If Kant found an original formula of Subjectivism and the *reine Innerlichkeit*, it would be a mistake to think that Kant had no intellectual ancestors: he had them in the earliest historic ages of philosophy: M. Deussen has found in the Vedic hymn of the Upanishads the distinction between noumenon and phenomenon, and writes, on the theory of Mâyâ, "Kants Grunddogma, so alt wie die Philosophie" ("Die Philos. des Upanishad's", Leipzig, 1899, p. 204).

It is false to say that all truth is relative to a given time and latitude, and that philosophy is the product of economic conditions in a ceaseless course of evolution, as historical Materialism holds. Side by side with these things, which are subject to change and belong to one particular condition of the life of mankind, there is a soul of truth circulating in every system, a mere fragment of that complete and unchangeable truth which haunts the human mind in its most disinterested investigations. Amid the oscillations of historic systems there is room for a *philosophia perennis* — as it were a purest atmosphere of truth, enveloping the ages, its clearness somehow felt in spite of cloud and mist.

> "The truth Pythagoras sought after, and Plato, and Aristotle, is the same that Augustine and Aquinas pursued. So far as it is developed in history, truth is the daughter of time; so far as it bears within itself a content independent of time, and therefore of history, it is the daughter of eternity" [Willmann, "Gesch. d Idealismus", II (Brunswick, 1896), 550; cf. Commer "Die immerwahrende Philosophie" (Vienna, 1899)].

This does not mean that essential and permanent verities do not adapt themselves to the intellectual life of each epoch. Absolute immobility in philosophy, no less than absolute relativity, is contrary to nature and to history. It leads to decadence and death. It is in this sense that we must interpret the adage: *Vita in motu*.

Philosophy and the sciences

Aristotle of old laid the foundation of a philosophy supported by observation and experience. We need only glance through the list of his works to see that astronomy, mineralogy, physics and chemistry, biology, zoology, furnished him with examples and bases for his theories on the constitution, of the heavenly and terrestrial bodies, the nature of the vital principle, etc. Besides, the whole Aristotelean classification of the branches of philosophy (see section II) is inspired by the same idea of making philosophy — general science — rest upon the particular sciences. The early Middle Ages, with a rudimentary scientific culture, regarded all its learning, built up on the Trivium (grammar, rhetoric, dialectic) and Quadrivium (arithmetic, geometry, astronomy, music), as preparation for philosophy. In the thirteenth century, when Scholasticism came under Aristotelean influences, it incorporated the sciences in the programme of philosophy itself. This may be seen in regulation issued by the Faculty of Arts of Paris 19 March, 1255, "De libris qui legendi essent" This order prescribes the study of commentaries or various scientific treatises of Aristotle, notably those on the first book of the "Meteorologica", on the treatises on Heaven and Earth, Generation, the Senses and Sensations, Sleeping and Waking, Memory, Plants, and Animals. Here are amply sufficient means for the *magistri* to familiarize the "artists" with astronomy, botany, physiology, and zoology to say nothing of Aristotle's "Physics", which was also prescribed as a classical text, and which afforded

opportunities for numerous observations in chemistry and physics as then understood. Grammar and rhetoric served as preliminary studies to logic, Bible history, social science, and politics were introductory to moral philosophy. Such men as Albertus Magnus and Roger Bacon expressed their views on the necessity of linking the sciences with philosophy and preached it by example. So that both antiquity and the Middle Ages knew and appreciated scientific philosophy.

In the seventeenth century the question of the relation between the two enters upon a new phase: from this period modern science takes shape and begins that triumphal march which it is destined to continue through the twentieth century, and of which the human mind is justly proud. Modern scientific knowledge differs from that of antiquity and the Middle Ages in three important respects: the multiplication of sciences; their independent value; the divergence between common knowledge and scientific knowledge. In the Middle Ages astronomy was closely akin to astrology, chemistry to alchemy, physics to divination; modern science has severely excluded all these fantastic connections. Considered now from one side and again from another, the physical world has revealed continually new aspects, and each specific point of view has become the focus of a new study. On the other hand, by defining their respective limits, the sciences have acquired autonomy; useful in the Middle Ages only as a preparation for rational physics and for metaphysics, they are nowadays of value for themselves, and no longer play the part of handmaids to philosophy. Indeed, the progress achieved within itself by each particular science brings one more revolution in knowledge. So long as instruments of observation were imperfect, and inductive methods restricted, it was practically impossible to rise above an elementary knowledge. People knew, in the Middle Ages, that wine, when left exposed to the air, became vinegar; but what do facts like this amount to in comparison with the complex formulae of modern chemistry? Hence it was that an Albertus Magnus or a Roger Bacon could flatter himself, in those days, with having acquired all the science of his time, a claim which would now only provoke a smile. In every department progress has drawn the line sharply between popular and scientific knowledge; the former is ordinarily the starting-point of the latter, but the conclusions and teachings involved in the sciences are unintelligible to those who lack the requisite preparation.

Do not, then, these profound modifications in the condition of the sciences entail modifications in the relations which, until the seventeenth century, had been accepted as existing between the sciences and philosophy? Must not the separation of philosophy and science widen out to a complete divorce? Many have thought so, both scientists and philosophers, and it was for this that in the eighteenth and nineteenth centuries so many savants and philosophers turned their backs on one another. For the former, philosophy has become useless; the particular sciences, they say, multiplying and becoming perfect, must exhaust the whole field of the knowable, and a time will come when philosophy shall be no more. For the philosophers, philosophy has no need of the immeasurable mass of scientific notions which have been acquired, many of which possess only a precarious and provisional value. Wolff, who pronounced the divorce of science from philosophy, did most to accredit this view, and he has been followed by certain Catholic philosophers who held that scientific study may be excluded from philosophic culture.

What shall we say on this question? That the reasons which formerly existed for keeping touch with science are a thousand times more imperative in our day. If the profound synthetic view of things which justifies the existence of philosophy presupposes analytical researches, the multiplication and perfection of those researches is certainly reason for neglecting them. The horizon of detailed knowledge widens incessantly; research of every kind is busy exploring the departments of the universe which it has mapped out. And philosophy, whose mission is to explain the order of the universe by general and ultimate reasons applicable, not only to a group of facts, but to the whole body of known phenomena, cannot be indifferent to the matter which it has to explain. Philosophy is like a tower whence we obtain the panorama of a great city — its plan, its monuments, its great arteries, with the form

and location of each — things which a visitor cannot discern while he goes through the streets and lanes, or visits libraries, churches, palaces, and museums, one after another. If the city grows and develops, there is all the more reason, if we would know it as a whole, why we should hesitate to ascend the tower and study from that height the plan upon which its new quarters have been laid out.

It is, happily, evident that contemporary philosophy is inclined to be first and foremost a scientific philosophy; it has found its way back from its wanderings of yore. This is noticeable in philosophers of the most opposite tendencies. There would be no end to the list if we had to enumerate every case where this orientation of ideas has been adopted. "This union", says Boutroux, speaking of the sciences and philosophy, "is in truth the classic tradition of philosophy. But there had been established a psychology and a metaphysics which aspired to set themselves up beyond the sciences, by mere reflection of the mind upon itself. Nowadays all philosophers are agreed to make scientific data their starting-point" (Address at the International Congress of Philosophy in 1900; *Revue de Métaph. et de Morale*, 1900, p. 697). Boutroux and many others spoke similarly at the International Congress of Bologna (April, 1911). Wundt introduces this union into the very definition of philosophy, which, he says, is "the general science whose function it is to unite in a system free of all contradictions the knowledge acquired through the particular sciences, and to reduce to their principles the general methods of science and the conditions of knowledge supposed by them" ("Einleitung in die Philosophie", Leipzig, 1901, p. 19). And R. Eucken says: "The farther back the limits of the observable world recede, the more conscious are we of the lack of an adequately comprehensive explanation" — "Gesammelte Aufsatze zur Philos. u. Lebensanschanung" (Leipzig, 1903), p. 157]. This same thought inspired Leo XIII when he placed the parallel and harmonious teaching of philosophy and of the sciences on the programme of the Institute of Philosophy created by him in the University of Louvain (see NEO-SCHOLASTICISM).

On their side, the scientists have been coming to the same conclusions ever since they rose to a synthetic view of that matter which is the object of their study. So it was with Pasteur, so with Newton. Ostwald, professor of chemistry at Leipzig, has undertaken to publish the "Annalen der Naturphilosophie", a review devoted to the cultivation of the territory which is common to philosophy and the sciences A great many men of science, too, are engaged in philosophy without knowing it: in their constant discussions of "Mechanism", "Evolutionism", "Transformism", they are using terms which imply a philosophical theory of matter.

If philosophy is the explanation as a whole of that world which the particular sciences investigate in detail, it follows that the latter find their culmination in the former, and that as the sciences are so will philosophy be. It is true that objections are put forward against this way of uniting philosophy and the sciences. Common observation, it is said, is enough support for philosophy. This is a mistake: philosophy cannot ignore whole departments of knowledge which are inaccessible to ordinary experience biology, for example, has shed a new light on the philosophic study of man. Others again adduce the extent and the growth of the sciences to show that scientific philosophy must ever remain an unattainable ideal; the practical solution of this difficulty concerns the teaching of philosophy (see section XI).

Philosophy and religion

Religion presents to man, with authority, the solution of man's problems which also concern philosophy. Such are the questions of the nature of God, of His relation with the visible world, of man's origin and destiny. Now religion, which precedes philosophy in the social life, naturally obliges it to take into consideration the points of religious doctrine. Hence the close connection of philosophy with religion in the early stages of civilization, a fact strikingly apparent in Indian philosophy, which, not only at its beginning but throughout its development, was

intimately bound up with the doctrine of the sacred books (see above). The Greeks, at least during the most important periods of their history, were much less subject to the influences of pagan religions; in fact, they combined with extreme scrupulosity in what concerned ceremonial usage a wide liberty in regard to dogma. Greek thought soon took its independent flight; Socrates ridicules the gods in whom the common people believed; Plato does not banish religious ideas from his philosophy; but Aristotle keeps them entirely apart, his God is the *Actus purus*, with a meaning exclusively philosophic, the prime mover of the universal mechanism. The Stoics point out that all things obey an irresistible fatality and that the wise man fears no gods. And if Epicurus teaches cosmic determinism and denies all finality, it is only to conclude that man can lay aside all fear of divine intervention in mundane affairs. The question takes a new aspect when the influences of the Oriental and Jewish religions are brought to bear on Greek philosophy by neo-Pythagorism, the Jewish theology (end of the first century), and, above all, neo-Platonism (third century B.C.). A yearning for religion was stirring in the world, and philosophy became enamoured of every religious doctrine Plotinus (third century after Christ), who must always remain the most perfect type of the neo-Platonic mentality, makes philosophy identical with religion, assigning as its highest aim the union of the soul with God by mystical ways. This mystical need of the supernatural issues in the most bizarre lucubrations from Plotinus's successors, e.g. Jamblicus (d. about A.D. 330), who, on a foundation of neo-Platonism, erected an international pantheon for all the divinities whose names are known.

It has often been remarked that Christianity, with its monotheistic dogma and its serene, purifying morality, came in the fulness of time and appeased the inward unrest with which souls were afflicted at the end of the Roman world. Though Christ did not make Himself the head of a philosophical school, the religion which He founded supplies solutions for a group of problems which philosophy solves by other methods (e.g. the immortality of the soul). The first Christian philosophers, the Fathers of the Church, were imbued with Greek ideas and took over from the circumambient neo-Platonism the commingling of philosophy and religion. With them philosophy is incidental and secondary, employed only to meet polemic needs, and to support dogma; their philosophy is religious. In this Clement of Alexandria and Origen are one with St. Augustine and Pseudo-Dionysius the Areopagite. The early Middle Ages continued the same traditions, and the first philosophers may be said to have received neo-Platonic influences through the channel of the Fathers. John Scotus Eriugena (ninth century), the most remarkable mind of this first period, writes that "true religion is true philosophy and, conversely, true philosophy is true religion" (De div. praed., I, I). But as the era advances a process of dissociation sets in, to end in the complete separation between the two sciences of Scholastic theology or the study of dogma, based fundamentally on Holy Scripture, and Scholastic philosophy, based on purely rational investigation. To understand the successive stages of this differentiation, which was not completed until the middle of the thirteenth century, we must draw attention to certain historical facts of capital importance.

(1) The origin of several philosophical problems, in the early Middle Ages, must be sought within the domain of theology, in the sense that the philosophical discussions arose in reference to theological questions. The discussion, e.g. of transubstantiation (Berengarius of Tours), raised the problem of substance and of change, or becoming.

(2) Theology being regarded as a superior and sacred science, the whole pedagogic and didactic organization of the period tended to confirm this superiority (see section XI).

(3) The enthusiasm for dialectics, which reached its maximum in the eleventh century, brought into fashion certain purely verbal methods of reasoning bordering on the sophistical. Anselm of Besata (Anselmus Peripateticus) is the type of this kind of reasoner. Now the dialecticians, in discussing theological subjects, claimed absolute

validity for their methods, and they ended in such heresies as Gottschalk's on predestination, Berengarius's on transubstantiation, and Roscelin's Tritheism. Berengarius's motto was: "Per omnia ad dialecticam confugere". There followed an excessive reaction on the part of timorous theologians, practical men before all things, who charged dialectics with the sins of the dialecticians. This antagonistic movement coincided with an attempt to reform religious life. At the head of the group was Peter Damian (1007-72), the adversary of the liberal arts; he was the author of the saying that philosophy is the handmaid of theology. From this saying it has been concluded that the Middle Ages in general put philosophy under tutelage, whereas the maxim was current only among a narrow circle of reactionary theologians. Side by side with Peter Damian in Italy, were Manegold of Lautenbach and Othloh of St. Emmeram, in Germany.

(4) At the same time a new tendency becomes discernible in the eleventh century, in Lanfranc, William of Hirschau, Rodulfus Ardens, and particularly St. Anselm of Canterbury; the theologian calls in the aid of philosophy to demonstrate certain dogmas or to show their rational side. St. Anselm, in an Augustinian spirit, attempted this justification of dogma, without perhaps invariably applying to the demonstrative value of his arguments the requisite limitations. In the thirteenth century these efforts resulted in a new theological method, the dialectic.

(5) While these disputes as to the relations of philosophy and theology went on, many philosophical questions were nevertheless treated on their own account, as we have seen above (universals, St. Anselm's theodicy, Abelard's philosophy, etc.).

(6) The dialectic method, developed fully in the twelfth century, just when Scholastic theology received a powerful impetus, is a theological, not a philosophical, method. The principal method in theology is the interpretation of Scripture and of authority; the dialectic method is secondary and consists in first establishing a dogma and then showing its reasonableness, confirming the argument from authority by the argument from reason. It is a process of apologetics. From the twelfth century onward, these two theological methods are fairly distinguished by the words *auctoritates, rationes*. Scholastic theology, condensed in the "summae" and "books of sentences", is henceforward regarded as distinct from philosophy. The attitude of theologians towards philosophy is threefold: one group, the least influential, still opposes its introduction into theology, and carries on the reactionary traditions of the preceding period (e.g. Gauthier de Saint-Victor); another accepts philosophy, but takes a utilitarian view of it, regarding it merely as a prop of dogma (Peter Lombard); a third group, the most influential, since it includes the three theological schools of St. Victor, Abelard, and Gilbert de la Porrée, grants to philosophy, in addition to this apologetic role, an independent value which entitles it to be cultivated and studied for its own sake. The members of this group are at once both theologians and philosophers.

(7) At the opening of the thirteenth century one section of Augustinian theologians continued to emphasize the utilitarian and apologetic office of philosophy. But St. Thomas Aquinas created new Scholastic traditions, and wrote a chapter on scientific methodology in which the distinctness and in dependence of the two sciences is thoroughly established. Duns Scotus, again, and the Terminists exaggerated this independence. Latin Averroism, which had a brilliant but ephemeral vogue in the thirteenth and fourteenth centuries, accepted whole and entire in philosophy Averroistic Peripateticism, and, to safeguard Catholic orthodoxy, took refuge behind the sophism that what is true in philosophy may be false in theology, and conversely — wherein they were more reserved than Averroes and the Arab philosophers, who regarded religion as something inferior, good enough for the masses, and who did not trouble themselves about Moslem orthodoxy. Lully, going to extremes, maintained that all dogma is susceptible of demonstration, and that philosophy and theology coalesce. Taken as a whole, the Middle Ages, profoundly religious, constantly sought to reconcile its philosophy with the Catholic Faith. This

bond the Renaissance philosophy severed. In the Reformation period a group of publicists, in view of the prevailing strife, formed projects of reconciliation among the numerous religious bodies. They convinced themselves that all religions possess a common fund of essential truths relating to God, and that their content is identical, in spite of divergent dogmas. Besides, Theism, being only a form of Naturism applied to religion, suited the independent ways of the Renaissance. As in building up natural law, human nature was taken into consideration, so reason was interrogated to discover religious ideas. And hence the wide acceptance of Theism, not among Protestants only, but generally among minds that had been carried away with the Renaissance movement (Erasmus, Coornheert).

For this tolerance or religious indifferentism modern philosophy in more than one instance substituted a disdain of positive religions. The English Theism or Deism of the seventeenth and eighteenth centuries criticizes all positive religion and, in the name of an innate religious sense, builds up a natural religion which is reducible to a collection of theses on the existence of God and the immortality of the soul. The initiator of this movement was Herbert of Cherbury (1581-1648); J. Toland (1670-1722), Tindal (1656-1733), and Lord Bolingbroke took part in it. This criticizing movement inaugurated in England was taken up in France, where it combined with an outright hatred of Catholicism. Pierre Bayle (1646-1706) propounded the thesis that all religion is anti-rational and absurd, and that a state composed of Atheists is possible. Voltaire wished to substitute for Catholicism an incoherent mass of doctrines about God. The religious philosophy of the eighteenth century in France led to Atheism and paved the way for the Revolution. In justice to contemporary philosophy it must be credited with teaching the amplest tolerance towards the various religions; and in its programme of research it has included religious psychology, or the study of the religious sentiment.

For Catholic philosophy the relations between philosophy and theology, between reason and faith, were fixed, in a chapter of scientific methodology, by the great Scholastic thinkers of the thirteenth century. Its principles, which still retain their vitality, are as follows:

(a) Distinctness of the two sciences.

The independence of philosophy in regard to theology, as in regard to any other science whatsoever, is only an interpretation of this undeniable principle of scientific progress, as applicable in the twentieth century as it was in the thirteenth, that a rightly constituted science derives its formal object, its principles, and its constructive method from its own resources, and that, this being so, it cannot borrow from any other science without compromising its own right to exist.

(b) Negative, not positive, material, not formal, subordination of philosophy in regard to theology.

This means that, while the two sciences keep their formal independence (the independence of the principles by which their investigations are guided), there are certain matters where philosophy cannot contradict the solutions afforded by theology. The Scholastics of the Middle Ages justified this subordination, being profoundly convinced that Catholic dogma contains the infallible word of God, the expression of truth. Once a proposition, e.g. that two and two make four, has been accepted as certain, logic forbids any other science to form any conclusion subversive of that proposition. The material mutual subordination of the sciences is one of those laws out of which logic makes the indispensable guarantee of the unity of knowledge. "The truth duly demonstrated by one science serves as a beacon in another science." The certainty of a theory in chemistry imposes its acceptance on physics, and the physicist who should go contrary to it would be out of his course. Similarly, the philosopher cannot contradict the certain data of theology, any more than he can contradict the certain conclusions of the individual sciences. To deny this would be to deny the conformity of truth with truth, to contest the principle of

contradiction, to surrender to a relativism which is destructive of all certitude. "It being supposed that nothing but what is true is included in this science (sacred theology) . . . it being supposed that whatever is true by the decision and authority of this science can nowise be false by the decision of right reason: these things, I say, being supposed, as it is manifest from them that the authority of this science and reason alike rest upon truth, and one verity cannot be contrary to another, it must be said absolutely that reason can in no way be contrary to the authority of this Scripture, nay, all right reason is in accord with it" (Henry of Ghent, "Summa Theologica", X, iii, n.4).

But when is a theory certain? This is a question of fact, and error is easy. In proportion as the principle is simple and absolute, so are its applications complex and variable. It is not for philosophy to establish the certitude of theological data, any more than to fix the conclusions of chemistry or of physiology. The certainty of those data and those conclusions must proceed from another source. "The preconceived idea is entertained that a Catholic savant is a soldier in the service of his religious faith, and that, in his hands, science is but a weapon to defend his Credo. In the eyes of a great many people, the Catholic savant seems to be always under the menace of excommunication, or entangled in dogmas which hamper him, and compelled, for the sake of loyalty to his Faith, to renounce the disinterested love of science and its free cultivation" (Mercier, "Rapport sur les études supér. de philos.", 1891, p. 9). Nothing could be more untrue.

The Catholic Church and philosophy

The principles which govern the doctrinal relations of philosophy and theology have moved the Catholic Church to intervene on various occasions in the history of philosophy. As to the Church's right and duty to intervene for the purpose of maintaining the integrity of theological dogma and the deposit of faith, there is no need of discussion in this place. It is interesting, however, to note the attitude taken by the Church towards philosophy throughout the ages, and particularly in the Middle Ages, when a civilization saturated with Christianity had established extremely intimate relations between theology and philosophy.

A. The censures of the Church have never fallen upon philosophy as such, but upon theological applications, judged false, which were based upon philosophical reasonings. John Scotus Eriugena, Roscelin, Berengarius, Abelard, Gilbert de la Porrée were condemned because their teachings tended to subvert theological dogmas. Eriugena denied the substantial distinction between God and created things; Roscelin held that there are three Gods; Berengarius, that there is no real transubstantiation in the Eucharist; Abelard and Gilbert de la Porrée essentially modified the dogma of the Trinity. The Church, through her councils, condemned their theological errors; with their philosophy as such she does not concern herself. "Nominalism", says Hauréau, "is the old enemy. It is, in fact, the doctrine which, because it best accords with reason, is most remote from axioms of faith. Denounced before council after council, Nominalism was condemned in the person of Abelard as it had been in the person of Roscelin" (*Hist. philos. scol.*, I, 292).

No assertion could be more inaccurate. What the Church has condemned is neither the so-called Nominalism, nor Realism, nor philosophy in general, nor the method of arguing in theology, but certain applications of that method which are judged dangerous, i.e. matters which are not philosophical. In the thirteenth century a host of teachers adopted the philosophical theories of Roscelin and Abelard, and no councils were convoked to condemn them. The same may be said of the condemnation of David of Dinant (thirteenth century), who denied the distinction between God and matter, and of various doctrines condemned in the fourteenth century as tending to the negation of morality. It has been the same in modern times. To mention only the condemnation of Gunther, of Rosmini, and of Ontologism in the nineteenth century, what alarmed the Church was the fact that the theses in

question had a theological bearing.

B. *The Church has never imposed any philosophical system, though she has anathematized many doctrines, or branded them as suspect.* This corresponds with the prohibitive, but not imperative attitude of theology in regard to philosophy. To take one example, faith teaches that the world was created in time; and yet St. Thomas maintains that the concept of eternal creation (*ab aeterno*) involves no contradiction. He did not think himself obliged to demonstrate creation in time: his teaching would have been heterodox only if, with the Averroists his day, he had maintained the necessary eternity of the world. It may, perhaps, be objected that many Thomistic doctrines were condemned in 1277 by Etienne Tempier, Bishop of Paris. But it is well to note, and recent works on the subject have abundantly proved this, that Tempier's condemnation, in so far as it applied to Thomas Aquinas, was the issue of intrigues and personal animosity, and that, in canon law, it had no force outside of the Diocese of Paris. Moreover, it was annulled by one of Tempier's successors, Etienne de Borrète, in 1325.

C. *The Church has encouraged philosophy.* To say nothing of the fact that all those who applied themselves to science and philosophy in the Middle Ages were churchmen, and that the liberal arts found an asylum in capitular and monastic schools until the twelfth century, it is important to remark that the principal universities of the Middle Ages were pontifical foundations. This was the case with Paris. To be sure, in the first years of the university's aquaintance with the Aristotelean encyclopaedia (late twelfth century) there were prohibitions against reading the "Physics", the "Metaphysics", and the treatise "On the Soul". But these restrictions were of a temporary character and arose out of particular circumstances. In 1231, Gregory IX laid upon a commission of three consultors the charge to prepare an amended edition of Aristotle "ne utile per inutile vitietur" (lest what is useful suffèr damage through what is useless). The work of expurgatio was done, in point of fact, by the Albertine-Thomist School, and, beginning from the year 1255, the Faculty of Arts, with the knowledge of the ecclesiastical authority, ordered the teaching of all the books previously prohibited (see Mandonnet, "Siger de Brabant et l'averroïsme latin au XIIIe s.", Louvain, 1910). It might also be shown how in modern times and in our own day the popes have encouraged philosophic studies. Leo XIII, as is well known, considered the restoration of philosophic Thomism on of the chief tasks of his pontificate.

The teaching of philosophy

The methods of teaching philosophy have varied in various ages. Socrates used to interview his auditors, and hold symposia in the market-place, on the porticoes and in the public gardens. His method was interrogation; he whetted the curiosity of the audience and practised what had become known as Socratic irony and the maieutic art (*maieutikê techne*), the art of delivering minds of their conceptions. His successor opened schools properly so called, and from the place occupied by these schools several systems took their names (the Stoic School, the Academy, the Lyceum). In the Middle Ages and down to the seventeenth century, the learned language was Latin. The German discourses of Eckhart are mentioned as merely sporadic examples. From the ninth to the twelfth century teaching was confined to the monastic and cathedral schools. It was the golden age of schools. Masters and students went from one school to another: Lanfranc travelled over Europe; John of Salisbury (twelfth century) heard at Paris all the then famous professors of philosophy; Abelard gathered crowds about his rostrum. Moreover, as the same subjects were taught everywhere, and from the same text-books, scholastic wanderings were attended with few disadvantages. The books took the form of commentaries or monographs. From the time of Abelard a method came into use which met with great success, that of setting forth the pros and cons of a question, which was later perfected by the addition of a *solutio*. The application of this method was extended in the thirteenth century (e.g. in the "Summa theologica" of St. Thomas). Lastly, philosophy being an

educational preparation for theology, the "Queen of the Sciences", philosophical and theological topics were combined in one and the same book, or even in the same lecture.

At the end of the twelfth century and the beginning of the thirteenth, the University of Paris was organized, and philosophical teaching was concentrated in the Faculty of Arts. Teaching was dominated by two principles: *internationalism* and *freedom*. The student was an apprentice-professor: after receiving the various degrees, he obtained from the chancellor of the university a licence to teach (*licentia docendi*). Many of the courses of this period have been preserved, the abbreviated script of the Middle Ages being virtually a stenographic system. The programme of courses drawn up in 1255 is well known: it comprises the exegesis of all the books of Aristotle. The commentary, or *lectio* (from *legere*, to read), is the ordinary form of instruction (whence the German *Vorlesungen* and the English *lecture*). There were also disputations, in which questions were treated by means of objections and answers; the exercise took a lively character, each one being invited to contribute his thoughts on the subject. The University of Paris was the model for all the others, notably those of Oxford and Cambridge. These forms of instruction in the universities lasted as long as Aristoteleanism, i.e. until the seventeenth century. In the eighteenth century — the *siècle des lumières (Erklärung)* — philosophy took a popular and encyclopedic form, and was circulated in the literary productions of the period. In the nineteenth century it resumed its didactic attitude in the universities and in the seminaries, where, indeed its teaching had long continued. The advance of philological and historical studies had a great influence on the character of philosophical teaching: critical methods were welcomed, and little by little the professors adopted the practice of specializing in this or that branch of philosophy — a practice which is still in vogue. Without attempting to touch on all the questions involved in modern methods of teaching philosophy, we shall here indicate some of the principal features.

The language of philosophy

The earliest of the moderns — as Descartes or Leibniz — used both Latin and the vernacular, but in the nineteenth century (except in ecclesiastical seminaries and in certain academical exercises mainly ceremonial in character) the living languages supplanted Latin; the result has been a gain in clearness of thought and interest and vitality of teaching. Teaching in Latin too often contents itself with formulae: the living language effects a better comprehension of things which must in any case be difficult. Personal experience, writes Fr. Hogan, formerly superior of the Boston Seminary, in his "Clerical Studies" (Philadelphia, 1895-1901), has shown that among students who have learned philosophy, particularly Scholastic, only in Latin, very few have acquired anything more than a mass of formulae, which they hardly understand; though this does not always prevent their adhering to their formulae through thick and thin. Those who continue to write in Latin — as many Catholic philosophers, often of the highest worth, still do — have the sad experience of seeing their books confined to a very narrow circle of readers.

Didactic processes

Aristotle's advice, followed by the Scholastics, still retains its value and its force: before giving the solution of a problem, expound the reasons for and against. This explains, in particular, the great part played by the history of philosophy or the critical examination of the solutions proposed by the great thinkers. Commentary on a treatise still figures in some special higher courses; but contemporary philosophical teaching is principally divided according to the numerous branches of philosophy (see section II). The introduction of laboratories and practical seminaries (séminaires practiques) in philosophical teaching has been of the greatest advantage. Side by side with libraries and shelves full of periodicals there is room for laboratories and museums, once the necessity of vivifying

philosophy by contact with the sciences is admitted (see section VIII). As for the practical seminary, in which a group of students, with the aid of a teacher, investigate to some special problem, it may be applied to any branch of philosophy with remarkable results. The work in common, where each directs his individual efforts towards one general aim, makes each the beneficiary of the researches of all; it accustoms them to handling the instruments of research, facilitates the detection of facts, teaches the pupil how to discover for himself the reasons for what he observes, affords a real experience in the constructive methods of discovery proper to each subject, and very often decides the scientific vocation of those whose efforts have been crowned with a first success.

The order of philosophical teaching

One of the most complex questions is: With what branch ought philosophical teaching to begin, and what order should it follow? In conformity with an immemorial tradition, the beginning is often made with logic. Now logic, the science of science, is difficult to understand and unattractive in the earliest stages of teaching. It is better to begin with the sciences which take the real for their object: psychology, cosmology, metaphysics, and theodicy. Scientific logic will be better understood later on; moral philosophy presupposes psychology; systematic history of philosophy requires a preliminary acquaintance with all the branches of philosophy (see Mercier, "Manuel de philosophie", Introduction, third edition, Louvain, 1911).

Connected with this question of the order of teaching is another: viz. What should be the scientific teaching preliminary to philosophy? Only a course in the sciences specially appropriate to philosophy can meet the manifold exigencies of the problem. The general scientific courses of our modern universities include too much or too little: "too much in the sense that professional teaching must go into numerous technical facts and details with which philosophy has nothing to do; too little, because professional teaching often makes the observation of facts its ultimate aim, whilst, from our standpoint, facts are, and can be, only a means, a starting-point, towards acquiring a knowledge of the most general causes and laws" (Mercier, "Rapport sur les études supérieures de philosophie", Louvain, 1891, p. 25). M. Boutroux, a professor at the Sorbonne, solves the problem of philosophical teaching at the university in the same sense, and, according to him, the flexible and very liberal organization of the faculty of philosophy should include "the whole assemblage of the sciences, whether theoretic, mathematico-physical, or philologico-historical" ("Revue internationale de l'enseignement", Paris, 1901, p. 510). The programme of courses of the Institute of Philosophy of Louvain is drawn up in conformity with this spirit.

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